About StarPower

StarPower Semiconductor Ltd. is a power module company located in Jiaxing China about 59 miles southwest of Shanghai. Founded in 2005 with venture funds, StarPower designs and manufactures IGBT/MOSFET/IPM/FRD/Rectifier modules and customized modules for applications in the area of inverters, welding machines, inductive heating ,UPS, EV, solar/wind power and etc. in the power range of 0.5kW up to more than 1MW.

Through heavy investment in R&Ds, we offer a broad range of quality and eco-friendly products and services to our customers. We are committed to excellence in all things we do. The company has one of the best production lines and well-trained workforce in the industry. Our mission is to create the most value for the success of our customers around the globe.

For more information, please go to our website at **www.powersemi.cc** or call our sales hotline at **+86 573 82585700**(China); or go to our StarPower Europe website at **www.starpowereurope.com**, or call **+41 91 8504141**(Europe).

Contents

Contents

Contents

Contents

Low Power Modules

Package Type	V_{CES} (V)				I_C (A)								
	600	650	1200	1700	5	10	25	30	40	75	150	200
 L1: 3 phase bridge/PIM	■		■				→					
 L2: H bridge/3 phase bridge/ PIM/NPC	■		■				→			→		
 L3: 3 phase bridge/PIM/NPC	■	■	■					→		→	→	
 L4: 3 phase bridge	■		■				→					
 F1: 3 phase bridge/PIM/NPC/boost	■	■	■						→	→		
 F2: PIM	■		■					→		→		

Low Power Modules

Package Type	V_{CES} (V)				I_C (A)									
	600	650	1200	1700	5	10	25	30	40	75		150		200
 F3：PIM	■		■				■							
 F4：3 phase bridge/PIM	■		■				■		■					
 F5：3 phase bridge/PIM	■		■				■		■		■			
 F6：NPC			■									■		
 C5：H bridge/3 phase bridge/PIM	■		■	■			■		■		■			
 C6：H bridge/3 phase bridge/PIM/ twelve pack	■		■	■					■		■			

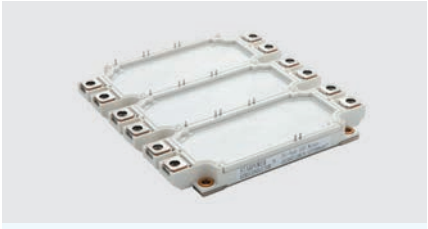
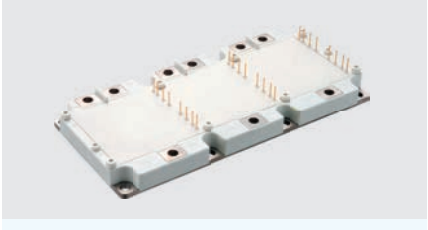
Medium Power Modules

Package Type	V_{CES} (V)				I_C (A)							
	600	650	1200	1700	50	100	150	200	400	600	800	900
 C1: chopper/half bridge	■		■	■	■	■	■	■	→			
 C2.0: chopper/half bridge/ common emitter		■	■	■			■	■	■	→		
 C2.1: single			■	■					■	■	■	→
 C2.3: chopper/half bridge			■						■			
 C2.4: NPC/boost/H bridge		■	■	■			■	■	■	→		

Medium Power Modules

Package Type	V_{CES} (V)				I_C (A)							
	600	650	1200	1700	50	100	150	200	400	600	800	900
 C8.0：chopper/half bridge	■		■					■	■	■	■	■
 C8.1：chopper/half bridge	■		■						■			
 C8.2：H bridge			■			■						
 B3：half bridge			■						■			
 E5：NPC		■	■						■			

Medium Power Modules

Package Type	V_{CES} (V)				I_C (A)							
	600	650	1200	1700	50	100	150	200	400	600	800	900
 C5.1：half bridge/H bridge	■		■		■	■	■	■	■			
 C6.1：half bridge/half NPC/H bridge		■	■	■				■	■	■		
 C7：3 phase bridge			■	■				■	■			
 P3：3 phase bridge		■	■					■				
 P4：3 phase bridge		■	■						■	■		

High Power Modules

Package Type	V_{CES} (V)			I_C (A)						
	1200	1700	3300	400	600	900	1000	1400	2400	3600
 C3：single/chopper	■	■			■			■		
 C3.1：chopper/half bridge	■	■			■		■			
 C3.2：single/chopper	■	■	■		■			■		
 C4：single	■	■	■				■		■	
 P1：chopper/half bridge	■	■			■					
 P2：chopper/half bridge	■	■					■			

IGBT Discretes

Package Type	V_{CES} (V)		I_C (A)				
	600	1200	4	10	25	50	100
 T1: IGBT and diode							
 T2: IGBT and diode							

MOSFET Modules

Package Type	V_{CES} (V)				I_C (A)					
	100	150	200	500	44	88	580	1160	1560	2160
 B3：half bridge										
 B3.1：H bridge										
 B6：single/chopper/half bridge										
 C2：half bridge										
 C2.7：3 phase bridge										

IPM/FRD/Rectifier/Thyristor Modules

Package Type	V_{CES} (V)								I_C (A)									
	100	400	600	700	1200	1600	1700	1800	10	30	50	100	200	300	380	460	570	800
 IPM: 3 phase bridge			■									▶						
 C1.0: half bridge			■		■		■	■					▶					
 C1.1: half bridge								■				▶						
 C2.0: half bridge			■		■		■							▶				
 C5.6: 3 phase bridge+brake						■		■				▶						

IPM/FRD/Rectifier/Thyristor Modules

Package Type	V_{CES} (V)								I_C (A)									
	100	400	600	700	1200	1600	1700	1800	10	30	50	100	200	300	380	460	570	800
 C9.0：half bridge			■		■			■			▶							
 D1.0：common cathode		■	■										▶					
 D2.0：single				■										▶				
 D3.0：common cathode		■	■											▶				
 D6.0：double single	■	■	■		■									▶				

IPM/FRD/Rectifier/Thyristor Modules

Package Type	V_{CES} (V)								I_C (A)									
	100	400	600	700	1200	1600	1700	1800	10	30	50	100	200	300	380	460	570	800
 K1.0：3 phase bridge								■				■						
 K2.0：3 phase bridge								■					■					
 K6.0：3 phase bridge+thyristor								■				■						
 K7.0：3 phase bridge+thyristor								■					■					
 K8.0：half bridge								■						■				
 K9.0：half bridge								■									■	

SiC Modules

Package Type	V_{CES} (V)		I_C (A)					
	1200	1700	20	47	50	75	120	300
 B3：half bridge								
 C2：half bridge								
 C5.2：3 phase bridge								
 D6：single								

IGBT Module Nomenclature

GD	200	HF	K	60	C2	S	(N,F)*

GD=IGBT Module

Nominal Current
Ic(@Tc=80℃) as e.g. 200=200A

Circuit Configuration
SG=Single
CU=Chopper Diode Up Side
CL=Chopper Diode Low Side
HF=Half Bridge
CE=Common Emitter
HT=Tri-Pack
HH=H Bridge
HC=Internal Connected H Bridge
ML=3 Level,Diode Clampling,NPC1
MP=Upper Half of NPC1 3 Level
MN=Lower Half of NPC1 3 Level
TL=3 Level,IGBT Active Clampling,NPC2
TU=NPC1 Boost
FF=3 Phase Bridge
FS=3 Phase Open Emitter Output
PI=3 Phase Rectifier+Brake+3 Phase Output
PJ=3 Phase Rectifier+Brake+3 Phase Open Emitter Output
TP=Twelve Pack

Die Characteristics
K=Standard IGBT
U=Ultra Fast IGBT
L=Low Loss and Fast IGBT
T=Trench IGBT, Low Loss
Y=Advanced Trench IGBT, Low Loss
F=Advanced Trench IGBT, Ultra Fast

*N=New Pins Layout
F=PressFIT Pins

Voltage/10 e.g. 60=600V

Package Type
B3=108mmx62mmx22mm,Cu Base
C1=94mmx34mmx30mm,Cu Base
C2=106mmx62mmx30mm,Cu Base
C3=140mmx130mmx38mm,Cu Base
C4=190mmx140mmx38mm,Cu Base
C5=107mmx45mmx17mm,Cu Base
C6=122mmx62mmx17mm,Cu Base
C7=162mmx150mmx17mm,Cu Base
C8=94mmx48mmx29mm,Cu Base
A3=140mmx130mmx38mm,AlSiC Base
A4=190mmx140mmx38mm,AlSiC Base
E5=110mmx80mmx30mm,Cu Base
F1=68.4mmx32.5mmx15.65mm,DBC Base
F2=82mmx37.4mmx16.23mm,DBC Base
F3=66mmx32.5mmx21.2mm,DBC Base
F4=68.4mmx32.5mmx21.15mm,DBC Base
F5=82mmx37.4mmx21.25mm,DBC Base
F6=104.8mmx47mmx17.2mm,Cu Base
L1=40mmx56mmx20.5mm,DBC Base
L2=34mmx48mmx15.5mm,DBC Base
L3=48mmx57mmx15.5mm,DBC Base
L4=26mmx36mmx15.5mm,DBC Base
P1=172mmx89mmx38mm,Cu Base
P2=250mmx89mmx38mm,Cu Base
P3=113mmx140mmx17mm,Cu Base
P4=100mmx216mmx17mm,Cu Base

Screening Level
P=Unscreened,25℃ Electrical Test(Not for Qualification)
S=Screened for Industrial Applications
H=Screened for High Reliability Applications

D	G	40	T	12	T2

D=Discrete

Circuit Configuration
G=IGBT+FWD

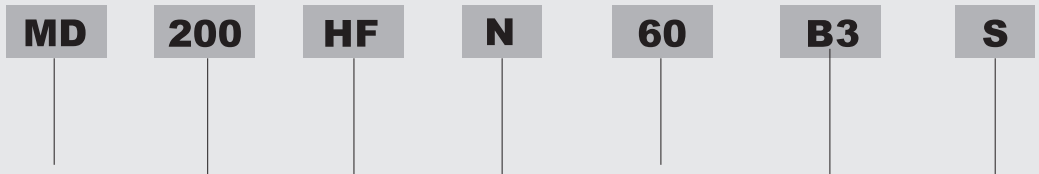
Nominal Current
Ic(@Tc=100℃) as e.g. 40=40A

Chip Characteristics
T=Trench IGBT, Low Loss
Y=Advanced Trench IGBT, Low Loss
F=Advanced Trench IGBT, Ultra Fast

Voltage/100 e.g. 12=1200V

Package Type
T1=TO-220
T2=TO-247
T3=TO-264

MOSFET Module Nomenclature



MD =MOSFET Module

Nominal Current
I_D (@Tc=25 °C) as e.g. 200=200A

Circuit Configuration
SG=Single
HF=Half Bridge
HC=Internal Connected H Bridge
FF=3 Phase Bridge

Die Characteristics
C=SiC MOSFET
N=Planar MOSFET
M=Trench MOSFET

Voltage/10 e.g. 60=600V

Package Type
B3=108mmx62mmx22mm,Cu Base
B6=103mmx72mmx27mm,Cu Base
C2=106mmx62mmx30mm,Cu Base
C5=107mmx45mmx17mm,Cu Base
D6=38mmx28.1mmx12.8mm,Cu Base

Screening Level
P=Unscreened,25℃ Electrical Test(Not for Qualification)
S=Screened for Industrial Applications
H=Screened for High Reliability Applications

IPM Module Nomenclature

ID	20	F	T	06	A1	S

ID=Intelligent Power Module

Nominal Current
I_D (@Tc=25℃) as e.g. 20=20A

Circuit Configuration
F=3 Phase Bridge

Die Characteristics
T=Trench IGBT, Low Loss

Voltage/100 e.g. 06=600V

Package Type
A1=40mmx47mmx5.5mm,Al Base

Screening Level
P=Unscreened,25℃ Electrical Test(Not for Qualification)
S=Screened for Industrial Applications
H=Screened for High Reliability Applications

FRD Module Nomenclature

FD	200	CC	H	120	D1	S

FD =Fast Recovery Diode
RD=Rectifier Diode
TD=Thyristor

Nominal Current
I_F (@Tc=80℃) as e.g. 200=200A

Circuit Configuration
DG=Double Single
HF=Half Bridge
CC=Common Cathode
FF=3 Phase Bridge
PB=3 Phase Bridge+Brake
FP=3 Phase Bridge+Thyristor

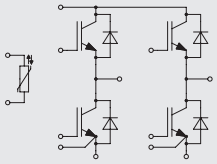
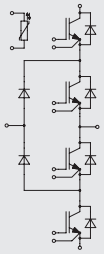
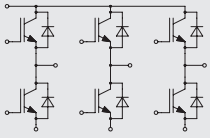
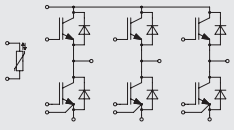
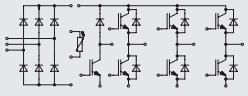
Die Series
E
S
H
J

Voltage/10 e.g. 120=1200V

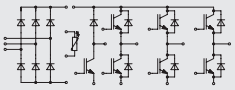
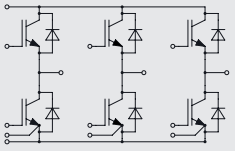
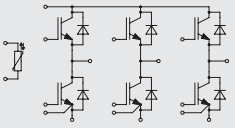
Package Type
C1=94mmx34mmx30mm,Cu Base
C2=106mmx62mmx30mm,Cu Base
C9=92mmx20.8mmx30mm,Cu Base
D1=20mmx93mmx17mm,Cu Base
D2=80mmx40mmx22mm,Cu Base
D3=92mmx27mmx17.5mm,Cu Base
D6=38mmx28.1mmx12.8mm,Cu Base
K1=72mmx42mmx30mm,Cu Base
K2=94mmx54mmx30mm,Cu Base
K6=93mmx50mmx22.5mm,Cu Base
K7=108mmx62mmx27.5mm,Cu Base
K8=110mmx50mmx52mm,Cu Base
K9=150mmx60mmx52mm,Cu Base

Screening Level
P=Unscreened,25℃Electrical Test(Not for Qualification)
S=Screened for Industrial Applications
H=Screened for High Reliability Applications

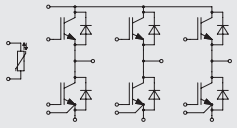
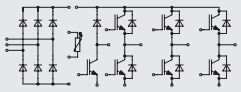
Low Power Modules

Type	V_{CES} V	I_C @ T_C=25℃ A	I_C @ T_C=80℃ A	$V_{CE(sat)}$ @T_j=25℃ typ. V	(E_{on}+E_{off}) @T_j=125℃ typ. mJ	$R_{th(J-C)}$ K/W	Package Outline/page	Circuit
600V/650V H Bridge								
Trench IGBT, Low Loss								
GD30HCT60L2S	600	55	30	1.70	1.81	0.850	L2.0/37	
GD50HCT60L2S	600	90	50	1.70	2.69	0.650	L2.0/37	
GD75HCT60L2S	600	120	75	1.70	5.99	0.510	L2.0/37	
600V/650V NPC1								
Trench IGBT, Low Loss								
GD30MLT60L2S	600	54	30	1.70	1.81	0.455	L2.3/38	
GD50MLT60L2S	600	82	50	1.70	2.69	0.390	L2.3/38	
GD75MLT65L3S	650	118	75	1.45	2.92	0.412	L3.1/38	
GD100MLT65L3S	650	160	100	1.45	5.86	0.343	L3.1/38	
GD150MLT65L3S	650	175	150	1.45	6.83	0.358	L3.1/38	
600V/650V 3 Phase Bridge								
Trench IGBT, Low Loss								
GD10FST60L4S	600	17	10	1.70	0.59	2.150	L4.0/39	
GD15FST60L4S	600	26	15	1.70	0.79	1.240	L4.0/39	
GD20FST60L4S	600	34	20	1.70	1.21	1.130	L4.0/39	
600V/650V 3 Phase Bridge with NTC								
Trench IGBT, Low Loss								
GD20FST60L2S	600	35	20	1.70	1.21	1.280	L2.1/37	
GD30FST60L2S	600	53	30	1.70	1.81	0.850	L2.1/37	
GD50FST60L2S	600	80	50	1.70	2.71	0.780	L2.1/37	
600V/650V PIM								
Trench IGBT, Low Loss								
GD10PJT60L1S	600	17	10	1.70	0.61	1.391	L1.2/37	
GD15PJT60L1S	600	26	15	1.70	0.79	1.105	L1.2/37	
GD20PJT60L1S	600	36	20	1.70	1.21	0.819	L1.2/37	
GD30PJT60L1S	600	55	30	1.70	1.78	0.455	L1.2/37	
GD10PJT60L2S	600	16	10	1.70	0.61	1.670	L2.2/38	

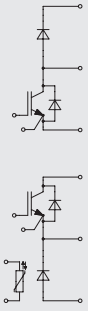
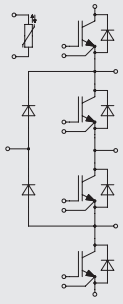
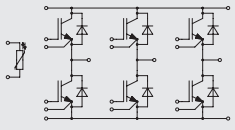
Low Power Modules

Type	V_{CES} V	I_C @ T_C=25℃ A	I_C @ T_C=80℃ A	$V_{CE(sat)}$ @T_j=25℃ typ. V	(E_{on}+E_{off}) @T_j=125℃ typ. mJ	$R_{th(J-C)}$ K/W	Package Outline/page	Circuit
GD15PJT60L2S	600	25	15	1.70	0.81	1.326	L2.2/38	
GD20PJT60L2S	600	35	20	1.70	1.21	0.983	L2.2/38	
GD30PJT60L2S	600	53	30	1.70	1.79	0.546	L2.2/38	
GD50PJT60L3S	600	87	50	1.70	2.71	0.390	L3.0/38	
1200V 3 Phase Bridge								
Trench IGBT, Low Loss								
GD10FFT120L4S	1200	15	10	1.70	1.61	1.600	L4.1/39	
GD15FFT120L4S	1200	22	15	1.70	2.69	0.950	L4.1/39	
Advanced Trench IGBT, Low Loss								
GD10FFY120L4S	1200	15	10	1.65	1.61	1.760	L4.1/39	
GD15FFY120L4S	1200	22	15	1.65	2.69	1.045	L4.1/39	
Standard IGBT								
GD10FFK120L4S	1200	14	10	2.20	1.91	0.980	L4.1/39	
1200V 3 Phase Bridge with NTC								
Trench IGBT, Low Loss								
GD10FST120L1S	1200	16	10	1.70	1.61	1.391	L1.1/37	
GD15FST120L1S	1200	24	15	1.70	2.69	0.680	L1.1/37	
GD25FST120L1S	1200	40	25	1.70	4.81	0.400	L1.1/37	
GD35FST120L1S	1200	55	35	1.70	6.61	0.280	L1.1/37	
GD25FST120L2S	1200	38	25	1.70	4.79	0.400	L2.1/37	
GD35FST120L2S	1200	53	35	1.70	6.58	0.280	L2.1/37	
GD50FST120L3S	1200	88	50	1.70	9.88	0.190	L3.2/39	
Advanced Trench IGBT, Low Loss								
GD10FSY120L1S	1200	16	10	1.65	1.61	1.530	L1.1/37	
GD15FSY120L1S	1200	24	15	1.65	2.69	0.748	L1.1/37	
GD25FSY120L1S	1200	40	25	1.65	4.81	0.440	L1.1/37	
GD35FSY120L1S	1200	55	35	1.65	6.61	0.308	L1.1/37	
GD25FSY120L2S	1200	38	25	1.65	4.79	0.440	L2.1/37	
GD35FSY120L2S	1200	53	35	1.65	6.58	0.308	L2.1/37	
GD50FSY120L3S	1200	88	50	1.65	9.88	0.209	L3.2/39	
GD75FSY120L3S	1200	135	75	1.65	12.90	0.132	L3.2/39	

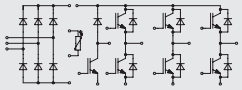
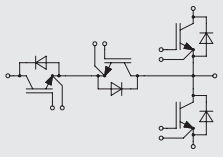
Low Power Modules

Type	V_{CES} V	I_C @ T_C=25℃ A	I_C @ T_C=80℃ A	$V_{CE(sat)}$ @T_j=25℃ typ. V	(E_{on}+E_{off}) @T_j=125℃ typ. mJ	$R_{th(J-C)}$ K/W	Package Outline/page	Circuit
Standard IGBT								
GD10FSK120L1S	1200	15	10	2.20	1.91	1.070	L1.1/37	
GD15FSK120L1S	1200	24	15	2.20	2.95	0.850	L1.1/37	
GD25FSK120L1S	1200	41	25	2.20	5.46	0.630	L1.1/37	
GD15FSK120L2S	1200	24	15	2.20	3.77	0.950	L2.1/37	
1200V PIM								
Trench IGBT, Low Loss								
GD10PJT120L1S	1200	16	10	1.70	1.61	1.500	L1.2/37	
GD15PJT120L1S	1200	24	15	1.70	2.72	1.100	L1.2/37	
GD10PJT120L2S	1200	14	10	1.70	1.61	1.500	L2.2/38	
GD15PJT120L2S	1200	22	15	1.70	2.72	1.100	L2.2/38	
GD25PJT120L3S	1200	41	25	1.70	4.81	0.720	L3.0/38	
GD35PJT120L3S	1200	56	35	1.70	6.59	0.450	L3.0/38	
Advanced Trench IGBT, Low Loss								
GD10PJY120L1S	1200	16	10	1.65	1.61	1.650	L1.2/37	
GD15PJY120L1S	1200	24	15	1.65	2.72	1.210	L1.2/37	
GD10PJY120L2S	1200	14	10	1.65	1.61	1.650	L2.2/38	
GD15PJY120L2S	1200	22	15	1.65	2.72	1.210	L2.2/38	
GD25PJY120L3S	1200	41	25	1.65	4.81	0.792	L3.0/38	
GD35PJY120L3S	1200	56	35	1.65	6.59	0.495	L3.0/38	
Standard IGBT								
GD10PJK120L1S	1200	15	10	2.20	1.91	1.070	L1.2/37	
GD15PJK120L1S	1200	24	15	2.20	2.95	0.850	L1.2/37	
GD10PJK120L2S	1200	13	10	2.20	1.91	1.070	L2.2/38	

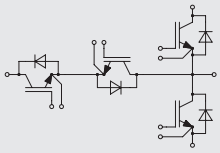
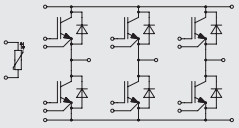
Low Power Modules

Type	V_{CES} V	I_C @ T_C=25℃ A	I_C @ T_C=80℃ A	$V_{CE(sat)}$ @T_j=25℃ typ. V	(E_{on}+E_{off}) @T_j=125℃ typ. mJ	$R_{th(J-C)}$ K/W	Package Outline/page	Circuit
600V NPC1 Boost								
Trench IGBT, Low Loss								
GD30TUT60F1S	600	60	30	1.70	1.80	0.650	F1.3/40	
GD30TUT65F1S	650	60	30	1.45	1.80	0.650	F1.3/40	
GD50TUT60F1S	600	99	50	1.70	2.70	0.550	F1.3/40	
GD50TUT65F1S	650	99	50	1.45	2.70	0.550	F1.3/40	
GD75TUT60F1S	600	130	75	1.70	6.00	0.420	F1.3/40	
GD75TUT65F1S	650	130	75	1.45	6.00	0.420	F1.3/40	
600V NPC1								
Trench IGBT, Low Loss								
GD30MLT60F1S	600	60	30	1.70	1.80	0.650	F1.2/40	
GD30MLT65F1S	650	60	30	1.45	1.80	0.650	F1.2/40	
GD50MLT60F1S	600	99	50	1.70	2.70	0.550	F1.2/40	
GD50MLT65F1S	650	99	50	1.45	2.70	0.550	F1.2/40	
GD75MLT60F1S	600	130	75	1.70	6.00	0.420	F1.2/40	
GD75MLT65F1S	650	130	75	1.45	6.00	0.420	F1.2/40	
600V 3 Phase Bridge with NTC								
Trench IGBT, Low Loss								
GD10FFT60F1S	600	20	10	1.70	0.60	1.380	F1.0/39	
GD15FFT60F1S	600	30	15	1.70	0.80	1.110	F1.0/39	
GD25FFT60F1S	600	50	25	1.70	1.50	0.820	F1.0/39	
GD30FFT60F1S	600	60	30	1.70	1.80	0.650	F1.0/39	
GD50FFT60F1S	600	99	50	1.70	2.70	0.550	F1.0/39	
GD10FFT60F4S	600	20	10	1.70	0.60	1.380	F4.0/41	
GD15FFT60F4S	600	30	15	1.70	0.80	1.110	F4.0/41	
GD25FFT60F4S	600	50	25	1.70	1.50	0.820	F4.0/41	
GD30FFT60F4S	600	60	30	1.70	1.80	0.650	F4.0/41	
GD50FFT60F4S	600	99	50	1.70	2.70	0.550	F4.0/41	
GD50FFT60F5S	600	99	50	1.70	2.70	0.550	F5.0/41	
GD75FFT60F5S	600	130	75	1.70	6.00	0.420	F5.0/41	
GD100FFT60F5S	600	170	100	1.70	9.00	0.320	F5.0/41	

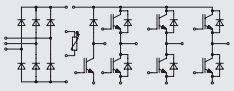
Low Power Modules

Type	V_{CES} V	I_C @ T_C=25℃ A	I_C @ T_C=80℃ A	$V_{CE(sat)}$ @T_j=25℃ typ. V	(E_{on}+E_{off}) @T_j=125℃ typ. mJ	$R_{th(J-C)}$ K/W	Package Outline/page	Circuit
600V PIM								
Trench IGBT, Low Loss								
GD6PJT60F1S	600	12	6	1.70	0.40	1.920	F1.1/40	
GD10PJT60F1S	600	20	10	1.70	0.50	1.380	F1.1/40	
GD15PJT60F1S	600	30	15	1.70	0.65	1.110	F1.1/40	
GD20PJT60F1S	600	40	20	1.70	1.20	0.820	F1.1/40	
GD30PJT60F1S	600	60	30	1.70	1.80	0.650	F1.1/40	
GD30PJT60F2S	600	60	30	1.70	1.80	0.650	F2.0/40	
GD50PJT60F2S	600	99	50	1.70	2.70	0.550	F2.0/40	
GD75PJT60F2S	600	130	75	1.70	6.00	0.420	F2.0/40	
GD6PJT60F3S	600	12	6	1.70	0.40	1.920	F3.0/41	
GD10PJT60F3S	600	20	10	1.70	0.50	1.380	F3.0/41	
GD15PJT60F3S	600	30	15	1.70	0.65	1.110	F3.0/41	
GD20PJT60F3S	600	40	20	1.70	1.20	0.820	F3.0/41	
GD30PJT60F3S	600	60	30	1.70	1.80	0.650	F3.0/41	
GD6PJT60F4S	600	12	6	1.70	0.40	1.920	F4.1/41	
GD10PJT60F4S	600	20	10	1.70	0.50	1.380	F4.1/41	
GD15PJT60F4S	600	30	15	1.70	0.65	1.110	F4.1/41	
GD20PJT60F4S	600	40	20	1.70	1.20	0.820	F4.1/41	
GD30PJT60F4S	600	60	30	1.70	1.80	0.650	F4.1/41	
GD5PJT60F5S	600	10	5	1.70	0.25	2.200	F5.1/42	
GD8PJT60F5S	600	16	8	1.70	0.40	1.600	F5.1/42	
GD10PJT60F5S	600	20	10	1.70	0.50	1.380	F5.1/42	
GD15PJT60F5S	600	30	15	1.70	0.65	1.110	F5.1/42	
GD20PJT60F5S	600	40	20	1.70	1.20	0.820	F5.1/42	
GD30PJT60F5S	600	60	30	1.70	1.80	0.650	F5.1/42	
GD50PJT60F5S	600	99	50	1.70	2.70	0.550	F5.1/42	
GD75PJT60F5S	600	130	75	1.70	6.00	0.420	F5.1/42	
1200V NPC2								
Trench IGBT, Low Loss								
GD35TLT120F1S	1200	65	35	1.70	3.76	0.721	F1.2/40	
GD40TLT120F1S	1200	70	40	1.70	7.54	0.578	F1.2/40	
GD50TLT120F1S	1200	100	50	1.70	11.32	0.435	F1.2/40	
GD80TLT120F1S	1200	135	80	1.70	15.10	0.292	F1.2/40	

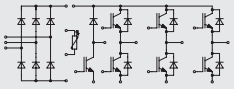
Low Power Modules

Type	V_{CES} V	I_C @ T_C=25℃ A	I_C @ T_C=80℃ A	$V_{CE(sat)}$ @T_j=25℃ typ. V	(E_{on}+E_{off}) @T_j=125℃ typ. mJ	$R_{th(J-C)}$ K/W	Package Outline/page	Circuit
Advanced Trench IGBT, Low Loss								
GD35TLY120F1S	1200	65	35	1.65	3.76	0.793	F1.2/40	
GD40TLY120F1S	1200	70	40	1.65	7.54	0.636	F1.2/40	
GD50TLY120F1S	1200	100	50	1.65	11.32	0.479	F1.2/40	
GD80TLY120F1S	1200	135	80	1.65	15.10	0.321	F1.2/40	
1200V 3 Phase Bridge with NTC								
Trench IGBT, Low Loss								
GD10FFT120F1S	1200	20	10	1.70	1.60	1.100	F1.0/39	
GD15FFT120F1S	1200	30	15	1.70	2.70	0.890	F1.0/39	
GD25FFT120F1S	1200	50	25	1.70	4.80	0.740	F1.0/39	
GD35FFT120F1S	1200	70	35	1.70	6.60	0.620	F1.0/39	
GD10FFT120F4S	1200	20	10	1.70	1.60	1.100	F4.0/41	
GD15FFT120F4S	1200	30	15	1.70	2.70	0.890	F4.0/41	
GD25FFT120F4S	1200	50	25	1.70	4.80	0.740	F4.0/41	
GD35FFT120F4S	1200	70	35	1.70	6.60	0.620	F4.0/41	
GD35FFT120F5S	1200	70	35	1.70	6.60	0.620	F5.0/41	
GD50FFT120F5S	1200	95	50	1.70	9.90	0.520	F5.0/41	
GD75FFT120F5S	1200	115	75	1.70	12.90	0.430	F5.0/41	
Advanced Trench IGBT, Low Loss								
GD10FFY120F1S	1200	20	10	1.65	1.60	1.210	F1.0/39	
GD15FFY120F1S	1200	30	15	1.65	2.70	0.979	F1.0/39	
GD25FFY120F1S	1200	50	25	1.65	4.80	0.814	F1.0/39	
GD35FFY120F1S	1200	70	35	1.65	6.60	0.682	F1.0/39	
GD10FFY120F4S	1200	20	10	1.65	1.60	1.210	F4.0/41	
GD15FFY120F4S	1200	30	15	1.65	2.70	0.979	F4.0/41	
GD25FFY120F4S	1200	50	25	1.65	4.80	0.814	F4.0/41	
GD35FFY120F4S	1200	70	35	1.65	6.60	0.682	F4.0/41	
GD35FFY120F5S	1200	70	35	1.65	6.60	0.682	F5.0/41	
GD50FFY120F5S	1200	95	50	1.65	9.90	0.572	F5.0/41	
GD75FFY120F5S	1200	115	75	1.65	12.90	0.473	F5.0/41	
Standard IGBT								
GD10FFK120F1S	1200	20	10	2.20	1.90	1.100	F1.0/39	
GD10FFK120F4S	1200	20	10	2.20	1.90	1.100	F4.0/41	

Low Power Modules

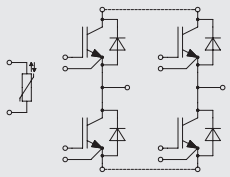
Type	V_{CES} V	I_C @ T_C=25℃ A	I_C @ T_C=80℃ A	$V_{CE(sat)}$ @T_j=25℃ typ. V	(E_{on}+E_{off}) @T_j=125℃ typ. mJ	$R_{th(J-C)}$ K/W	Package Outline/page	Circuit
1200V PIM								
Trench IGBT, Low Loss								
GD5PJT120F1S	1200	10	5	1.70	0.80	1.700	F1.1/40	
GD10PJT120F1S	1200	20	10	1.70	1.60	1.100	F1.1/40	
GD15PJT120F1S	1200	30	15	1.70	2.70	0.890	F1.1/40	
GD15PJT120F2S	1200	30	15	1.70	2.70	0.890	F2.0/40	
GD25PJT120F2S	1200	50	25	1.70	4.80	0.728	F2.0/40	
GD35PJT120F2S	1200	70	35	1.70	6.60	0.620	F2.0/40	
GD10PJT120F3S	1200	20	10	1.70	1.60	1.100	F3.0/41	
GD15PJT120F3S	1200	30	15	1.70	2.70	0.890	F3.0/41	
GD5PJT120F4S	1200	10	5	1.70	0.80	1.700	F4.1/41	
GD10PJT120F4S	1200	20	10	1.70	1.60	1.100	F4.1/41	
GD15PJT120F4S	1200	30	15	1.70	2.70	0.890	F4.1/41	
GD5PJT120F5S	1200	10	5	1.70	0.80	1.700	F5.1/42	
GD10PJT120F5S	1200	20	10	1.70	1.60	1.100	F5.1/42	
GD15PJT120F5S	1200	30	15	1.70	2.70	0.890	F5.1/42	
GD25PJT120F5S	1200	50	25	1.70	4.80	0.728	F5.1/42	
GD35PJT120F5S	1200	70	35	1.70	6.60	0.620	F5.1/42	
Advanced Trench IGBT, Low Loss								
GD5PJY120F1S	1200	10	5	1.65	0.80	1.870	F1.1/40	
GD10PJY120F1S	1200	20	10	1.65	1.60	1.210	F1.1/40	
GD15PJY120F1S	1200	30	15	1.65	2.70	0.979	F1.1/40	
GD15PJY120F2S	1200	30	15	1.65	2.70	0.979	F2.0/40	
GD25PJY120F2S	1200	50	25	1.65	4.80	0.801	F2.0/40	
GD35PJY120F2S	1200	70	35	1.65	6.60	0.682	F2.0/40	
GD10PJY120F3S	1200	20	10	1.65	1.60	1.210	F3.0/41	
GD15PJY120F3S	1200	30	15	1.65	2.70	0.979	F3.0/41	
GD5PJY120F4S	1200	10	5	1.65	0.80	1.870	F4.1/41	
GD10PJY120F4S	1200	20	10	1.65	1.60	1.210	F4.1/41	
GD15PJY120F4S	1200	30	15	1.65	2.70	0.979	F4.1/41	
GD5PJY120F5S	1200	10	5	1.65	0.80	1.870	F5.1/42	
GD10PJY120F5S	1200	20	10	1.65	1.60	1.210	F5.1/42	
GD15PJY120F5S	1200	30	15	1.65	2.70	0.979	F5.1/42	
GD25PJY120F5S	1200	50	25	1.65	4.80	0.801	F5.1/42	
GD35PJY120F5S	1200	70	35	1.65	6.60	0.682	F5.1/42	

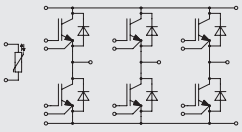
Low Power Modules

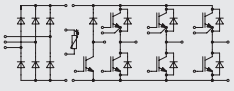
Type	V_{CES} V	I_C @ T_C=25℃ A	I_C @ T_C=80℃ A	$V_{CE(sat)}$ @T_j=25℃ typ. V	(E_{on}+E_{off}) @T_j=125℃ typ. mJ	$R_{th(J-C)}$ K/W	Package Outline/page	Circuit
Standard IGBT								
GD10PJK120F1S	1200	20	10	2.20	1.91	1.070	F1.1/40	
GD10PJK120F2S	1200	20	10	2.20	1.91	1.070	F2.0/40	
GD15PJK120F2S	1200	30	15	2.20	2.95	0.850	F2.0/40	
GD10PJK120F3S	1200	20	10	2.20	1.91	1.070	F3.0/41	
GD15PJK120F3S	1200	30	15	2.20	2.95	0.850	F3.0/41	
GD10PJK120F4S	1200	20	10	2.20	1.91	1.070	F4.1/41	
GD10PJK120F5S	1200	20	10	2.20	1.91	1.070	F5.1/42	
GD15PJK120F5S	1200	30	15	2.20	2.95	0.850	F5.1/42	

Low Power Modules

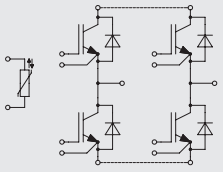
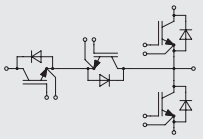
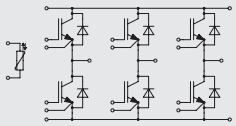
Type	V_{CES} V	I_C @ T_C=25℃ A	I_C @ T_C=80℃ A	$V_{CE(sat)}$ @T_j=25℃ typ. V	(E_{on}+E_{off}) @T_j=125℃ typ. mJ	$R_{th(J-C)}$ K/W	Package Outline/page	Circuit
600V/650V H Bridge								
Trench IGBT, Low Loss								
GD100HHT60C5S	600	150	100	1.70	9.0	0.330	C5.4/43	
GD150HHT60C5S	600	220	150	1.70	14.0	0.260	C5.4/43	
GD200HHT60C6S	600	320	200	1.70	18.0	0.160	C6.4/44	
Ultra Fast IGBT								
GD100HHU60C5S	600	150	100	3.10	6.0	0.170	C5.4/43	
GD150HHU60C5S	600	220	150	3.10	10.4	0.140	C5.4/43	
GD200HHU60C6S	600	320	200	3.10	14.2	0.120	C6.4/44	
600V/650V 3 Phase Bridge with NTC								
Trench IGBT, Low Loss								
GD50FFT60C5S	600	85	50	1.70	2.0	0.500	C5.2/42	
GD75FFT60C5S	600	120	75	1.70	6.0	0.370	C5.2/42	
GD100FFT60C5S	600	150	100	1.70	9.0	0.290	C5.2/42	
GD50FFT60C5SF	600	85	50	1.70	2.0	0.500	C5.12/43	
GD75FFT60C5SF	600	120	75	1.70	6.0	0.370	C5.12/43	
GD100FFT60C5SF	600	150	100	1.70	9.0	0.290	C5.12/43	
GD100FFT60C6S	600	160	100	1.70	9.0	0.290	C6.2/44	
GD150FFT60C6S	600	220	150	1.70	14.0	0.220	C6.2/44	
GD200FFT60C6S	600	320	200	1.70	19.0	0.180	C6.2/44	
GD100FFT60C6SF	600	160	100	1.70	9.0	0.290	C6.8/45	
GD150FFT60C6SF	600	220	150	1.70	14.0	0.220	C6.8/45	
GD200FFT60C6SF	600	320	200	1.70	19.0	0.180	C6.8/45	
600V/650V PIM								
Trench IGBT, Low Loss								
GD10PIT60C5S	600	17	10	1.70	0.6	1.950	C5.0/42	
GD15PIT60C5S	600	25	15	1.70	0.8	1.720	C5.0/42	
GD20PIT60C5S	600	35	20	1.70	1.2	1.520	C5.0/42	
GD30PIT60C5S	600	55	30	1.70	1.8	1.200	C5.0/42	
GD50PIT60C5S	600	85	50	1.70	2.7	0.900	C5.0/42	
GD50PIT60C6S	600	85	50	1.70	2.7	0.900	C6.0/44	
GD75PIT60C6S	600	130	75	1.70	6.0	0.580	C6.0/44	
GD100PIT60C6S	600	160	100	1.70	13.6	0.450	C6.0/44	



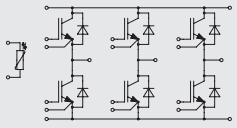
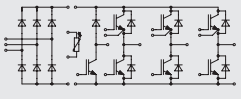




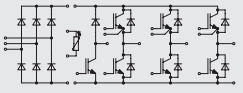
Low Power Modules

Type	V_{CES} V	I_C @ T_C=25℃ A	I_C @ T_C=80℃ A	$V_{CE(sat)}$ @T_j=25℃ typ. V	(E_{on}+E_{off}) @T_j=125℃ typ. mJ	$R_{th(J-C)}$ K/W	Package Outline/page	Circuit
1200V H Bridge								
Ultra Fast IGBT								
GD50HHU120C5S	1200	85	50	3.10	8.6	0.350	C5.4/43	
GD75HHU120C5S	1200	125	75	3.10	9.2	0.250	C5.4/43	
GD100HHU120C6S	1200	155	100	3.10	12.7	0.190	C6.4/44	
GD150HHU120C6S	1200	225	150	3.10	19.0	0.130	C6.4/44	
1200V NPC2								
Trench IGBT, Low Loss								
GD160TLT120F6S	1200	240	160	1.70	21.8	0.141	F6.0/42	
GD200TLT120F6S	1200	300	200	1.70	28.0	0.113	F6.0/42	
1200V 3 Phase Bridge with NTC								
Low Loss and Fast IGBT								
GD50FFL120C6S	1200	82	50	1.90	12.5	0.430	C6.2/44	
GD75FFL120C6S	1200	130	75	1.90	16.8	0.350	C6.2/44	
GD100FFL120C6S	1200	160	100	1.90	18.4	0.210	C6.2/44	
GD150FFL120C6S	1200	220	150	1.90	36.0	0.180	C6.2/44	
GD100FFL120C6SF	1200	160	100	1.90	18.4	0.210	C6.8/45	
GD150FFL120C6SF	1200	225	150	1.90	36.0	0.180	C6.8/45	
Trench IGBT, Low Loss								
GD25FFT120C5S	1200	37	25	1.70	4.8	0.600	C5.2/42	
GD35FFT120C5S	1200	59	35	1.70	6.6	0.440	C5.2/42	
GD50FFT120C5S	1200	76	50	1.70	9.9	0.350	C5.2/42	
GD75FFT120C5S	1200	123	75	1.70	12.9	0.310	C5.2/42	
GD100FFT120C5S	1200	160	100	1.70	16.8	0.270	C5.2/42	
GD50FFT120C5SF	1200	76	50	1.70	9.9	0.350	C5.12/43	
GD75FFT120C5SF	1200	123	75	1.70	12.9	0.310	C5.12/43	
GD100FFT120C5SF	1200	160	100	1.70	16.8	0.270	C5.12/43	
GD75FFT120C6S	1200	128	75	1.70	12.9	0.290	C6.2/44	
GD100FFT120C6S	1200	158	100	1.70	13.6	0.230	C6.2/44	
GD150FFT120C6S	1200	215	150	1.70	25.0	0.170	C6.2/44	
GD200FFT120C6S	1200	290	200	1.70	29.1	0.160	C6.2/44	
GD100FFT120C6SF	1200	158	100	1.70	13.6	0.230	C6.8/45	
GD150FFT120C6SF	1200	215	150	1.70	25.0	0.170	C6.8/45	
GD200FFT120C6SF	1200	290	200	1.70	29.1	0.160	C6.8/45	

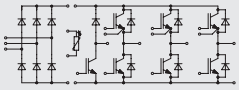
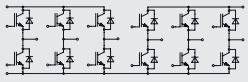
Low Power Modules

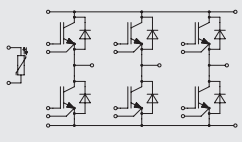
Type	V_{CES} V	I_C @ T_C=25℃ A	I_C @ T_C=80℃ A	$V_{CE(sat)}$ @T_j=25℃ typ. V	(E_{on}+E_{off}) @T_j=125℃ typ. mJ	$R_{th(J-C)}$ K/W	Package Outline/page	Circuit
Advanced Trench IGBT, Low Loss								
GD25FFY120C5S	1200	37	25	1.65	4.8	0.660	C5.2/42	
GD35FFY120C5S	1200	59	35	1.65	6.6	0.484	C5.2/42	
GD50FFY120C5S	1200	76	50	1.65	9.9	0.385	C5.2/42	
GD75FFY120C5S	1200	123	75	1.65	12.9	0.341	C5.2/42	
GD100FFY120C5S	1200	160	100	1.65	16.8	0.297	C5.2/42	
GD50FFY120C5SF	1200	76	50	1.65	9.9	0.385	C5.12/43	
GD75FFY120C5SF	1200	123	75	1.65	12.9	0.341	C5.12/43	
GD100FFY120C5SF	1200	160	100	1.65	16.8	0.297	C5.12/43	
GD75FFY120C6S	1200	128	75	1.65	12.9	0.319	C6.2/44	
GD100FFY120C6S	1200	158	100	1.65	13.6	0.253	C6.2/44	
GD150FFY120C6S	1200	215	150	1.65	25.0	0.187	C6.2/44	
GD200FFY120C6S	1200	290	200	1.65	29.1	0.176	C6.2/44	
GD100FFY120C6SF	1200	158	100	1.65	13.6	0.253	C6.8/45	
GD150FFY120C6SF	1200	215	150	1.65	25.0	0.187	C6.8/45	
GD200FFY120C6SF	1200	290	200	1.65	29.1	0.176	C6.8/45	
Standard IGBT								
GD25FFK120C5S	1200	35	25	2.20	5.5	0.600	C5.2/42	
GD35FFK120C5S	1200	56	35	2.20	7.9	0.440	C5.2/42	
GD75FFK120C6S	1200	126	75	2.20	18.4	0.250	C6.2/44	
GD100FFK120C6S	1200	157	100	2.20	19.6	0.190	C6.2/44	
GD100FFK120C6SF	1200	157	100	2.20	19.6	0.190	C6.8/45	
Ultra Fast IGBT								
GD75FFU120C6S	1200	125	75	3.10	9.2	0.250	C6.2/44	
GD100FFU120C6S	1200	155	100	3.10	12.7	0.190	C6.2/44	
1200V PIM								
Low Loss and Fast IGBT								
GD50PIL120C6S	1200	82	50	1.90	12.5	0.310	C6.0/44	
GD75PIL120C6S	1200	130	75	1.90	16.8	0.210	C6.0/44	
GD50PIL120C6SN	1200	82	50	1.90	12.5	0.310	C6.3/44	
GD75PIL120C6SN	1200	130	75	1.90	16.8	0.210	C6.3/44	
GD100PIL120C6SN	1200	180	100	1.90	18.5	0.220	C6.3/44	
GD50PIL120C6SNF	1200	82	50	1.90	12.5	0.310	C6.9/46	
GD75PIL120C6SNF	1200	130	75	1.90	16.8	0.210	C6.9/46	
GD100PIL120C6SNF	1200	180	100	1.90	18.5	0.220	C6.9/46	

Low Power Modules

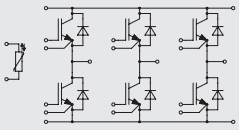
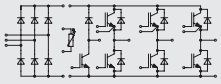
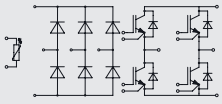
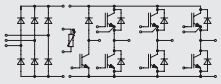
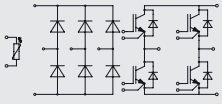
Type	V_{CES} V	I_C @ T_C=25℃ A	I_C @ T_C=80℃ A	$V_{CE(sat)}$ @T_j=25℃ typ. V	(E_{on}+E_{off}) @T_j=125℃ typ. mJ	$R_{th(J-C)}$ K/W	Package Outline/page	Circuit
Trench IGBT, Low Loss								
GD10PIT120C5S	1200	16	10	1.70	1.6	1.200	C5.0/42	
GD15PIT120C5S	1200	24	15	1.70	2.7	0.920	C5.0/42	
GD25PIT120C5S	1200	37	25	1.70	4.8	0.690	C5.0/42	
GD40PIT120C5S	1200	58	35	1.70	6.6	0.440	C5.0/42	
GD25PIT120C5SN	1200	37	25	1.70	4.8	0.600	C5.3/43	
GD35PIT120C5SN	1200	58	35	1.70	6.6	0.440	C5.3/43	
GD50PIT120C5SN	1200	76	50	1.70	9.9	0.350	C5.3/43	
GD25PIT120C5SNF	1200	37	25	1.70	4.8	0.600	C5.13/43	
GD35PIT120C5SNF	1200	58	35	1.70	6.6	0.440	C5.13/43	
GD50PIT120C5SNF	1200	76	50	1.70	9.9	0.350	C5.13/43	
GD40PIT120C6S	1200	80	40	1.70	9.5	0.440	C6.0/44	
GD50PIT120C6S	1200	79	50	1.70	9.9	0.420	C6.0/44	
GD75PIT120C6S	1200	128	75	1.70	12.9	0.290	C6.0/44	
GD50PIT120C6SN	1200	76	50	1.70	9.9	0.350	C6.3/44	
GD75PIT120C6SN	1200	128	75	1.70	12.9	0.290	C6.3/44	
GD100PIT120C6SN	1200	158	100	1.70	13.6	0.230	C6.3/44	
GD150PIT120C6SN	1200	290	150	1.70	23.0	0.140	C6.6/45	
GD75PIT120C6SNF	1200	128	75	1.70	12.9	0.290	C6.9/46	
GD100PIT120C6SNF	1200	158	100	1.70	13.6	0.230	C6.9/46	
GD150PIT120C6SNF	1200	290	150	1.70	23.0	0.140	C6.10/46	
Advanced Trench IGBT, Low Loss								
GD10PIY120C5S	1200	16	10	1.65	1.6	1.320	C5.0/42	
GD15PIY120C5S	1200	24	15	1.65	2.7	1.102	C5.0/42	
GD25PIY120C5S	1200	37	25	1.65	4.8	0.759	C5.0/42	
GD40PIY120C5S	1200	58	35	1.65	6.6	0.484	C5.0/42	
GD25PIY120C5SN	1200	37	25	1.65	4.8	0.660	C5.3/43	
GD35PIY120C5SN	1200	58	35	1.65	6.6	0.484	C5.3/43	
GD50PIY120C5SN	1200	76	50	1.65	9.9	0.385	C5.3/43	
GD25PIY120C5SNF	1200	37	25	1.65	4.8	0.660	C5.13/43	
GD35PIY120C5SNF	1200	58	35	1.65	6.6	0.484	C5.13/43	
GD50PIY120C5SNF	1200	76	50	1.65	9.9	0.385	C5.13/43	
GD40PIY120C6S	1200	80	40	1.65	9.5	0.484	C6.0/44	
GD50PIY120C6S	1200	79	50	1.65	9.9	0.462	C6.0/44	
GD75PIY120C6S	1200	128	75	1.65	12.9	0.319	C6.0/44	

Low Power Modules

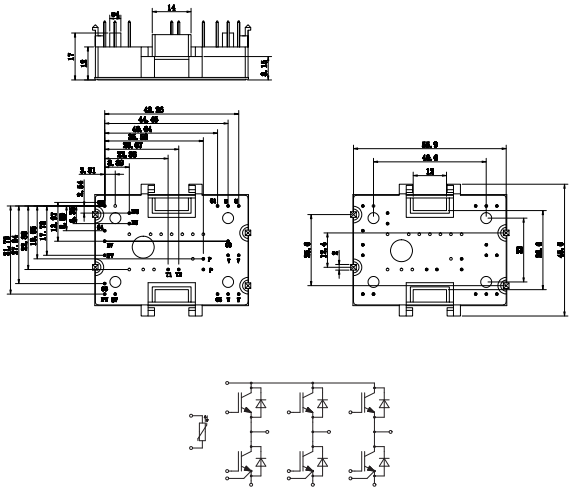
Type	V_{CES} V	I_C @ T_C=25℃ A	I_C @ T_C=80℃ A	$V_{CE(sat)}$ @T_j=25℃ typ. V	(E_{on}+E_{off}) @T_j=125℃ typ. mJ	$R_{th(J-C)}$ K/W	Package Outline/page	Circuit
GD50PIY120C6SN	1200	76	50	1.65	9.9	0.385	C6.3/44	
GD75PIY120C6SN	1200	128	75	1.65	12.9	0.319	C6.3/44	
GD100PIY120C6SN	1200	158	100	1.65	13.6	0.253	C6.3/44	
GD150PIY120C6SN	1200	290	150	1.65	23.0	0.154	C6.6/45	
GD75PIY120C6SNF	1200	128	75	1.65	12.9	0.319	C6.9/46	
GD100PIY120C6SNF	1200	158	100	1.65	13.6	0.253	C6.9/46	
GD150PIY120C6SNF	1200	290	150	1.65	23.0	0.154	C6.10/46	
Standard IGBT								
GD10PIK120C5S	1200	15	10	2.20	1.9	1.160	C5.0/42	
GD15PIK120C5S	1200	30	15	2.20	3.0	0.810	C5.0/42	
GD25PIK120C5S	1200	33	25	2.20	5.5	0.600	C5.0/42	
GD40PIK120C5S	1200	65	40	2.20	8.4	0.440	C5.0/42	
GD40PIK120C6S	1200	68	40	2.20	8.4	0.420	C6.0/44	
GD50PIK120C6S	1200	77	50	2.20	11.6	0.350	C6.0/44	
GD75PIK120C6S	1200	120	75	2.20	18.4	0.240	C6.0/44	
1200V Twelve Pack								
Trench IGBT, Low Loss								
GD50TPT120C6S	1200	80	50	1.70	9.2	0.500	C6.5/45	
GD75TPT120C6S	1200	110	75	1.70	13.7	0.390	C6.5/45	
Advanced Trench IGBT, Low Loss								
GD50TPY120C6S	1200	80	50	1.65	9.2	0.550	C6.5/45	
GD75TPY120C6S	1200	110	75	1.65	13.7	0.429	C6.5/45	
1700V 3 Phase Bridge with NTC								
Low Loss and Fast IGBT								
GD50FFL170C5S	1700	90	50	2.30	35.5	0.460	C5.2/42	
GD75FFL170C6S	1700	150	75	2.30	52.5	0.440	C6.2/44	
GD100FFL170C6S	1700	170	100	2.30	71.5	0.360	C6.0/44	
GD150FFL170C6S	1700	220	150	2.30	97.4	0.290	C6.0/44	
GD100FFL170C6SF	1700	170	100	2.30	71.5	0.360	C6.8/45	
GD150FFL170C6SF	1700	220	150	2.30	97.4	0.290	C6.8/45	



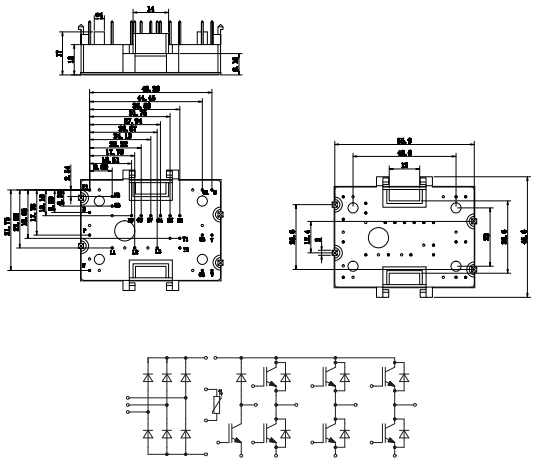
Low Power Modules

Type	V_{CES} V	I_C @ T_C=25℃ A	I_C @ T_C=80℃ A	$V_{CE(sat)}$ @T_j=25℃ typ. V	(E_{on}+E_{off}) @T_j=125℃ typ. mJ	$R_{th(J-C)}$ K/W	Package Outline/page	Circuit
Trench IGBT, Low Loss								
GD50FFT170C5S	1700	82	50	2.00	31.5	0.360	C5.2/42	
GD75FFT170C6S	1700	130	75	2.00	47.5	0.270	C6.2/44	
GD100FFT170C6S	1700	145	100	2.00	63.5	0.225	C6.2/44	
GD150FFT170C6S	1700	220	150	2.00	84.9	0.188	C6.2/44	
GD100FFT170C6SF	1700	145	100	2.00	63.5	0.225	C6.8/45	
GD150FFT170C6SF	1700	220	150	2.00	84.9	0.188	C6.8/45	
1700V PIM								
Low Loss and Fast IGBT								
GD50PIL170C6S	1700	90	50	2.30	35.5	0.460	C6.0/44	
GD75PIL170C6S	1700	150	75	2.30	52.5	0.440	C6.0/44	
GD75PFL170C6S	1700	130	75	2.40	54.5	0.260	C6.7/45	
GD100PFL170C6S	1700	145	100	2.40	74.2	0.210	C6.7/45	
GD150PFL170C6S	1700	210	150	2.40	101.0	0.170	C6.7/45	
Trench IGBT, Low Loss								
GD50PIT170C6S	1700	88	50	2.00	31.5	0.382	C6.0/44	
GD75PIT170C6S	1700	120	75	2.00	47.5	0.286	C6.0/44	
GD75PFT170C6S	1700	128	75	2.00	53.0	0.240	C6.7/45	
GD100PFT170C6S	1700	158	100	2.00	71.0	0.200	C6.7/45	
GD150PFT170C6S	1700	260	150	2.00	95.0	0.167	C6.7/45	

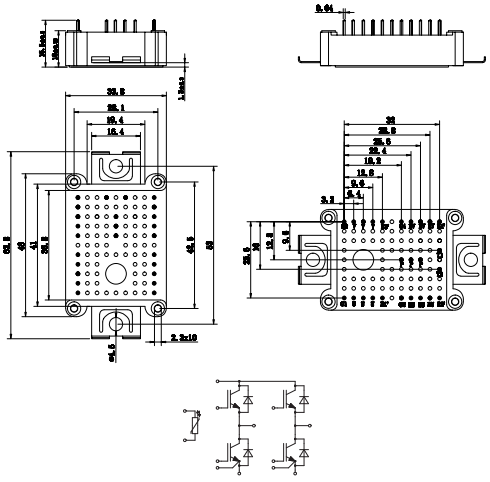
Case L1.1



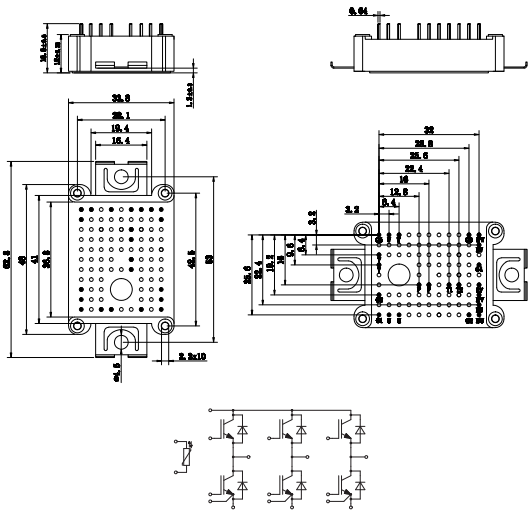
Case L1.2



Case L2.0

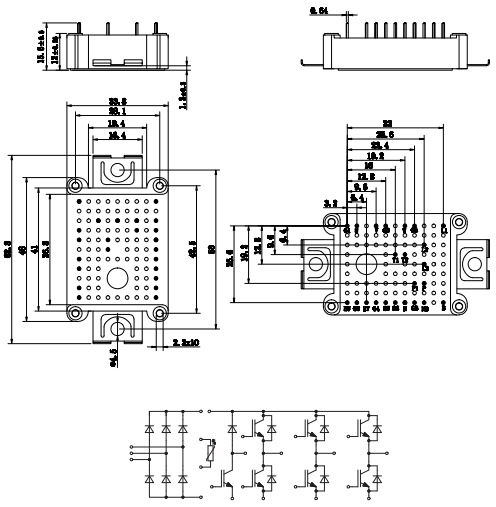


Case L2.1

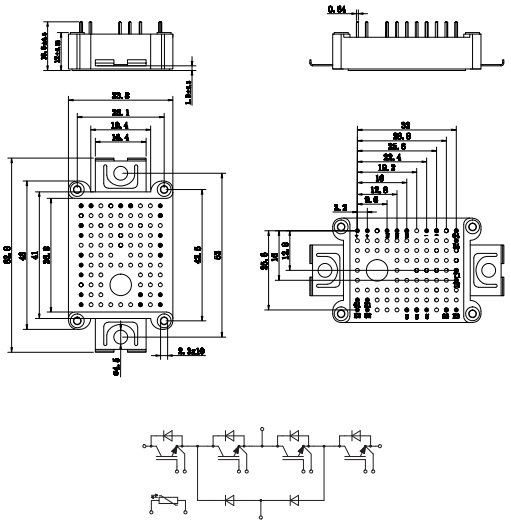


Low Power Module Package Outlines

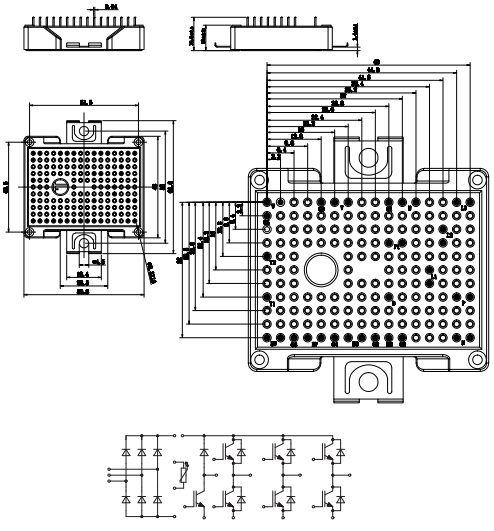
Case L2.2



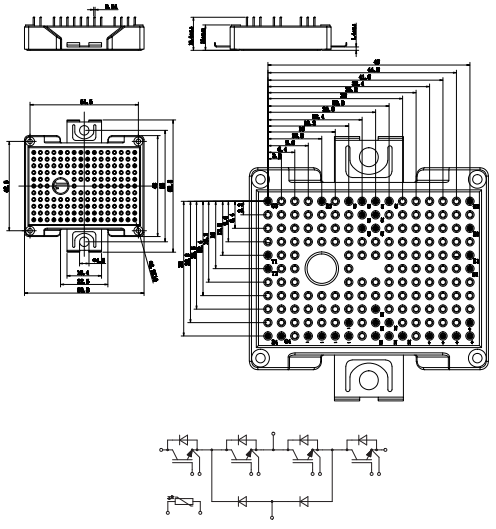
Case L2.3



Case L3.0

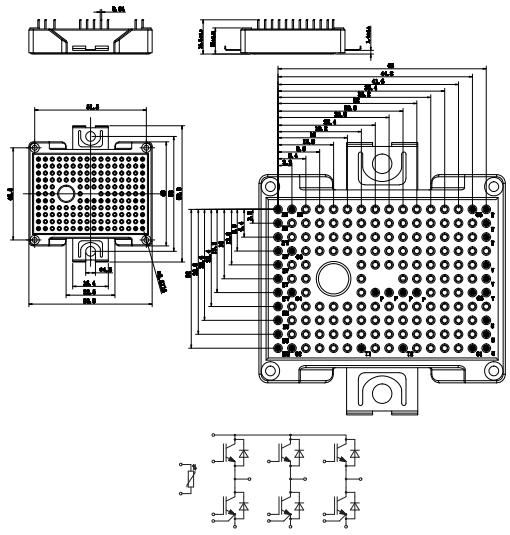


Case L3.1

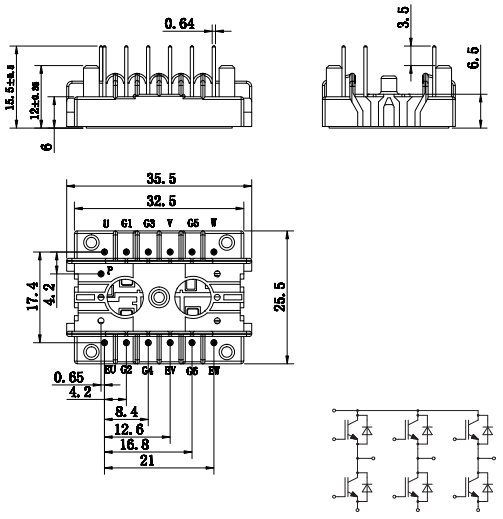


Low Power Module Package Outlines

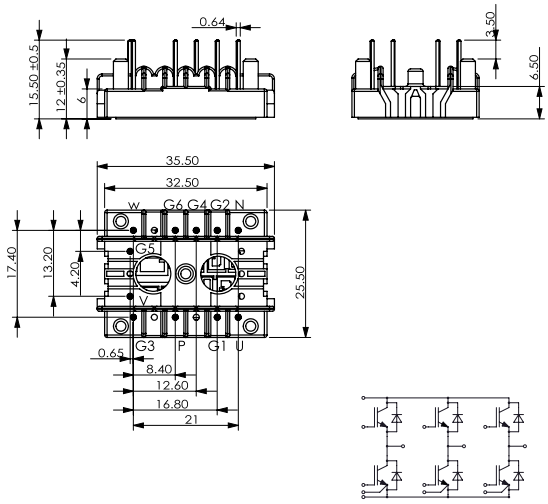
Case L3.2



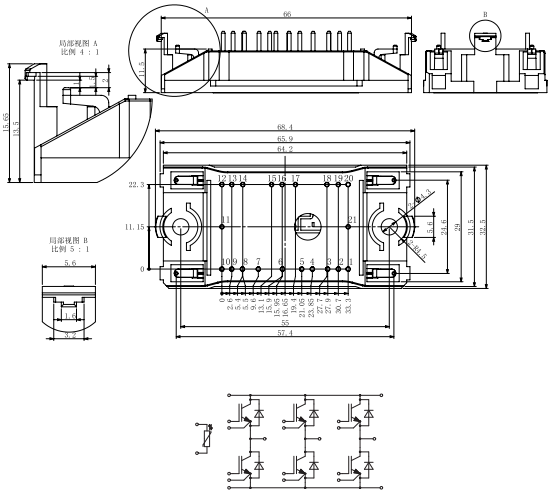
Case L4.0



Case L4.1

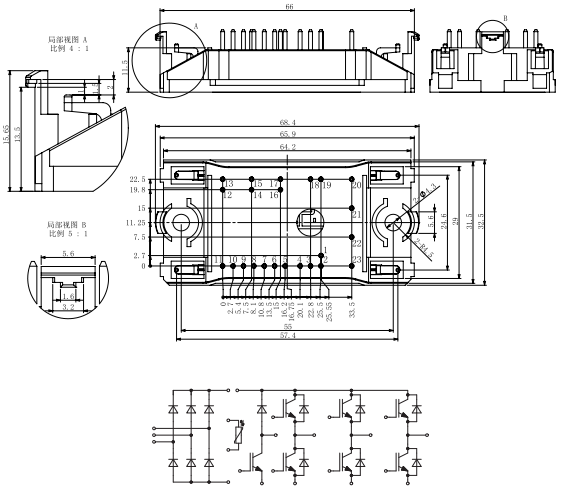


Case F1.0

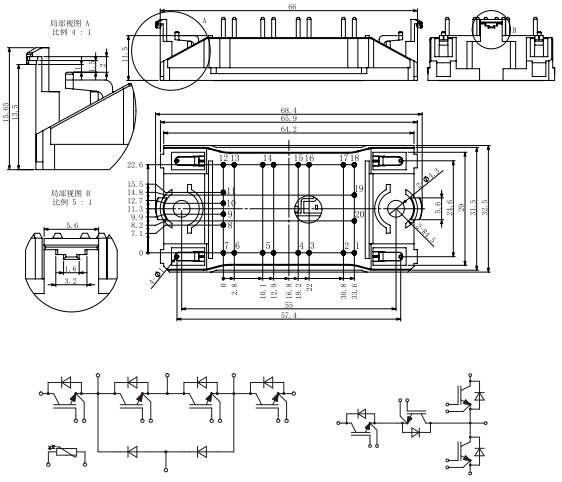


Low Power Module Package Outlines

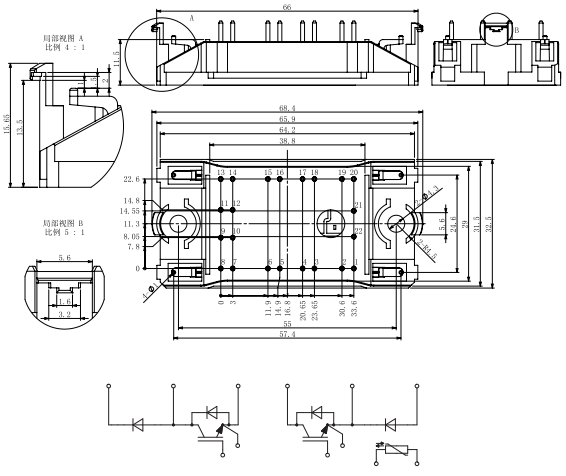
Case F1.1



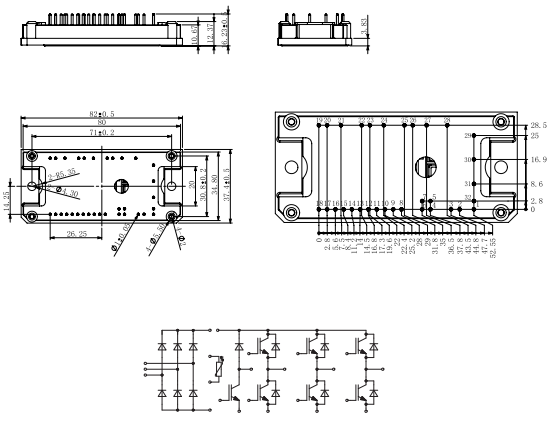
Case F1.2



Case F1.3

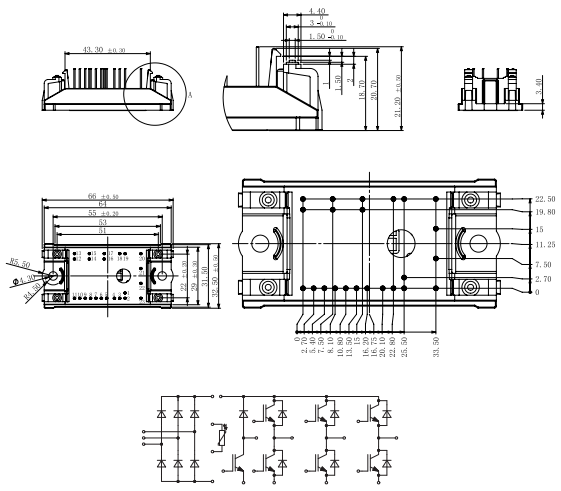


Case F2.0

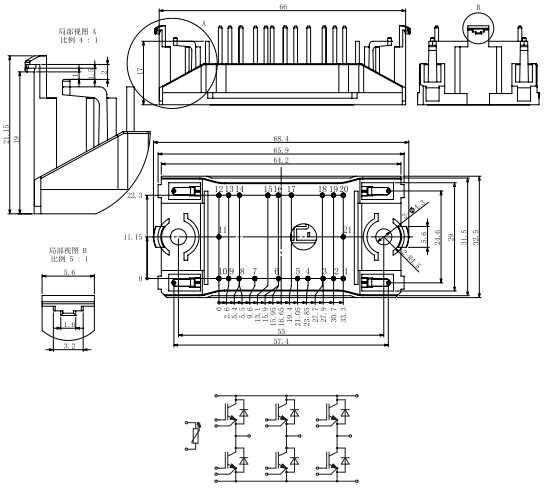


Low Power Module Package Outlines

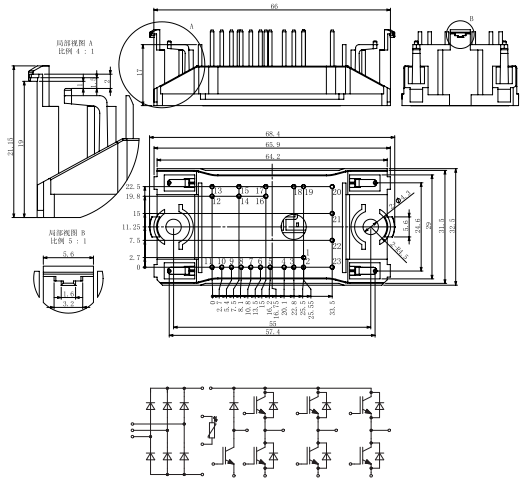
Case F3.0



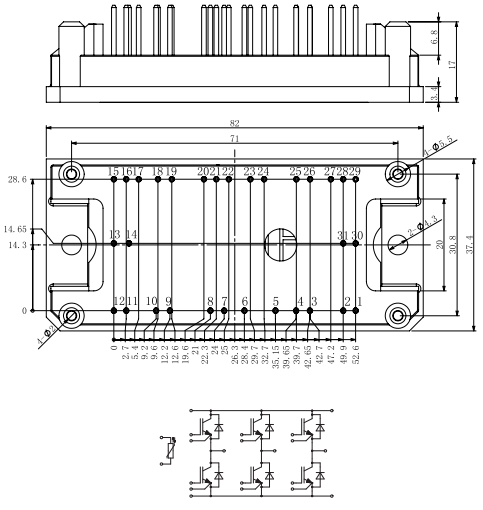
Case F4.0



Case F4.1

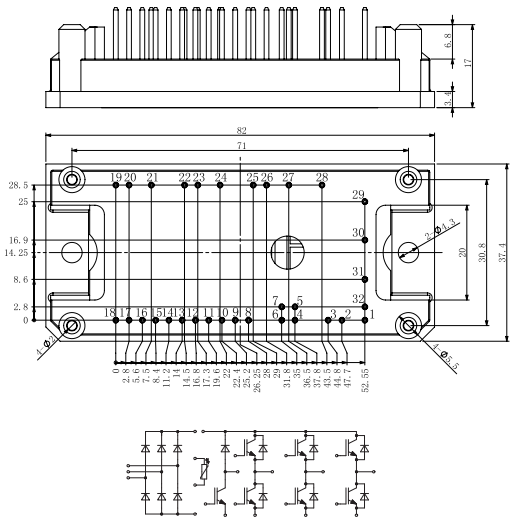


Case F5.0

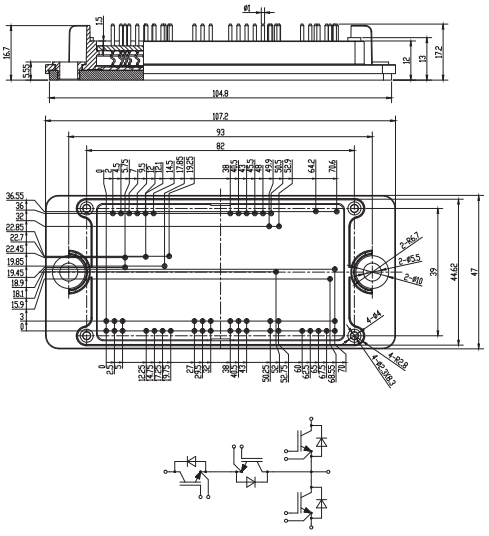


Low Power Module Package Outlines

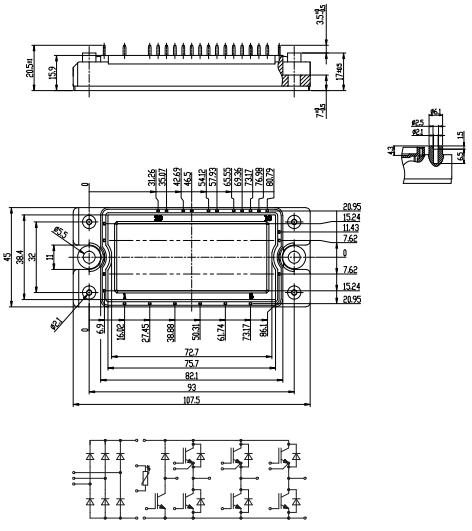
Case F5.1



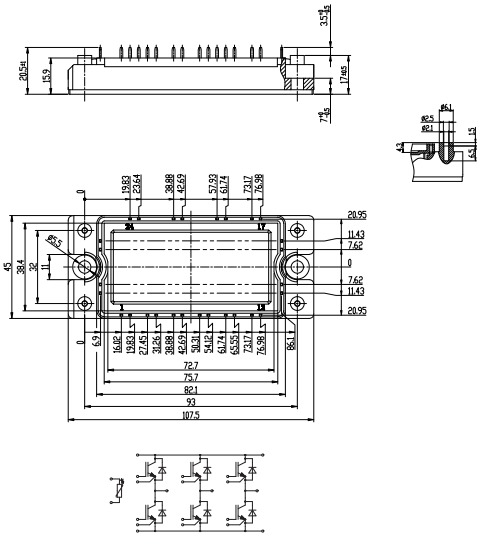
Case F6.0



Case C5.0

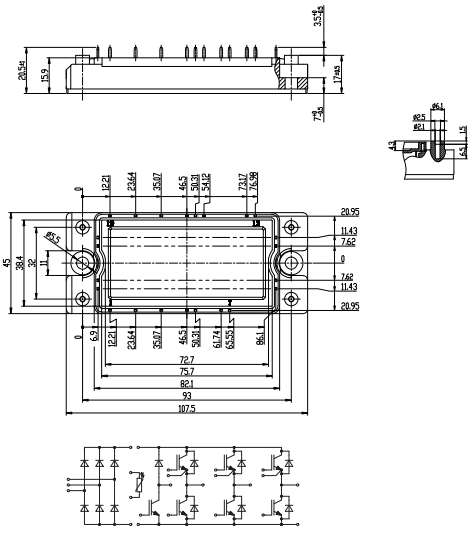


Case C5.2

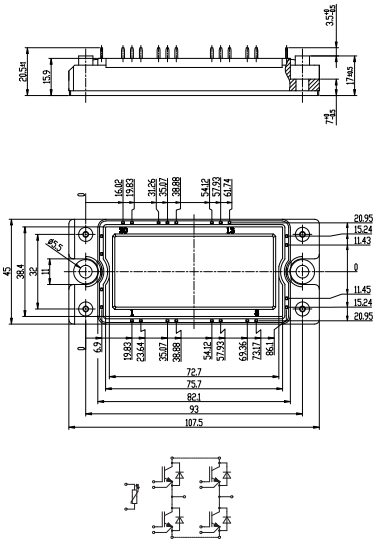


Low Power Module Package Outlines

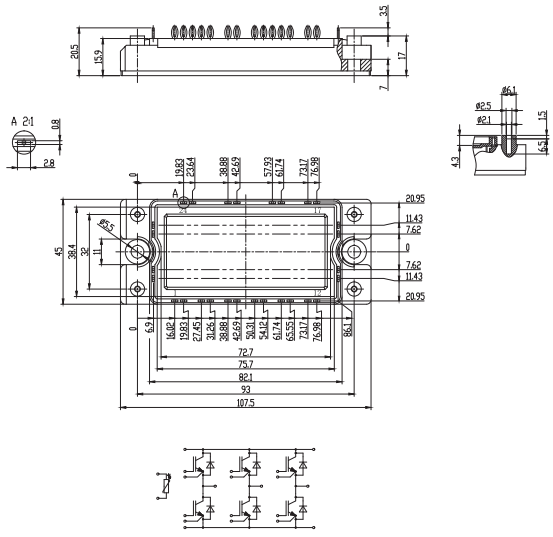
Case C5.3



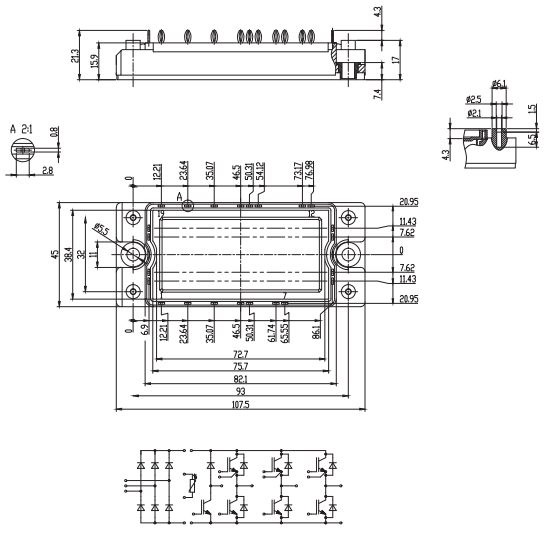
Case C5.4



Case C5.12

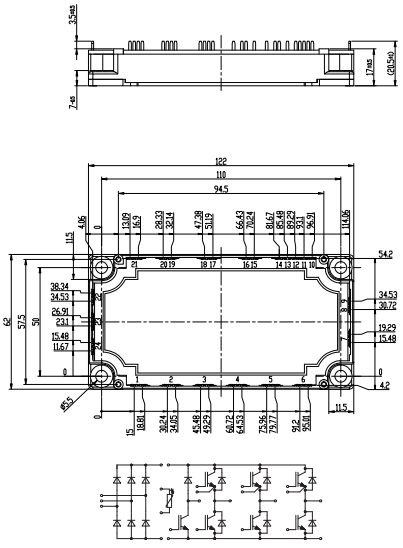


Case C5.13

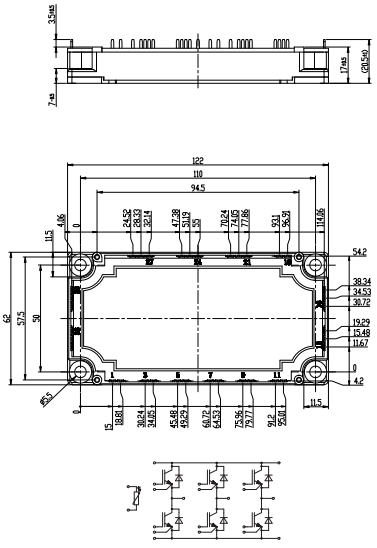


Low Power Module Package Outlines

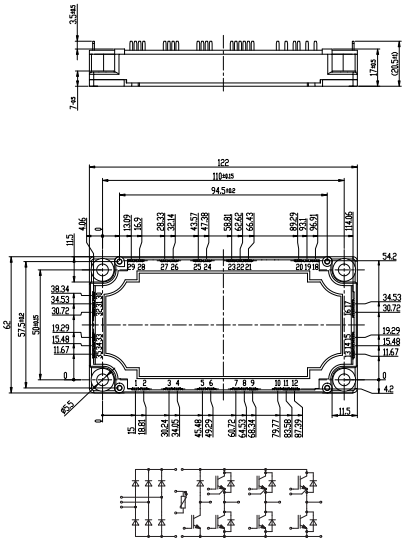
Case C6.0



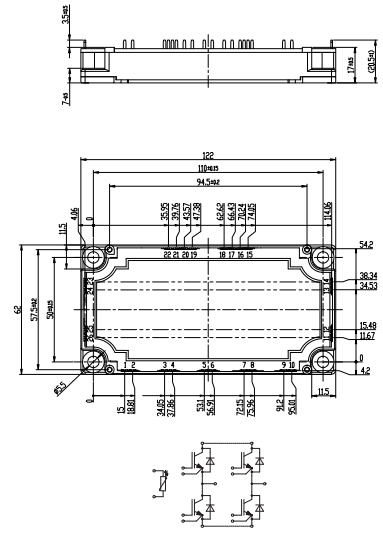
Case C6.2



Case C6.3

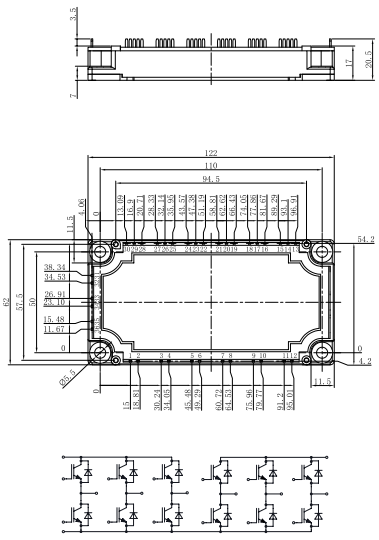


Case C6.4

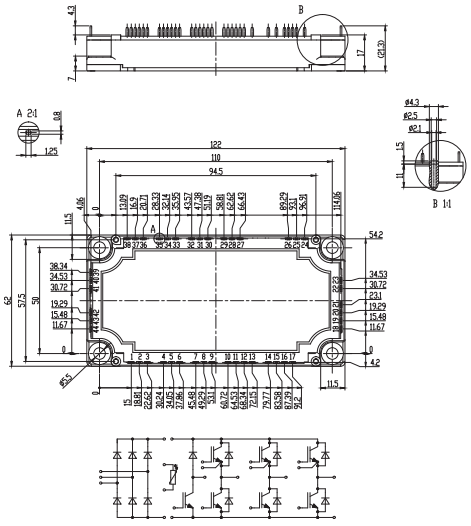


Low Power Module Package Outlines

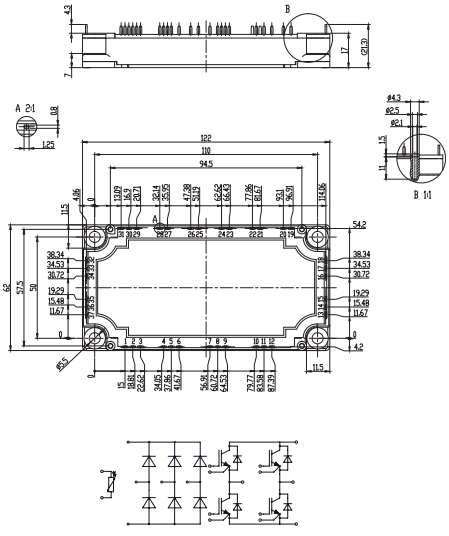
Case C6.5



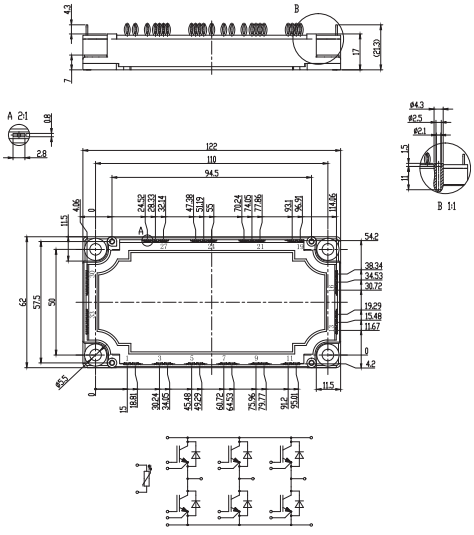
Case C6.6



Case C6.7

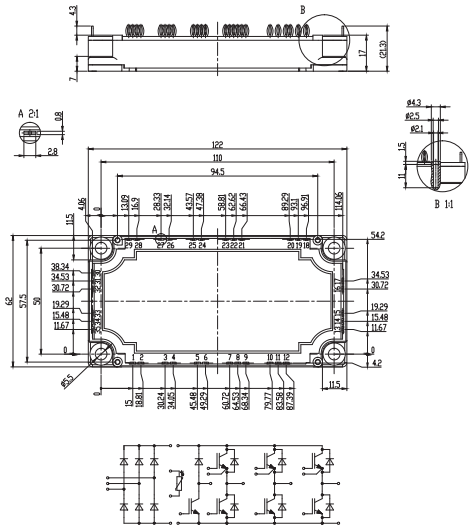


Case C6.8

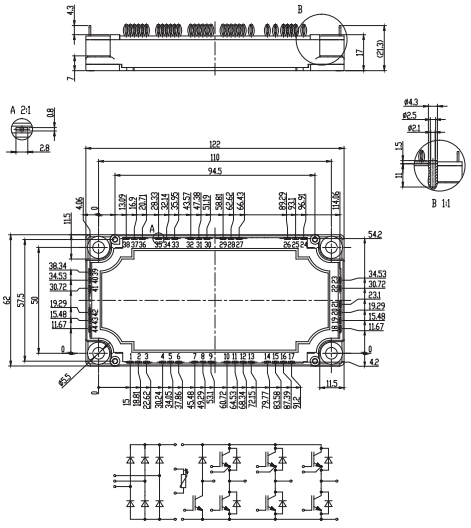


Low Power Module Package Outlines

Case C6.9

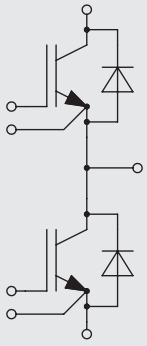


Case C6.10

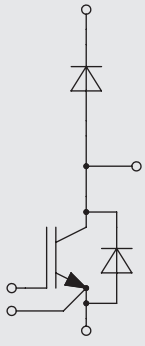


Medium Power Modules

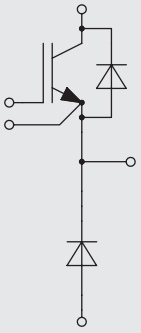
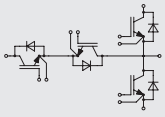
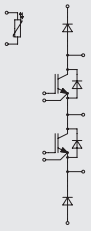
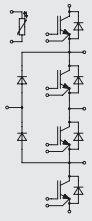
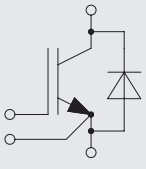
Type	V_{CES} V	I_C @ T_C=25℃ A	I_C @ T_C=80℃ A	$V_{CE(sat)}$ @T_j=25℃ typ. V	(E_{on}+E_{off}) @T_j=125℃ typ. mJ	$R_{th(J-C)}$ K/W	Package Outline/page	Circuit
600V/650V Half Bridge								
Trench IGBT, Low Loss								
GD50HFT60C1S	600	90	50	1.70	2.0	0.470	C1.0/71	
GD75HFT60C1S	600	140	75	1.70	6.0	0.400	C1.0/71	
GD100HFT60C1S	600	170	100	1.70	9.0	0.330	C1.0/71	
GD150HFT60C1S	600	210	150	1.70	14.0	0.260	C1.0/71	
GD200HFT60C1S	600	300	200	1.70	21.8	0.200	C1.0/71	
GD200HFT65C2S	650	260	200	1.45	11.6	0.220	C2.0/71	
GD300HFT65C2S	650	400	300	1.45	15.8	0.160	C2.0/71	
GD400HFT65C2S	650	500	400	1.45	18.9	0.120	C2.0/71	
GD600HFT65C2S	650	700	600	1.45	35.0	0.090	C2.0/71	
GD200HFT60C8S	600	350	200	1.70	16.9	0.190	C8.0/74	
GD300HFT60C8S	600	415	300	1.70	25.2	0.180	C8.0/74	
GD200HFT60C8SN	600	350	200	1.70	16.9	0.190	C8.1/75	
GD300HFT60C8SN	600	415	300	1.70	25.2	0.180	C8.1/75	
Ultra Fast IGBT								
GD50HFU60C1S	600	80	50	2.80	2.5	0.260	C1.0/71	
GD75HFU60C1S	600	100	75	2.80	3.9	0.210	C1.0/71	
GD100HFU60C1S	600	130	100	2.80	6.0	0.170	C1.0/71	
GD150HFU60C1S	600	200	150	2.80	10.4	0.140	C1.0/71	
GD200HFU60C2S	600	265	200	2.80	14.2	0.120	C2.0/71	
GD300HFU60C2S	600	360	300	2.80	22.5	0.100	C2.0/71	
GD400HFU60C2S	600	550	400	2.80	30.0	0.080	C2.0/71	



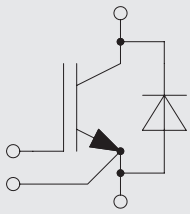
600V/650V Boost Chopper								
Trench IGBT, Low Loss								
GD200CUT65C2S	650	260	200	1.45	11.6	0.220	C2.0/71	
GD300CUT65C2S	650	400	300	1.45	15.8	0.160	C2.0/71	
GD400CUT65C2S	650	500	400	1.45	18.9	0.120	C2.0/71	
GD600CUT65C2S	650	700	600	1.45	35.0	0.090	C2.0/71	
Ultra Fast IGBT								
GD200CUU60C2S	600	265	200	2.80	14.2	0.120	C2.0/71	
GD300CUU60C2S	600	360	300	2.80	22.5	0.100	C2.0/71	
GD400CUU60C2S	600	550	400	2.80	30.0	0.080	C2.0/71	



Medium Power Modules

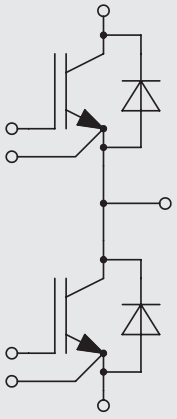
Type	V_{CES} V	I_C @ T_C=25℃ A	I_C @ T_C=80℃ A	$V_{CE(sat)}$ @Tj=25℃ typ. V	(E_{on}+E_{off}) @Tj=125℃ typ. mJ	$R_{th(J-C)}$ K/W	Package Outline/page	Circuit
600V/650V Buck Chopper								
Trench IGBT, Low Loss								
GD200CLT65C2S	650	260	200	1.45	11.6	0.220	C2.0/71	
GD300CLT65C2S	650	400	300	1.45	15.8	0.160	C2.0/71	
GD400CLT65C2S	650	500	400	1.45	18.9	0.120	C2.0/71	
GD600CLT65C2S	650	700	600	1.45	35.0	0.090	C2.0/71	
Ultra Fast IGBT								
GD200CLU60C2S	600	265	200	2.80	14.2	0.120	C2.0/71	
GD300CLU60C2S	600	360	300	2.80	22.5	0.100	C2.0/71	
GD400CLU60C2S	600	550	400	2.80	30.0	0.080	C2.0/71	
600V/650V NPC2								
Trench IGBT, Low Loss								
GD400TLT65E5S	650	500	400	1.45	18.9	0.120	E5.0/76	
600V/650V NPC1 Boost								
Trench IGBT, Low Loss								
GD100TUT65C2S	650	180	100	1.45	9.0	0.264	C2.6/72	
GD150TUT65C2S	650	220	150	1.45	14.0	0.208	C2.6/72	
GD200TUT65C2S	650	230	200	1.45	19.0	0.160	C2.6/72	
GD300TUT65C2S	650	375	300	1.45	32.7	0.112	C2.6/72	
600V/650V NPC1								
Trench IGBT, Low Loss								
GD100MLT65C2S	650	180	100	1.45	9.0	0.264	C2.4/72	
GD150MLT65C2S	650	220	150	1.45	14.0	0.208	C2.4/72	
GD200MLT65C2S	650	230	200	1.45	19.0	0.160	C2.4/72	
GD300MLT65C2S	650	375	300	1.45	32.7	0.112	C2.4/72	
1200V Single								
Low Loss and Fast IGBT								
GD200SGL120C2S	1200	370	200	1.90	39.0	0.080	C2.1/71	
GD300SGL120C2S	1200	480	300	1.90	64.8	0.060	C2.1/71	
GD400SGL120C2S	1200	625	400	1.90	85.0	0.050	C2.1/71	
GD600SGL120C2S	1200	910	600	1.90	163.0	0.040	C2.1/71	

Medium Power Modules

Type	V_{CES} V	I_C @ T_C=25℃ A	I_C @ T_C=80℃ A	$V_{CE(sat)}$ @T_j=25℃ typ. V	(E_{on}+E_{off}) @T_j=125℃ typ. mJ	$R_{th(J-C)}$ K/W	Package Outline/page	Circuit
Trench IGBT, Low Loss								
GD200SGT120C2S	1200	368	200	1.70	39.0	0.082	C2.1/71	
GD300SGT120C2S	1200	478	300	1.70	64.8	0.063	C2.1/71	
GD400SGT120C2S	1200	620	400	1.70	85.0	0.055	C2.1/71	
GD600SGT120C2S	1200	900	600	1.70	102.0	0.042	C2.1/71	
GD800SGT120C2S	1200	1250	800	1.70	133.4	0.036	C2.1/71	
Advanced Trench IGBT, Low Loss								
GD200SGY120C2S	1200	368	200	1.65	39.0	0.090	C2.1/71	
GD300SGY120C2S	1200	478	300	1.65	64.8	0.069	C2.1/71	
GD400SGY120C2S	1200	620	400	1.65	85.0	0.061	C2.1/71	
GD600SGY120C2S	1200	900	600	1.65	102.0	0.046	C2.1/71	
GD800SGY120C2S	1200	1250	800	1.65	133.4	0.040	C2.1/71	
GD900SGY120C2S	1200	1400	900	1.65	174.5	0.034	C2.1/71	
Advanced Trench IGBT, Ultra Fast								
GD200SGF120C2S	1200	368	200	1.75	27.0	0.090	C2.1/71	
GD300SGF120C2S	1200	478	300	1.75	45.9	0.069	C2.1/71	
GD400SGF120C2S	1200	620	400	1.75	54.0	0.061	C2.1/71	
GD600SGF120C2S	1200	900	600	1.75	90.0	0.046	C2.1/71	
GD800SGF120C2S	1200	1250	800	1.75	110.0	0.040	C2.1/71	
GD900SGF120C2S	1200	1400	900	1.75	124.0	0.034	C2.1/71	
Standard IGBT								
GD200SGK120C2S	1200	330	200	2.20	44.0	0.150	C2.1/71	
GD300SGK120C2S	1200	410	300	2.20	64.0	0.055	C2.1/71	
GD400SGK120C2S	1200	550	400	2.20	85.0	0.050	C2.1/71	
GD600SGK120C2S	1200	1009	600	2.20	125.2	0.031	C2.1/71	
Ultra Fast IGBT								
GD200SGU120C2S	1200	300	200	3.10	30.0	0.120	C2.1/71	
GD300SGU120C2S	1200	370	300	3.10	51.0	0.100	C2.1/71	
GD400SGU120C2S	1200	510	400	3.10	60.0	0.050	C2.1/71	
GD600SGU120C2S	1200	700	600	3.10	100.0	0.032	C2.1/71	

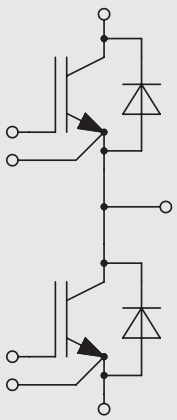
Medium Power Modules

Type	V_{CES} V	I_C @ T_C=25℃ A	I_C @ T_C=80℃ A	$V_{CE(sat)}$ @T_j=25℃ typ. V	(E_{on}+E_{off}) @T_j=125℃ typ. mJ	$R_{th(J-C)}$ K/W	Package Outline/page	Circuit
1200V Half Bridge								
Low Loss and Fast IGBT								
GD50HFL120C1S	1200	90	50	1.90	12.5	0.280	C1.0/71	
GD75HFL120C1S	1200	140	75	1.90	16.8	0.230	C1.0/71	
GD100HFL120C1S	1200	185	100	1.90	18.4	0.190	C1.0/71	
GD150HFL120C1S	1200	290	150	1.90	27.9	0.132	C1.0/71	
GD100HFL120C2S	1200	190	100	1.90	18.4	0.150	C2.0/71	
GD150HFL120C2S	1200	280	150	1.90	36.0	0.124	C2.0/71	
GD200HFL120C2S	1200	380	200	1.90	39.0	0.110	C2.0/71	
GD300HFL120C2S	1200	480	300	1.90	64.8	0.076	C2.0/71	
GD400HFL120C2S	1200	680	400	1.90	85.0	0.048	C2.0/71	
GD450HFL120C2S	1200	715	450	1.90	111.0	0.030	C2.0/71	
GD100HFL120C8S	1200	185	100	1.90	18.4	0.155	C8.0/74	
GD150HFL120C8S	1200	270	150	1.90	36.0	0.120	C8.0/74	
GD200HFL120C8S	1200	370	200	1.90	39.0	0.085	C8.0/74	
GD150HFL120C8SN	1200	270	150	1.90	36.0	0.120	C8.1/75	
GD200HFL120C8SN	1200	370	200	1.90	39.0	0.085	C8.1/75	
Trench IGBT, Low Loss								
GD200HFT120B3S	1200	330	200	1.70	30.4	0.136	B3.0/75	
GD300HFT120B3S	1200	450	300	1.70	45.2	0.105	B3.0/75	
GD400HFT120B3S	1200	630	400	1.70	66.8	0.072	B3.0/75	
GD50HFT120C1S	1200	88	50	1.70	9.9	0.290	C1.0/71	
GD75HFT120C1S	1200	138	75	1.70	12.9	0.230	C1.0/71	
GD100HFT120C1S	1200	183	100	1.70	13.6	0.200	C1.0/71	
GD150HFT120C1S	1200	230	150	1.70	23.0	0.201	C1.0/71	
GD100HFT120C2S	1200	188	100	1.70	13.6	0.180	C2.0/71	
GD150HFT120C2S	1200	278	150	1.70	25.0	0.130	C2.0/71	
GD200HFT120C2S	1200	378	200	1.70	30.0	0.100	C2.0/71	
GD300HFT120C2S	1200	478	300	1.70	48.0	0.070	C2.0/71	
GD400HFT120C2S	1200	668	400	1.70	64.0	0.053	C2.0/71	
GD450HFT120C2S	1200	685	450	1.70	82.4	0.038	C2.0/71	
GD100HFT120C8S	1200	183	100	1.70	13.6	0.190	C8.0/74	
GD150HFT120C8S	1200	268	150	1.70	25.0	0.160	C8.0/74	
GD200HFT120C8S	1200	368	200	1.70	30.0	0.110	C8.0/74	
GD150HFT120C8SN	1200	268	150	1.70	25.0	0.160	C8.1/75	
GD200HFT120C8SN	1200	368	200	1.70	30.0	0.110	C8.1/75	



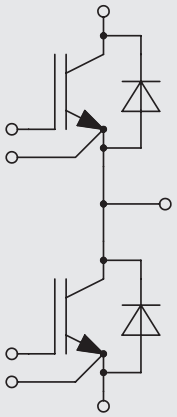
Medium Power Modules

Type	V_{CES} V	I_C @ T_C=25℃ A	I_C @ T_C=80℃ A	$V_{CE(sat)}$ @T_j=25℃ typ. V	(E_{on}+E_{off}) @T_j=125℃ typ. mJ	$R_{th(J-C)}$ K/W	Package Outline/page	Circuit
Advanced Trench IGBT, Low Loss								
GD200HFY120B3S	1200	330	200	1.65	30.4	0.150	B3.0/75	
GD300HFY120B3S	1200	450	300	1.65	45.2	0.116	B3.0/75	
GD400HFY120B3S	1200	630	400	1.65	66.8	0.079	B3.0/75	
GD50HFY120C1S	1200	88	50	1.65	9.9	0.319	C1.0/71	
GD75HFY120C1S	1200	138	75	1.65	12.9	0.253	C1.0/71	
GD100HFY120C1S	1200	183	100	1.65	13.6	0.220	C1.0/71	
GD150HFY120C1S	1200	230	150	1.65	23.0	0.221	C1.0/71	
GD100HFY120C2S	1200	188	100	1.65	13.6	0.198	C2.0/71	
GD150HFY120C2S	1200	278	150	1.65	25.0	0.143	C2.0/71	
GD200HFY120C2S	1200	378	200	1.65	30.0	0.110	C2.0/71	
GD300HFY120C2S	1200	478	300	1.65	48.0	0.077	C2.0/71	
GD400HFY120C2S	1200	668	400	1.65	64.0	0.058	C2.0/71	
GD450HFY120C2S	1200	685	450	1.65	82.4	0.042	C2.0/71	
GD100HFY120C8S	1200	183	100	1.65	13.6	0.209	C8.0/74	
GD150HFY120C8S	1200	268	150	1.65	25.0	0.176	C8.0/74	
GD200HFY120C8S	1200	368	200	1.65	30.0	0.121	C8.0/74	
GD150HFY120C8SN	1200	268	150	1.65	25.0	0.176	C8.1/75	
GD200HFY120C8SN	1200	368	200	1.65	30.0	0.121	C8.1/75	
Advanced Trench IGBT, Ultra Fast								
GD50HFF120C1S	1200	88	50	1.75	7.7	0.319	C1.0/71	
GD75HFF120C1S	1200	138	75	1.75	8.3	0.253	C1.0/71	
GD100HFF120C1S	1200	183	100	1.75	11.4	0.220	C1.0/71	
GD150HFF120C1S	1200	230	150	1.75	17.1	0.221	C1.0/71	
GD100HFF120C2S	1200	188	100	1.75	11.4	0.198	C2.0/71	
GD150HFF120C2S	1200	278	150	1.75	17.1	0.143	C2.0/71	
GD200HFF120C2S	1200	378	200	1.75	27.0	0.110	C2.0/71	
GD300HFF120C2S	1200	478	300	1.75	45.9	0.077	C2.0/71	
GD400HFF120C2S	1200	668	400	1.75	54.0	0.058	C2.0/71	
GD450HFF120C2S	1200	685	450	1.75	61.0	0.042	C2.0/71	
GD100HFF120C8S	1200	183	100	1.75	11.4	0.209	C8.0/74	
GD150HFF120C8S	1200	268	150	1.75	17.1	0.176	C8.0/74	
GD200HFF120C8S	1200	368	200	1.75	27.0	0.121	C8.0/74	
GD150HFF120C8SN	1200	268	150	1.75	17.1	0.176	C8.1/75	
GD200HFF120C8SN	1200	368	200	1.75	27.0	0.121	C8.1/75	



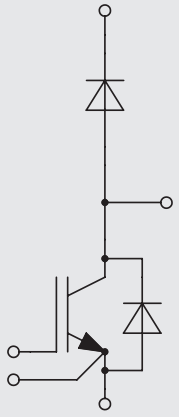
Medium Power Modules

Type	V_{CES} V	I_C @ T_C=25℃ A	I_C @ T_C=80℃ A	$V_{CE(sat)}$ @T_j=25℃ typ. V	(E_{on}+E_{off}) @T_j=125℃ typ. mJ	$R_{th(J-C)}$ K/W	Package Outline/page	Circuit
Standard IGBT								
GD35HFK120C1S	1200	50	35	2.20	10.0	0.400	C1.0/71	
GD40HFK120C1S	1200	63	40	2.20	11.0	0.380	C1.0/71	
GD50HFK120C1S	1200	80	50	2.20	11.6	0.350	C1.0/71	
GD75HFK120C1S	1200	127	75	2.20	18.4	0.290	C1.0/71	
GD100HFK120C1S	1200	147	100	2.20	19.6	0.250	C1.0/71	
GD100HFK120C2S	1200	152	100	2.20	19.6	0.160	C2.0/71	
GD150HFK120C2S	1200	212	150	2.20	33.0	0.120	C2.0/71	
GD200HFK120C2S	1200	292	200	2.20	44.0	0.090	C2.0/71	
GD300HFK120C2S	1200	432	300	2.20	64.0	0.060	C2.0/71	
GD100HFK120C8S	1200	150	100	2.20	19.6	0.240	C8.0/74	
GD150HFK120C8S	1200	202	150	2.20	33.0	0.140	C8.0/74	
GD200HFK120C8S	1200	282	200	2.20	44.0	0.100	C8.0/74	
GD150HFK120C8SN	1200	202	150	2.20	33.0	0.140	C8.1/75	
GD200HFK120C8SN	1200	282	200	2.20	44.0	0.100	C8.1/75	
Ultra Fast IGBT								
GD40HFU120C1S	1200	60	40	3.10	8.0	0.410	C1.0/71	
GD50HFU120C1S	1200	78	50	3.10	8.6	0.350	C1.0/71	
GD75HFU120C1S	1200	125	75	3.10	9.2	0.300	C1.0/71	
GD100HFU120C1S	1200	145	100	3.10	12.7	0.250	C1.0/71	
GD100HFU120C2S	1200	150	100	3.10	12.7	0.160	C2.0/71	
GD150HFU120C2S	1200	210	150	3.10	19.0	0.120	C2.0/71	
GD200HFU120C2S	1200	290	200	3.10	30.0	0.090	C2.0/71	
GD300HFU120C2S	1200	430	300	3.10	51.0	0.064	C2.0/71	
GD400HFU120C2S	1200	570	400	3.10	60.0	0.045	C2.3/71	
GD100HFU120C8S	1200	148	100	3.10	12.7	0.240	C8.0/74	
GD150HFU120C8S	1200	200	150	3.10	19.0	0.140	C8.0/74	
GD200HFU120C8S	1200	280	200	3.10	30.0	0.100	C8.0/74	
GD150HFU120C8SN	1200	200	150	3.10	19.0	0.140	C8.1/75	
GD200HFU120C8SN	1200	280	200	3.10	30.0	0.100	C8.1/75	
1200V Boost Chopper								
Low Loss and Fast IGBT								
GD50CUL120C1S	1200	90	50	1.90	12.5	0.280	C1.0/71	
GD75CUL120C1S	1200	140	75	1.90	16.8	0.230	C1.0/71	



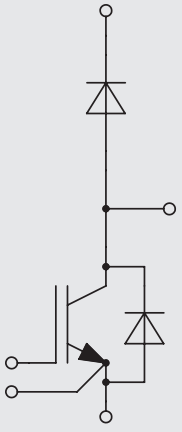
Medium Power Modules

Type	V_{CES} V	I_C @ T_C=25℃ A	I_C @ T_C=80℃ A	$V_{CE(sat)}$ @T_j=25℃ typ. V	(E_{on}+E_{off}) @T_j=125℃ typ. mJ	$R_{th(J-C)}$ K/W	Package Outline/page	Circuit
GD100CUL120C1S	1200	185	100	1.90	18.4	0.190	C1.0/71	
GD150CUL120C1S	1200	280	150	1.90	36.0	0.124	C1.0/71	
GD100CUL120C2S	1200	190	100	1.90	18.4	0.150	C2.0/71	
GD150CUL120C2S	1200	280	150	1.90	36.0	0.090	C2.0/71	
GD200CUL120C2S	1200	380	200	1.90	39.0	0.080	C2.0/71	
GD300CUL120C2S	1200	480	300	1.90	64.8	0.050	C2.0/71	
GD400CUL120C2S	1200	680	400	1.90	85.0	0.043	C2.0/71	
GD450CUL120C2S	1200	715	450	1.90	111.0	0.030	C2.0/71	
GD100CUL120C8S	1200	185	100	1.90	18.4	0.155	C8.0/74	
GD150CUL120C8S	1200	270	150	1.90	36.0	0.120	C8.0/74	
GD200CUL120C8S	1200	370	200	1.90	39.0	0.085	C8.0/74	
GD150CUL120C8SN	1200	270	150	1.90	36.0	0.120	C8.1/75	
GD200CUL120C8SN	1200	370	200	1.90	39.0	0.085	C8.1/75	
Trench IGBT, Low Loss								
GD50CUT120C1S	1200	88	50	1.70	9.9	0.290	C1.0/71	
GD75CUT120C1S	1200	138	75	1.70	12.9	0.230	C1.0/71	
GD100CUT120C1S	1200	183	100	1.70	13.6	0.200	C1.0/71	
GD150CUT120C1S	1200	230	150	1.70	23.0	0.201	C1.0/71	
GD100CUT120C2S	1200	188	100	1.70	13.6	0.180	C2.0/71	
GD150CUT120C2S	1200	278	150	1.70	25.0	0.130	C2.0/71	
GD200CUT120C2S	1200	378	200	1.70	30.0	0.100	C2.0/71	
GD300CUT120C2S	1200	478	300	1.70	48.0	0.070	C2.0/71	
GD400CUT120C2S	1200	678	400	1.70	64.0	0.050	C2.0/71	
GD450CUT120C2S	1200	685	450	1.70	82.4	0.038	C2.0/71	
GD100CUT120C8S	1200	183	100	1.70	13.6	0.190	C8.0/74	
GD150CUT120C8S	1200	268	150	1.70	25.0	0.160	C8.0/74	
GD200CUT120C8S	1200	368	200	1.70	30.0	0.110	C8.0/74	
GD150CUT120C8SN	1200	268	150	1.70	25.0	0.160	C8.1/75	
GD200CUT120C8SN	1200	368	200	1.70	30.0	0.110	C8.1/75	
Advanced Trench IGBT, Low Loss								
GD50CUY120C1S	1200	88	50	1.65	9.9	0.319	C1.0/71	
GD75CUY120C1S	1200	138	75	1.65	12.9	0.253	C1.0/71	
GD100CUY120C1S	1200	183	100	1.65	13.6	0.220	C1.0/71	
GD150CUY120C1S	1200	230	150	1.65	23.0	0.221	C1.0/71	
GD100CUY120C2S	1200	188	100	1.65	13.6	0.198	C2.0/71	



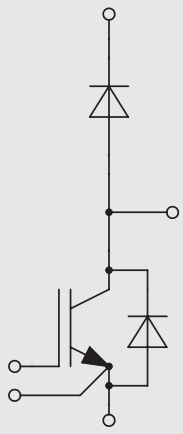
Medium Power Modules

Type	V_{CES} V	I_C @ T_C=25℃ A	I_C @ T_C=80℃ A	$V_{CE(sat)}$ @T_j=25℃ typ. V	(E_{on}+E_{off}) @T_j=125℃ typ. mJ	$R_{th(J-C)}$ K/W	Package Outline/page	Circuit
GD150CUY120C2S	1200	278	150	1.65	25.0	0.143	C2.0/71	
GD200CUY120C2S	1200	378	200	1.65	30.0	0.110	C2.0/71	
GD300CUY120C2S	1200	478	300	1.65	48.0	0.077	C2.0/71	
GD400CUY120C2S	1200	678	400	1.65	64.0	0.055	C2.0/71	
GD450CUY120C2S	1200	685	450	1.65	82.4	0.042	C2.0/71	
GD100CUY120C8S	1200	183	100	1.65	13.6	0.209	C8.0/74	
GD150CUY120C8S	1200	268	150	1.65	25.0	0.176	C8.0/74	
GD200CUY120C8S	1200	368	200	1.65	30.0	0.121	C8.0/74	
GD150CUY120C8SN	1200	268	150	1.65	25.0	0.176	C8.1/75	
GD200CUY120C8SN	1200	368	200	1.65	30.0	0.121	C8.1/75	
Advanced Trench IGBT, Ultra Fast								
GD50CUF120C1S	1200	88	50	1.75	7.7	0.319	C1.0/71	
GD75CUF120C1S	1200	138	75	1.75	8.3	0.253	C1.0/71	
GD100CUF120C1S	1200	183	100	1.75	11.4	0.220	C1.0/71	
GD150CUF120C1S	1200	230	150	1.75	17.1	0.221	C1.0/71	
GD100CUF120C2S	1200	188	100	1.75	11.4	0.198	C2.0/71	
GD150CUF120C2S	1200	278	150	1.75	17.1	0.143	C2.0/71	
GD200CUF120C2S	1200	378	200	1.75	27.0	0.110	C2.0/71	
GD300CUF120C2S	1200	478	300	1.75	45.9	0.077	C2.0/71	
GD400CUF120C2S	1200	668	400	1.75	54.0	0.058	C2.0/71	
GD450CUF120C2S	1200	685	450	1.75	61.0	0.042	C2.0/71	
GD100CUF120C8S	1200	183	100	1.75	11.4	0.209	C8.0/74	
GD150CUF120C8S	1200	268	150	1.75	17.1	0.176	C8.0/74	
GD200CUF120C8S	1200	368	200	1.75	27.0	0.121	C8.0/74	
GD150CUF120C8SN	1200	268	150	1.75	17.1	0.176	C8.1/75	
GD200CUF120C8SN	1200	368	200	1.75	27.0	0.121	C8.1/75	
Standard IGBT								
GD35CUK120C1S	1200	50	35	2.20	10.0	0.400	C1.0/71	
GD40CUK120C1S	1200	63	40	2.20	11.0	0.380	C1.0/71	
GD50CUK120C1S	1200	80	50	2.20	11.6	0.350	C1.0/71	
GD75CUK120C1S	1200	127	75	2.20	18.4	0.290	C1.0/71	
GD100CUK120C1S	1200	147	100	2.20	19.6	0.250	C1.0/71	
GD100CUK120C2S	1200	152	100	2.20	19.6	0.160	C2.0/71	
GD150CUK120C2S	1200	212	150	2.20	33.0	0.120	C2.0/71	



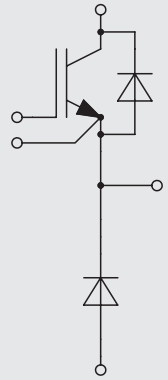
Medium Power Modules

Type	V_{CES} V	I_C @ T_C=25℃ A	I_C @ T_C=80℃ A	$V_{CE(sat)}$ @T_j=25℃ typ. V	(E_{on}+E_{off}) @T_j=125℃ typ. mJ	$R_{th(J-C)}$ K/W	Package Outline/page	Circuit
GD200CUK120C2S	1200	292	200	2.20	44.0	0.090	C2.0/71	
GD300CUK120C2S	1200	432	300	2.20	64.0	0.060	C2.0/71	
GD100CUK120C8S	1200	150	100	2.20	19.6	0.240	C8.0/74	
GD150CUK120C8S	1200	202	150	2.20	33.0	0.140	C8.0/74	
GD200CUK120C8S	1200	282	200	2.20	44.0	0.100	C8.0/74	
GD150CUK120C8SN	1200	202	150	2.20	33.0	0.140	C8.1/75	
GD200CUK120C8SN	1200	282	200	2.20	44.0	0.100	C8.1/75	
Ultra Fast IGBT								
GD40CUU120C1S	1200	60	40	3.10	8.0	0.410	C1.0/71	
GD50CUU120C1S	1200	78	50	3.10	8.6	0.350	C1.0/71	
GD75CUU120C1S	1200	125	75	3.10	9.2	0.300	C1.0/71	
GD100CUU120C1S	1200	145	100	3.10	12.7	0.250	C1.0/71	
GD100CUU120C2S	1200	150	100	3.10	12.7	0.160	C2.0/71	
GD150CUU120C2S	1200	210	150	3.10	19.0	0.120	C2.0/71	
GD200CUU120C2S	1200	290	200	3.10	30.0	0.090	C2.0/71	
GD300CUU120C2S	1200	430	300	3.10	51.0	0.064	C2.0/71	
GD400CUU120C2S	1200	570	400	3.10	60.0	0.045	C2.3/71	
GD100CUU120C8S	1200	148	100	3.10	12.7	0.240	C8.0/74	
GD150CUU120C8S	1200	200	150	3.10	19.0	0.140	C8.0/74	
GD200CUU120C8S	1200	280	200	3.10	30.0	0.100	C8.0/74	
GD150CUU120C8SN	1200	200	150	3.10	19.0	0.140	C8.1/75	
GD200CUU120C8SN	1200	280	200	3.10	30.0	0.100	C8.1/75	



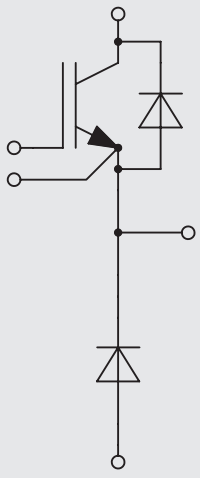
1200V Buck Chopper

Low Loss and Fast IGBT								
GD50CLL120C1S	1200	90	50	1.90	12.5	0.280	C1.0/71	
GD75CLL120C1S	1200	140	75	1.90	16.8	0.230	C1.0/71	
GD100CLL120C1S	1200	185	100	1.90	18.4	0.190	C1.0/71	
GD150CLL120C1S	1200	280	150	1.90	36.0	0.124	C1.0/71	
GD100CLL120C2S	1200	190	100	1.90	18.4	0.150	C2.0/71	
GD150CLL120C2S	1200	280	150	1.90	36.0	0.090	C2.0/71	
GD200CLL120C2S	1200	380	200	1.90	39.0	0.080	C2.0/71	
GD300CLL120C2S	1200	480	300	1.90	64.8	0.050	C2.0/71	
GD400CLL120C2S	1200	680	400	1.90	85.0	0.043	C2.0/71	
GD450CLL120C2S	1200	715	450	1.90	111.0	0.030	C2.0/71	



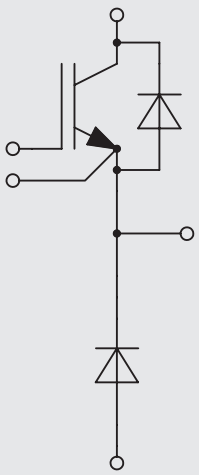
Medium Power Modules

Type	V_{CES} V	I_C @ T_C=25℃ A	I_C @ T_C=80℃ A	$V_{CE(sat)}$ @T_j=25℃ typ. V	(E_{on}+E_{off}) @T_j=125℃ typ. mJ	$R_{th(J-C)}$ K/W	Package Outline/page	Circuit
GD100CLL120C8S	1200	185	100	1.90	18.4	0.155	C8.0/74	
GD150CLL120C8S	1200	270	150	1.90	36.0	0.120	C8.0/74	
GD200CLL120C8S	1200	370	200	1.90	39.0	0.085	C8.0/74	
GD150CLL120C8SN	1200	270	150	1.90	36.0	0.120	C8.1/75	
GD200CLL120C8SN	1200	370	200	1.90	39.0	0.085	C8.1/75	
Trench IGBT, Low Loss								
GD50CLT120C1S	1200	88	50	1.70	9.9	0.290	C1.0/71	
GD75CLT120C1S	1200	138	75	1.70	12.9	0.230	C1.0/71	
GD100CLT120C1S	1200	183	100	1.70	13.6	0.200	C1.0/71	
GD150CLT120C1S	1200	230	150	1.70	23.0	0.201	C1.0/71	
GD100CLT120C2S	1200	188	100	1.70	13.6	0.180	C2.0/71	
GD150CLT120C2S	1200	278	150	1.70	25.0	0.130	C2.0/71	
GD200CLT120C2S	1200	378	200	1.70	30.0	0.100	C2.0/71	
GD300CLT120C2S	1200	478	300	1.70	48.0	0.070	C2.0/71	
GD400CLT120C2S	1200	678	400	1.70	64.0	0.050	C2.0/71	
GD450CLT120C2S	1200	685	450	1.70	82.4	0.038	C2.0/71	
GD100CLT120C8S	1200	183	100	1.70	13.6	0.190	C8.0/74	
GD150CLT120C8S	1200	268	150	1.70	25.0	0.160	C8.0/74	
GD200CLT120C8S	1200	368	200	1.70	30.0	0.110	C8.0/74	
GD150CLT120C8SN	1200	268	150	1.70	25.0	0.160	C8.1/75	
GD200CLT120C8SN	1200	368	200	1.70	30.0	0.110	C8.1/75	
Advanced Trench IGBT, Low Loss								
GD50CLY120C1S	1200	88	50	1.65	9.9	0.319	C1.0/71	
GD75CLY120C1S	1200	138	75	1.65	12.9	0.253	C1.0/71	
GD100CLY120C1S	1200	183	100	1.65	13.6	0.220	C1.0/71	
GD150CLY120C1S	1200	230	150	1.65	23.0	0.221	C1.0/71	
GD100CLY120C2S	1200	188	100	1.65	13.6	0.198	C2.0/71	
GD150CLY120C2S	1200	278	150	1.65	25.0	0.143	C2.0/71	
GD200CLY120C2S	1200	378	200	1.65	30.0	0.110	C2.0/71	
GD300CLY120C2S	1200	478	300	1.65	48.0	0.077	C2.0/71	
GD400CLY120C2S	1200	678	400	1.65	64.0	0.055	C2.0/71	
GD450CLY120C2S	1200	685	450	1.65	82.4	0.042	C2.0/71	
GD100CLY120C8S	1200	183	100	1.65	13.6	0.209	C8.0/74	
GD150CLY120C8S	1200	268	150	1.65	25.0	0.176	C8.0/74	
GD200CLY120C8S	1200	368	200	1.65	30.0	0.121	C8.0/74	



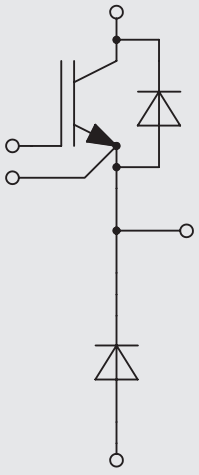
Medium Power Modules

Type	V_{CES} V	I_C @ T_C=25℃ A	I_C @ T_C=80℃ A	$V_{CE(sat)}$ @T_j=25℃ typ. V	(E_{on}+E_{off}) @T_j=125℃ typ. mJ	$R_{th(J-C)}$ K/W	Package Outline/page	Circuit
GD150CLY120C8SN	1200	268	150	1.65	25.0	0.176	C8.1/75	
GD200CLY120C8SN	1200	368	200	1.65	30.0	0.121	C8.1/75	
Advanced Trench IGBT, Ultra Fast								
GD50CLF120C1S	1200	88	50	1.75	7.7	0.319	C1.0/71	
GD75CLF120C1S	1200	138	75	1.75	8.3	0.253	C1.0/71	
GD100CLF120C1S	1200	183	100	1.75	11.4	0.220	C1.0/71	
GD150CLF120C1S	1200	230	150	1.75	17.1	0.221	C1.0/71	
GD100CLF120C2S	1200	188	100	1.75	11.4	0.198	C2.0/71	
GD150CLF120C2S	1200	278	150	1.75	17.1	0.143	C2.0/71	
GD200CLF120C2S	1200	378	200	1.75	27.0	0.110	C2.0/71	
GD300CLF120C2S	1200	478	300	1.75	45.9	0.077	C2.0/71	
GD400CLF120C2S	1200	668	400	1.75	54.0	0.058	C2.0/71	
GD450CLF120C2S	1200	685	450	1.75	61.0	0.042	C2.0/71	
GD100CLF120C8S	1200	183	100	1.75	11.4	0.209	C8.0/74	
GD150CLF120C8S	1200	268	150	1.75	17.1	0.176	C8.0/74	
GD200CLF120C8S	1200	368	200	1.75	27.0	0.121	C8.0/74	
GD150CLF120C8SN	1200	268	150	1.75	17.1	0.176	C8.1/75	
GD200CLF120C8SN	1200	368	200	1.75	27.0	0.121	C8.1/75	
Standard IGBT								
GD35CLK120C1S	1200	50	35	2.20	10.0	0.400	C1.0/71	
GD40CLK120C1S	1200	63	40	2.20	11.0	0.380	C1.0/71	
GD50CLK120C1S	1200	80	50	2.20	11.6	0.350	C1.0/71	
GD75CLK120C1S	1200	127	75	2.20	18.4	0.290	C1.0/71	
GD100CLK120C1S	1200	147	100	2.20	19.6	0.250	C1.0/71	
GD100CLK120C2S	1200	152	100	2.20	19.6	0.160	C2.0/71	
GD150CLK120C2S	1200	212	150	2.20	33.0	0.120	C2.0/71	
GD200CLK120C2S	1200	292	200	2.20	44.0	0.090	C2.0/71	
GD300CLK120C2S	1200	432	300	2.20	64.0	0.060	C2.0/71	
GD100CLK120C8S	1200	150	100	2.20	19.6	0.240	C8.0/74	
GD150CLK120C8S	1200	202	150	2.20	33.0	0.140	C8.0/74	
GD200CLK120C8S	1200	282	200	2.20	44.0	0.100	C8.0/74	
GD150CLK120C8SN	1200	202	150	2.20	33.0	0.140	C8.1/75	
GD200CLK120C8SN	1200	282	200	2.20	44.0	0.100	C8.1/75	
Ultra Fast IGBT								
GD40CLU120C1S	1200	60	40	3.10	8.0	0.410	C1.0/71	



Medium Power Modules

Type	V_{CES} V	I_C @ T_C=25℃ A	I_C @ T_C=80℃ A	$V_{CE(sat)}$ @T_j=25℃ typ. V	(E_{on}+E_{off}) @T_j=125℃ typ. mJ	$R_{th(J-C)}$ K/W	Package Outline/page	Circuit
GD50CLU120C1S	1200	78	50	3.10	8.6	0.350	C1.0/71	
GD75CLU120C1S	1200	125	75	3.10	9.2	0.300	C1.0/71	
GD100CLU120C1S	1200	145	100	3.10	12.7	0.250	C1.0/71	
GD100CLU120C2S	1200	150	100	3.10	12.7	0.160	C2.0/71	
GD150CLU120C2S	1200	210	150	3.10	19.0	0.120	C2.0/71	
GD200CLU120C2S	1200	290	200	3.10	30.0	0.090	C2.0/71	
GD300CLU120C2S	1200	430	300	3.10	51.0	0.064	C2.0/71	
GD400CLU120C2S	1200	570	400	3.10	60.0	0.045	C2.3/71	
GD100CLU120C8S	1200	148	100	3.10	12.7	0.240	C8.0/74	
GD150CLU120C8S	1200	200	150	3.10	19.0	0.140	C8.0/74	
GD200CLU120C8S	1200	280	200	3.10	30.0	0.100	C8.0/74	
GD150CLU120C8SN	1200	200	150	3.10	19.0	0.140	C8.1/75	
GD200CLU120C8SN	1200	280	200	3.10	30.0	0.100	C8.1/75	



1200V NPC1

Low Loss and Fast IGBT

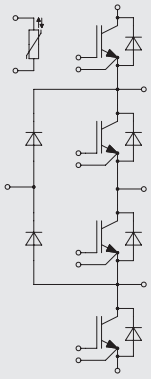
GD100MLL120C2S	1200	190	100	1.90	18.4	0.150	C2.4/72
GD150MLL120C2S	1200	280	150	1.90	36.0	0.124	C2.4/72
GD200MLL120C2S	1200	380	200	1.90	39.0	0.110	C2.4/72

Trench IGBT, Low Loss

GD100MLT120C2S	1200	188	100	1.70	13.6	0.180	C2.4/72
GD150MLT120C2S	1200	278	150	1.70	25.0	0.130	C2.4/72
GD200MLT120C2S	1200	378	200	1.70	30.0	0.100	C2.4/72

Advanced Trench IGBT, Low Loss

GD100MLY120C2S	1200	188	100	1.65	13.6	0.198	C2.4/72
GD150MLY120C2S	1200	278	150	1.65	25.0	0.143	C2.4/72
GD200MLY120C2S	1200	378	200	1.65	30.0	0.110	C2.4/72

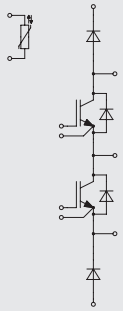
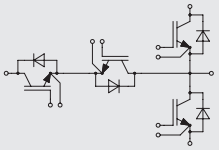
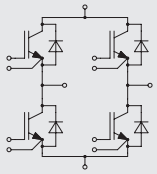


1200V NPC1 Boost

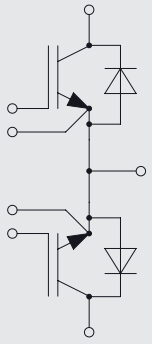
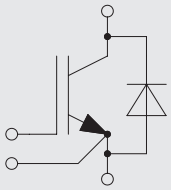
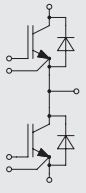
Low Loss and Fast IGBT

GD100TUL120C2S	1200	190	100	1.90	18.4	0.150	C2.6/72
GD150TUL120C2S	1200	280	150	1.90	36.0	0.124	C2.6/72
GD200TUL120C2S	1200	380	200	1.90	39.0	0.110	C2.6/72

Medium Power Modules

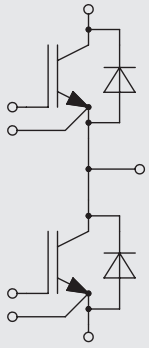
Type	V_{CES} V	I_C @ T_C=25℃ A	I_C @ T_C=80℃ A	$V_{CE(sat)}$ @T_j=25℃ typ. V	(E_{on}+E_{off}) @T_j=125℃ typ. mJ	$R_{th(J-C)}$ K/W	Package Outline/page	Circuit
Trench IGBT, Low Loss								
GD100TUT120C2S	1200	188	100	1.70	13.6	0.180	C2.6/72	
GD150TUT120C2S	1200	278	150	1.70	25.0	0.130	C2.6/72	
GD200TUT120C2S	1200	378	200	1.70	30.0	0.100	C2.6/72	
Advanced Trench IGBT, Low Loss								
GD100TUY120C2S	1200	188	100	1.65	13.6	0.198	C2.6/72	
GD150TUY120C2S	1200	278	150	1.65	25.0	0.143	C2.6/72	
GD200TUY120C2S	1200	378	200	1.65	30.0	0.110	C2.6/72	
1200V NPC2								
Low Loss and Fast IGBT								
GD100TLL120C2S	1200	190	100	1.90	18.4	0.150	C2.5/72	
GD150TLL120C2S	1200	280	150	1.90	36.0	0.124	C2.5/72	
GD200TLL120C2S	1200	380	200	1.90	39.0	0.110	C2.5/72	
GD300TLL120C2S	1200	480	300	1.90	64.8	0.076	C2.5/72	
Trench IGBT, Low Loss								
GD100TLT120C2S	1200	188	100	1.70	13.6	0.180	C2.5/72	
GD150TLT120C2S	1200	278	150	1.70	25.0	0.130	C2.5/72	
GD200TLT120C2S	1200	378	200	1.70	30.0	0.100	C2.5/72	
GD300TLT120C2S	1200	478	300	1.70	48.0	0.070	C2.5/72	
GD300TLT120E5S	1200	478	300	1.70	48.0	0.070	E5.0/76	
GD400TLT120E5S	1200	678	400	1.70	64.0	0.050	E5.0/76	
Advanced Trench IGBT, Low Loss								
GD100TLY120C2S	1200	188	100	1.65	13.6	0.198	C2.5/72	
GD150TLY120C2S	1200	278	150	1.65	25.0	0.143	C2.5/72	
GD200TLY120C2S	1200	378	200	1.65	30.0	0.110	C2.5/72	
GD300TLY120C2S	1200	478	300	1.65	48.0	0.077	C2.5/72	
GD300TLY120E5S	1200	478	300	1.65	48.0	0.550	E5.0/76	
GD400TLY120E5S	1200	678	400	1.65	64.0	0.054	E5.0/76	
1200V H Bridge								
Ultra Fast IGBT								
GD40HCU120C8S	1200	60	40	2.90	6.3	0.430	C8.2/75	
GD50HCU120C8S	1200	75	50	2.90	7.9	0.350	C8.2/75	
GD75HCU120C8S	1200	110	75	2.90	11.9	0.300	C8.2/75	

Medium Power Modules

Type	V_{CES} V	I_C @ T_C=25℃ A	I_C @ T_C=80℃ A	$V_{CE(sat)}$ @T_j=25℃ typ. V	(E_{on}+E_{off}) @T_j=125℃ typ. mJ	$R_{th(J-C)}$ K/W	Package Outline/page	Circuit
1200V Common Emitter								
Low Loss and Fast IGBT								
GD200CEL120C2S	1200	375	200	1.80	39.0	0.110	C2.0/71	
GD300CEL120C2S	1200	520	300	1.80	65.0	0.076	C2.0/71	
Trench IGBT, Low Loss								
GD200CET120C2S	1200	378	200	1.70	30.0	0.100	C2.0/71	
GD300CET120C2S	1200	478	300	1.70	48.0	0.070	C2.0/71	
GD400CET120C2S	1200	650	400	1.70	87.0	0.059	C2.0/71	
Advanced Trench IGBT, Low Loss								
GD200CEY120C2S	1200	378	200	1.65	30.0	0.110	C2.0/71	
GD300CEY120C2S	1200	478	300	1.65	48.0	0.077	C2.0/71	
GD400CEY120C2S	1200	650	400	1.65	87.0	0.065	C2.0/71	
Advanced Trench IGBT, Ultra Fast								
GD200CEF120C2S	1200	378	200	1.75	30.0	0.110	C2.0/71	
GD300CEF120C2S	1200	478	300	1.75	51.0	0.077	C2.0/71	
GD400CEF120C2S	1200	650	400	1.75	60.0	0.065	C2.0/71	
1700V Single								
Low Loss and Fast IGBT								
GD200SGL170C2S	1700	390	200	2.30	155.0	0.080	C2.1/71	
GD300SGL170C2S	1700	580	300	2.30	225.0	0.060	C2.1/71	
GD400SGL170C2S	1700	750	400	2.30	205.0	0.050	C2.1/71	
GD600SGL170C2S	1700	1000	600	2.30	245.0	0.036	C2.1/71	
Trench IGBT, Low Loss								
GD200SGT170C2S	1700	395	200	2.00	142.0	0.087	C2.1/71	
GD300SGT170C2S	1700	585	300	2.00	199.0	0.065	C2.1/71	
GD400SGT170C2S	1700	755	400	2.00	260.0	0.055	C2.1/71	
GD600SGT170C2S	1700	1010	600	2.00	390.0	0.040	C2.1/71	
1700V Half Bridge								
Low Loss and Fast IGBT								
GD50HFL170C1S	1700	90	50	2.30	40.5	0.230	C1.0/71	
GD75HFL170C1S	1700	140	75	2.30	59.0	0.180	C1.0/71	
GD100HFL170C1S	1700	185	100	2.30	80.0	0.150	C1.0/71	
GD100HFL170C2S	1700	190	100	2.30	80.0	0.130	C2.0/71	

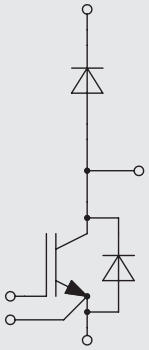
Medium Power Modules

Type	V_{CES} V	I_C @ T_C=25℃ A	I_C @ T_C=80℃ A	$V_{CE(sat)}$ @T_j=25℃ typ. V	(E_{on}+E_{off}) @T_j=125℃ typ. mJ	$R_{th(J-C)}$ K/W	Package Outline/page	Circuit
GD150HFL170C2S	1700	280	150	2.30	116.0	0.100	C2.0/71	
GD200HFL170C2S	1700	310	200	2.30	155.0	0.075	C2.0/71	
GD300HFL170C2S	1700	405	300	2.30	220.0	0.050	C2.0/71	
GD400HFL170C2S	1700	610	400	2.30	290.0	0.043	C2.0/71	
Trench IGBT, Low Loss								
GD50HFT170C1S	1700	95	50	2.00	31.5	0.370	C1.0/71	
GD75HFT170C1S	1700	145	75	2.00	47.5	0.250	C1.0/71	
GD100HFT170C1S	1700	190	100	2.00	63.5	0.190	C1.0/71	
GD100HFT170C2S	1700	195	100	2.00	63.5	0.160	C2.0/71	
GD150HFT170C2S	1700	285	150	2.00	95.0	0.120	C2.0/71	
GD200HFT170C2S	1700	310	200	2.00	142.0	0.099	C2.0/71	
GD300HFT170C2S	1700	410	300	2.00	199.0	0.072	C2.0/71	
GD400HFT170C2S	1700	615	400	2.00	260.0	0.049	C2.0/71	



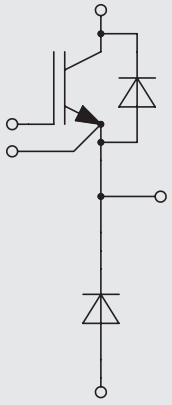
1700V Boost Chopper

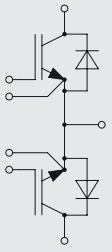
Low Loss and Fast IGBT								
GD50CUL170C1S	1700	90	50	2.30	40.5	0.230	C1.0/71	
GD75CUL170C1S	1700	140	75	2.30	59.0	0.180	C1.0/71	
GD100CUL170C1S	1700	185	100	2.30	80.0	0.150	C1.0/71	
GD100CUL170C2S	1700	190	100	2.30	80.0	0.130	C2.0/71	
GD150CUL170C2S	1700	280	150	2.30	116.0	0.100	C2.0/71	
GD200CUL170C2S	1700	310	200	2.30	155.0	0.075	C2.0/71	
GD300CUL170C2S	1700	405	300	2.30	220.0	0.050	C2.0/71	
GD400CUL170C2S	1700	610	400	2.30	290.0	0.043	C2.0/71	
Trench IGBT, Low Loss								
GD50CUT170C1S	1700	95	50	2.00	31.5	0.370	C1.0/71	
GD75CUT170C1S	1700	145	75	2.00	47.5	0.250	C1.0/71	
GD100CUT170C1S	1700	190	100	2.00	63.5	0.190	C1.0/71	
GD100CUT170C2S	1700	195	100	2.00	63.5	0.160	C2.0/71	
GD150CUT170C2S	1700	285	150	2.00	95.0	0.120	C2.0/71	
GD200CUT170C2S	1700	310	200	2.00	142.0	0.099	C2.0/71	
GD300CUT170C2S	1700	410	300	2.00	199.0	0.072	C2.0/71	
GD400CUT170C2S	1700	615	400	2.00	260.0	0.049	C2.0/71	

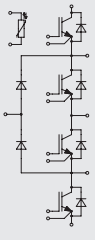


Medium Power Modules

Type	V_{CES} V	I_C @ T_C=25℃ A	I_C @ T_C=80℃ A	$V_{CE(sat)}$ @T_j=25℃ typ. V	(E_{on}+E_{off}) @T_j=125℃ typ. mJ	$R_{th(J-C)}$ K/W	Package Outline/page	Circuit
1700V Buck Chopper								
Low Loss and Fast IGBT								
GD50CLL170C1S	1700	90	50	2.30	40.5	0.230	C1.0/71	
GD75CLL170C1S	1700	140	75	2.30	59.0	0.180	C1.0/71	
GD100CLL170C1S	1700	185	100	2.30	80.0	0.150	C1.0/71	
GD100CLL170C2S	1700	190	100	2.30	80.0	0.130	C2.0/71	
GD150CLL170C2S	1700	280	150	2.30	116.0	0.100	C2.0/71	
GD200CLL170C2S	1700	310	200	2.30	155.0	0.075	C2.0/71	
GD300CLL170C2S	1700	405	300	2.30	220.0	0.050	C2.0/71	
GD400CLL170C2S	1700	610	400	2.30	290.0	0.043	C2.0/71	
Trench IGBT, Low Loss								
GD50CLT170C1S	1700	95	50	2.00	31.5	0.370	C1.0/71	
GD75CLT170C1S	1700	145	75	2.00	47.5	0.250	C1.0/71	
GD100CLT170C1S	1700	190	100	2.00	63.5	0.190	C1.0/71	
GD100CLT170C2S	1700	195	100	2.00	63.5	0.160	C2.0/71	
GD150CLT170C2S	1700	285	150	2.00	95.0	0.120	C2.0/71	
GD200CLT170C2S	1700	310	200	2.00	142.0	0.099	C2.0/71	
GD300CLT170C2S	1700	410	300	2.00	199.0	0.072	C2.0/71	
GD400CLT170C2S	1700	615	400	2.00	260.0	0.043	C2.0/71	
1700V Common Emitter								
Low Loss and Fast IGBT								
GD300CEL170C2S	1700	430	300	2.30	201.7	0.081	C2.0/71	
GD400CEL170C2S	1700	595	400	2.30	167.7	0.057	C2.0/71	
Trench IGBT, Low Loss								
GD300CET170C2S	1700	570	300	2.00	194.5	0.072	C2.0/71	
GD400CET170C2S	1700	630	400	2.00	187.2	0.057	C2.0/71	
1700V NPC1								
Low Loss and Fast IGBT								
GD100MLL170C2S	1700	190	100	2.30	80.0	0.130	C2.4/72	
GD150MLL170C2S	1700	280	150	2.30	116.0	0.100	C2.4/72	
Trench IGBT, Low Loss								
GD100MLT170C2S	1700	195	100	2.00	63.5	0.160	C2.4/72	
GD150MLT170C2S	1700	285	150	2.00	95.0	0.120	C2.4/72	





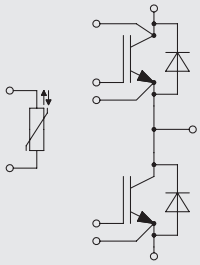


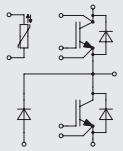
Medium Power Modules

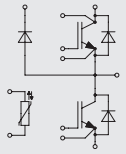
Type	V_{CES} V	I_C @ T_C=25℃ A	I_C @ T_C=80℃ A	$V_{CE(sat)}$ @T_j=25℃ typ. V	(E_{on}+E_{off}) @T_j=125℃ typ. mJ	$R_{th(J-C)}$ K/W	Package Outline/page	Circuit
1700V NPC1 Boost								
Low Loss and Fast IGBT								
GD100TUL170C2S	1700	190	100	2.30	80.0	0.130	C2.6/72	
GD150TUL170C2S	1700	280	150	2.30	116.0	0.100	C2.6/72	
Trench IGBT, Low Loss								
GD100TUT170C2S	1700	195	100	2.00	63.5	0.160	C2.6/72	
GD150TUT170C2S	1700	285	150	2.00	95.0	0.120	C2.6/72	
1700V H Bridge								
Low Loss and Fast IGBT								
GD75HCL170C2S	1700	120	75	2.30	47.6	0.271	C2.4/72	
GD100HCL170C2S	1700	152	100	2.30	56.8	0.220	C2.4/72	
Trench IGBT, Low Loss								
GD75HCT170C2S	1700	127	75	2.00	47.5	0.273	C2.4/72	
GD100HCT170C2S	1700	160	100	2.00	63.6	0.223	C2.4/72	

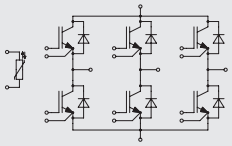
Medium Power Modules

Type	V_{CES} V	I_C @ T_C=25℃ A	I_C @ T_C=80℃ A	$V_{CE(sat)}$ @T_j=25℃ typ. V	(E_{on}+E_{off}) @T_j=125℃ typ. mJ	$R_{th(J-C)}$ K/W	Package Outline/page	Circuit
600V/650V Half Bridge								
Trench IGBT, Low Loss								
GD200HFT60C5S	600	320	200	1.70	19	0.280	C5.1/72	
GD300HFT60C5S	600	430	300	1.70	32	0.210	C5.1/72	
GD400HFT60C5S	600	580	400	1.70	38	0.170	C5.1/72	
GD300HFT65C6S	650	430	300	1.45	32	0.210	C6.1/73	
GD450HFT65C6S	650	700	450	1.45	45	0.090	C6.1/73	
GD600HFT65C6S	650	800	600	1.45	57	0.068	C6.1/73	
GD300HFT65C6SF	650	430	300	1.45	32	0.210	C6.11/73	
GD450HFT65C6SF	650	700	450	1.45	45	0.090	C6.11/73	
GD600HFT65C6SF	650	800	600	1.45	57	0.068	C6.11/73	
GD300HFT65C6H	650	430	300	1.45	32	0.210	C6.12/73	
GD450HFT65C6H	650	700	450	1.45	45	0.090	C6.12/73	
GD600HFT65C6H	650	800	600	1.45	57	0.068	C6.12/73	
GD300HFT65C6HF	650	430	300	1.45	32	0.210	C6.13/74	
GD450HFT65C6HF	650	700	450	1.45	45	0.090	C6.13/74	
GD600HFT65C6HF	650	800	600	1.45	57	0.068	C6.13/74	
600V/650V Half NPC1 Up								
Trench IGBT, Low Loss								
GD300MPT65C6S	650	450	300	1.45	32	0.145	C6.1/73	
GD400MPT65C6S	650	600	400	1.45	38	0.120	C6.1/73	
600V/650V Half NPC1 Low								
Trench IGBT, Low Loss								
GD300MNT65C6S	650	450	300	1.45	32	0.145	C6.1/73	
GD400MNT65C6S	650	600	400	1.45	38	0.120	C6.1/73	
600V/650V 3 Phase Bridge with NTC								
Trench IGBT, Low Loss								
GD200FFT65P3S	650	300	200	1.45	19	0.160	P3.0/75	
GD300FFT65P3S	650	400	300	1.45	28	0.120	P3.0/75	
GD400FFT65P3S	650	600	400	1.45	38	0.092	P3.0/75	
GD200FFT65P3H	650	300	200	1.45	19	0.160	P3.1/76	
GD300FFT65P3H	650	400	300	1.45	28	0.120	P3.1/76	
GD400FFT65P3H	650	600	400	1.45	38	0.092	P3.1/76	

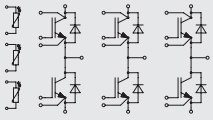


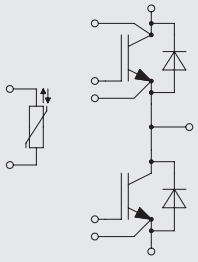






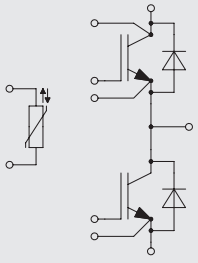
Medium Power Modules

Type	V_{CES} V	I_C @ T_C=25℃ A	I_C @ T_C=80℃ A	$V_{CE(sat)}$ @T_j=25℃ typ. V	(E_{on}+E_{off}) @T_j=125℃ typ. mJ	$R_{th(J-C)}$ K/W	Package Outline/page	Circuit
600V/650V Tri-Pack								
Trench IGBT, Low Loss								
GD600HTT65P4S	650	750	600	1.45	28	0.120	P4.0/76	
GD800HTT65P4S	650	1100	800	1.45	35	0.100	P4.0/76	
1200V Half Bridge								
Low Loss and Fast IGBT								
GD150HFL120C6S	1200	250	150	1.90	36	0.085	C6.1/73	
GD225HFL120C6S	1200	335	225	1.90	45	0.075	C6.1/73	
GD300HFL120C6S	1200	520	300	1.90	65	0.045	C6.1/73	
GD450HFL120C6S	1200	610	450	1.90	96	0.042	C6.1/73	
GD150HFL120C6SF	1200	250	150	1.90	36	0.085	C6.11/73	
GD225HFL120C6SF	1200	335	225	1.90	45	0.075	C6.11/73	
GD300HFL120C6SF	1200	520	300	1.90	65	0.045	C6.11/73	
GD450HFL120C6SF	1200	610	450	1.90	96	0.042	C6.11/73	
GD150HFL120C6H	1200	250	150	1.90	36	0.085	C6.12/73	
GD225HFL120C6H	1200	335	225	1.90	45	0.075	C6.12/73	
GD300HFL120C6H	1200	520	300	1.90	65	0.045	C6.12/73	
GD450HFL120C6H	1200	610	450	1.90	96	0.042	C6.12/73	
GD150HFL120C6HF	1200	250	150	1.90	36	0.085	C6.13/74	
GD225HFL120C6HF	1200	335	225	1.90	45	0.075	C6.13/74	
GD300HFL120C6HF	1200	520	300	1.90	65	0.045	C6.13/74	
GD450HFL120C6HF	1200	610	450	1.90	96	0.042	C6.13/74	
Trench IGBT, Low Loss								
GD200HFT120C5S	1200	318	200	1.70	30	0.160	C5.1/72	
GD150HFT120C6S	1200	248	150	1.70	25	0.120	C6.1/73	
GD225HFT120C6S	1200	333	225	1.70	40	0.090	C6.1/73	
GD300HFT120C6S	1200	518	300	1.70	48	0.060	C6.1/73	
GD450HFT120C6S	1200	608	450	1.70	98	0.045	C6.1/73	
GD600HFT120C6S	1200	1100	600	1.70	155	0.038	C6.1/73	
GD150HFT120C6SF	1200	248	150	1.70	25	0.120	C6.11/73	
GD225HFT120C6SF	1200	333	225	1.70	40	0.090	C6.11/73	
GD300HFT120C6SF	1200	518	300	1.70	48	0.060	C6.11/73	
GD450HFT120C6SF	1200	608	450	1.70	98	0.045	C6.11/73	
GD600HFT120C6SF	1200	1100	600	1.70	155	0.038	C6.11/73	

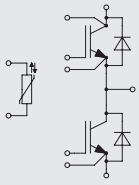
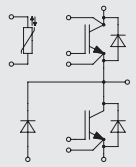
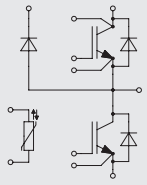
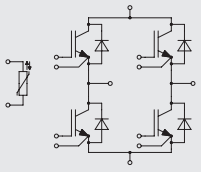
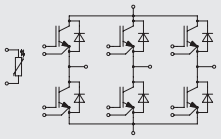


Medium Power Modules

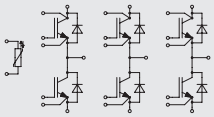
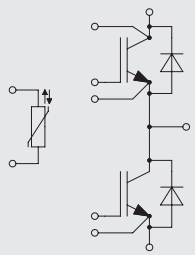
Type	V_{CES} V	I_C @ T_C=25℃ A	I_C @ T_C=80℃ A	$V_{CE(sat)}$ @T_j=25℃ typ. V	(E_{on}+E_{off}) @T_j=125℃ typ. mJ	$R_{th(J-C)}$ K/W	Package Outline/page	Circuit
GD150HFT120C6H	1200	248	150	1.70	25	0.120	C6.12/73	
GD225HFT120C6H	1200	333	225	1.70	40	0.090	C6.12/73	
GD300HFT120C6H	1200	518	300	1.70	48	0.060	C6.12/73	
GD450HFT120C6H	1200	608	450	1.70	98	0.045	C6.12/73	
GD600HFT120C6H	1200	1100	600	1.70	155	0.038	C6.12/73	
GD150HFT120C6HF	1200	248	150	1.70	25	0.120	C6.13/74	
GD225HFT120C6HF	1200	333	225	1.70	40	0.090	C6.13/74	
GD300HFT120C6HF	1200	518	300	1.70	48	0.060	C6.13/74	
GD450HFT120C6HF	1200	608	450	1.70	98	0.045	C6.13/74	
GD600HFT120C6HF	1200	1100	600	1.70	155	0.038	C6.13/74	
Advanced Trench IGBT, Low Loss								
GD200HFY120C5S	1200	318	200	1.65	30	0.176	C5.1/72	
GD150HFY120C6S	1200	248	150	1.65	25	0.132	C6.1/73	
GD225HFY120C6S	1200	333	225	1.65	40	0.099	C6.1/73	
GD300HFY120C6S	1200	518	300	1.65	48	0.066	C6.1/73	
GD450HFY120C6S	1200	608	450	1.65	98	0.050	C6.1/73	
GD600HFY120C6S	1200	1100	600	1.65	155	0.042	C6.1/73	
GD150HFY120C6SF	1200	248	150	1.65	25	0.132	C6.11/73	
GD225HFY120C6SF	1200	333	225	1.65	40	0.099	C6.11/73	
GD300HFY120C6SF	1200	518	300	1.65	48	0.066	C6.11/73	
GD450HFY120C6SF	1200	608	450	1.65	98	0.050	C6.11/73	
GD600HFY120C6SF	1200	1100	600	1.65	155	0.042	C6.11/73	
GD150HFY120C6H	1200	248	150	1.65	25	0.132	C6.12/73	
GD225HFY120C6H	1200	333	225	1.65	40	0.099	C6.12/73	
GD300HFY120C6H	1200	518	300	1.65	48	0.066	C6.12/73	
GD450HFY120C6H	1200	608	450	1.65	98	0.050	C6.12/73	
GD600HFY120C6H	1200	1100	600	1.65	155	0.042	C6.12/73	
GD150HFY120C6HF	1200	248	150	1.65	25	0.132	C6.13/74	
GD225HFY120C6HF	1200	333	225	1.65	40	0.099	C6.13/74	
GD300HFY120C6HF	1200	518	300	1.65	48	0.066	C6.13/74	
GD450HFY120C6HF	1200	608	450	1.65	98	0.050	C6.13/74	
GD600HFY120C6HF	1200	1100	600	1.65	155	0.042	C6.13/74	



Medium Power Modules

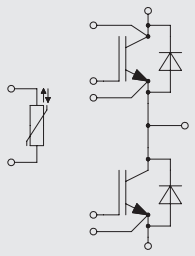
Type	V_{CES} V	I_C @ T_C=25℃ A	I_C @ T_C=80℃ A	$V_{CE(sat)}$ @T_j=25℃ typ. V	(E_{on}+E_{off}) @T_j=125℃ typ. mJ	$R_{th(J-C)}$ K/W	Package Outline/page	Circuit
Ultra Fast IGBT								
GD150HFU120C6S	1200	210	150	3.10	19	0.120	C6.1/73	
GD225HFU120C6S	1200	300	225	3.10	33	0.085	C6.1/73	
GD300HFU120C6S	1200	430	300	3.10	51	0.064	C6.1/73	
1200V Half NPC1 Up								
Trench IGBT, Low Loss								
GD300MPT120C6S	1200	518	300	1.70	48	0.060	C6.1/73	
Advanced Trench IGBT, Low Loss								
GD300MPY120C6S	1200	518	300	1.65	48	0.066	C6.1/73	
1200V Half NPC1 Low								
Trench IGBT, Low Loss								
GD300MNT120C6S	1200	518	300	1.70	48	0.060	C6.1/73	
Advanced Trench IGBT, Low Loss								
GD300MNY120C6S	1200	518	300	1.65	48	0.066	C6.1/73	
1200V H Bridge								
Ultra Fast IGBT								
GD50HCU120C5S	1200	75	50	3.10	8.6	0.350	C5.5/73	
GD75HCU120C5S	1200	110	75	3.10	9.2	0.250	C5.5/73	
GD100HCU120C6S	1200	150	100	3.10	13	0.160	C6.14/74	
GD200HCU120C6S	1200	290	200	3.10	30	0.090	C6.14/74	
1200V 3 Phase Bridge with NTC								
Trench IGBT, Low Loss								
GD200FFT120P3S	1200	380	200	1.70	30	0.112	P3.0/75	
GD200FFT120P3H	1200	380	200	1.70	30	0.112	P3.1/76	
Advanced Trench IGBT, Low Loss								
GD200FFY120P3S	1200	380	200	1.65	30	0.123	P3.0/75	
GD200FFY120P3H	1200	380	200	1.65	30	0.123	P3.1/76	

Medium Power Modules

Type	V_{CES} V	I_C @ T_C=25℃ A	I_C @ T_C=80℃ A	$V_{CE(sat)}$ @T_j=25℃ typ. V	(E_{on}+E_{off}) @T_j=125℃ typ. mJ	$R_{th(J-C)}$ K/W	Package Outline/page	Circuit
1200V Tri-Pack								
Low Loss and Fast IGBT								
GD150HTL120C7S	1200	250	150	1.90	36	0.180	C7.0/74	
GD225HTL120C7S	1200	335	225	1.90	45	0.110	C7.0/74	
GD300HTL120C7S	1200	520	300	1.90	65	0.085	C7.0/74	
GD450HTL120C7S	1200	610	450	1.90	96	0.060	C7.0/74	
Trench IGBT, Low Loss								
GD150HTT120C7S	1200	248	150	1.70	25	0.110	C7.0/74	
GD225HTT120C7S	1200	333	225	1.70	40	0.080	C7.0/74	
GD300HTT120C7S	1200	518	300	1.70	48	0.060	C7.0/74	
GD450HTT120C7S	1200	608	450	1.70	98	0.058	C7.0/74	
GD400HTT120P4S	1200	500	400	1.70	50	0.100	P4.0/76	
Advanced Trench IGBT, Low Loss								
GD150HTY120C7S	1200	248	150	1.65	25	0.121	C7.0/74	
GD225HTY120C7S	1200	333	225	1.65	40	0.088	C7.0/74	
GD300HTY120C7S	1200	518	300	1.65	48	0.066	C7.0/74	
GD450HTY120C7S	1200	608	450	1.65	98	0.064	C7.0/74	
GD400HTY120P4S	1200	500	400	1.65	50	0.110	P4.0/76	
1700V Half Bridge								
Low Loss and Fast IGBT								
GD150HFL170C6S	1700	250	150	2.40	110	0.085	C6.1/73	
GD225HFL170C6S	1700	340	225	2.40	161	0.075	C6.1/73	
GD300HFL170C6S	1700	385	300	2.40	221	0.045	C6.1/73	
GD450HFL170C6S	1700	615	450	2.40	310	0.042	C6.1/73	
GD600HFL170C6S	1700	1000	600	2.40	371	0.035	C6.1/73	
GD150HFL170C6SF	1700	250	150	2.40	110	0.085	C6.11/73	
GD225HFL170C6SF	1700	340	225	2.40	161	0.075	C6.11/73	
GD300HFL170C6SF	1700	385	300	2.40	221	0.045	C6.11/73	
GD450HFL170C6SF	1700	615	450	2.40	310	0.042	C6.11/73	
GD600HFL170C6SF	1700	1000	600	2.40	371	0.035	C6.11/73	
GD150HFL170C6H	1700	250	150	2.40	110	0.085	C6.12/73	
GD225HFL170C6H	1700	340	225	2.40	161	0.075	C6.12/73	
GD300HFL170C6H	1700	385	300	2.40	221	0.045	C6.12/73	

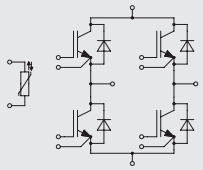
Medium Power Modules

Type	V_{CES} V	I_C @ T_C=25℃ A	I_C @ T_C=80℃ A	$V_{CE(sat)}$ @T_j=25℃ typ. V	(E_{on}+E_{off}) @T_j=125℃ typ. mJ	$R_{th(J-C)}$ K/W	Package Outline/page	Circuit
GD450HFL170C6H	1700	615	450	2.40	310	0.042	C6.12/73	
GD600HFL170C6H	1700	1000	600	2.40	371	0.035	C6.12/73	
GD150HFL170C6HF	1700	250	150	2.40	110	0.085	C6.13/74	
GD225HFL170C6HF	1700	340	225	2.40	161	0.075	C6.13/74	
GD300HFL170C6HF	1700	385	300	2.40	221	0.045	C6.13/74	
GD450HFL170C6HF	1700	615	450	2.40	310	0.042	C6.13/74	
GD600HFL170C6HF	1700	1000	600	2.40	371	0.035	C6.13/74	
Trench IGBT, Low Loss								
GD150HFT170C6S	1700	260	150	2.00	95	0.120	C6.1/73	
GD225HFT170C6S	1700	350	225	2.00	142	0.090	C6.1/73	
GD300HFT170C6S	1700	395	300	2.00	191	0.075	C6.1/73	
GD450HFT170C6S	1700	625	450	2.00	280	0.055	C6.1/73	
GD600HFT170C6S	1700	1050	600	2.00	390	0.035	C6.1/73	
GD150HFT170C6SF	1700	260	150	2.00	95	0.120	C6.11/73	
GD225HFT170C6SF	1700	350	225	2.00	142	0.090	C6.11/73	
GD300HFT170C6SF	1700	395	300	2.00	191	0.075	C6.11/73	
GD450HFT170C6SF	1700	625	450	2.00	280	0.055	C6.11/73	
GD600HFT170C6SF	1700	1050	600	2.00	390	0.035	C6.11/73	
GD150HFT170C6H	1700	260	150	2.00	95	0.120	C6.12/73	
GD225HFT170C6H	1700	350	225	2.00	142	0.090	C6.12/73	
GD300HFT170C6H	1700	395	300	2.00	191	0.075	C6.12/75	
GD450HFT170C6H	1700	625	450	2.00	280	0.055	C6.12/75	
GD600HFT170C6H	1700	1050	600	2.00	390	0.035	C6.12/75	
GD150HFT170C6HF	1700	260	150	2.00	95	0.120	C6.13/74	
GD225HFT170C6HF	1700	350	225	2.00	142	0.090	C6.13/74	
GD300HFT170C6HF	1700	395	300	2.00	191	0.075	C6.13/74	
GD450HFT170C6HF	1700	625	450	2.00	280	0.055	C6.13/74	
GD600HFT170C6HF	1700	1050	600	2.00	390	0.035	C6.13/74	

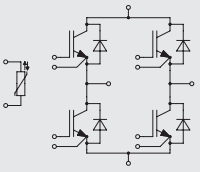
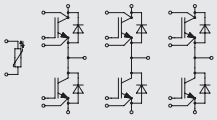


1700V H Bridge

Low Loss and Fast IGBT								
GD100HCL170C6S	1700	190	100	2.40	72	0.150	C6.14/74	
GD150HCL170C6S	1700	290	150	2.40	110	0.110	C6.14/74	
GD250HCL170C6S	1700	390	250	2.40	180	0.080	C6.14/74	

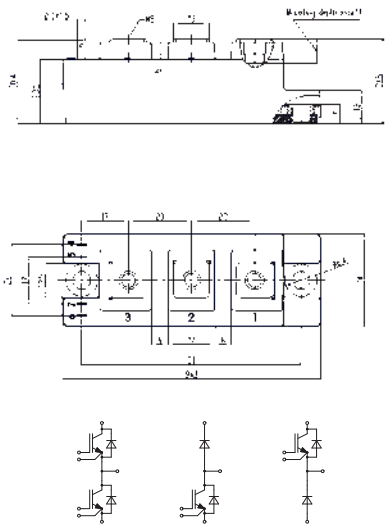


Medium Power Modules

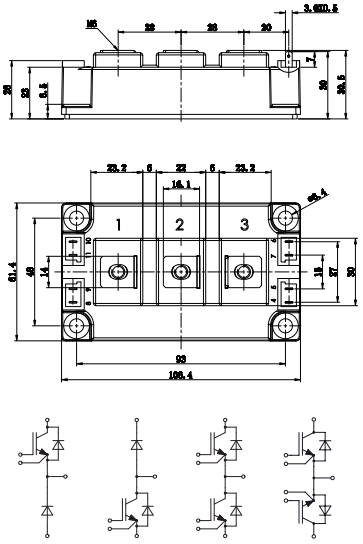
Type	V_{CES} V	I_C @ T_C=25℃ A	I_C @ T_C=80℃ A	$V_{CE(sat)}$ @T_j=25℃ typ. V	(E_{on}+E_{off}) @T_j=125℃ typ. mJ	$R_{th(J-C)}$ K/W	Package Outline/page	Circuit
Trench IGBT, Low Loss								
GD100HCT170C6S	1700	200	100	2.00	64	0.180	C6.14/74	
GD150HCT170C6S	1700	300	150	2.00	95	0.120	C6.14/74	
GD250HCT170C6S	1700	400	250	2.00	160	0.095	C6.14/74	
1700V Tri-Pack								
Low Loss and Fast IGBT								
GD150HTL170C7S	1700	250	150	2.40	110	0.190	C7.0/74	
GD225HTL170C7S	1700	340	225	2.40	161	0.120	C7.0/74	
GD300HTL170C7S	1700	385	300	2.40	221	0.087	C7.0/74	
GD450HTL170C7S	1700	615	450	2.40	310	0.065	C7.0/74	
Trench IGBT, Low Loss								
GD150HTT170C7S	1700	260	150	2.00	95	0.120	C7.0/74	
GD225HTT170C7S	1700	350	225	2.00	142	0.090	C7.0/74	
GD300HTT170C7S	1700	395	300	2.00	191	0.075	C7.0/74	
GD450HTT170C7S	1700	625	450	2.00	280	0.055	C7.0/74	

Medium Power Module Package Outlines

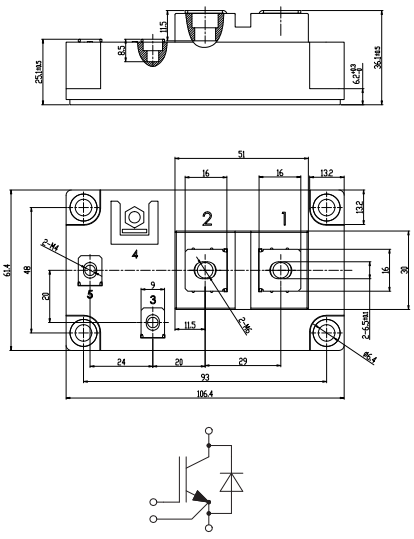
Case C1.0



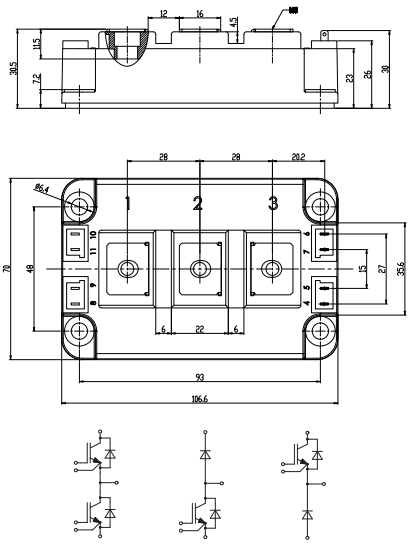
Case C2.0



Case C2.1

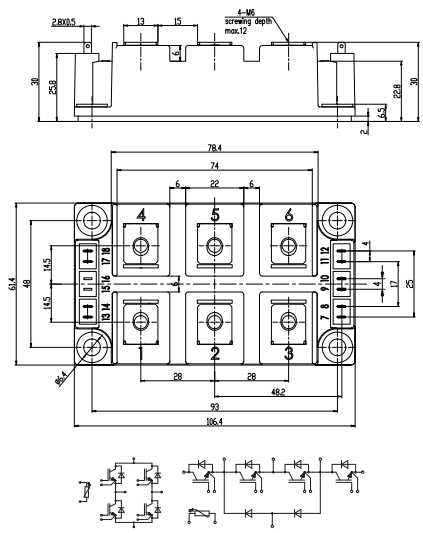


Case C2.3

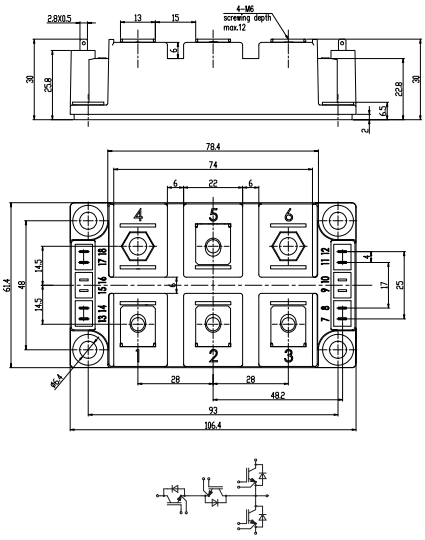


Medium Power Module Package Outlines

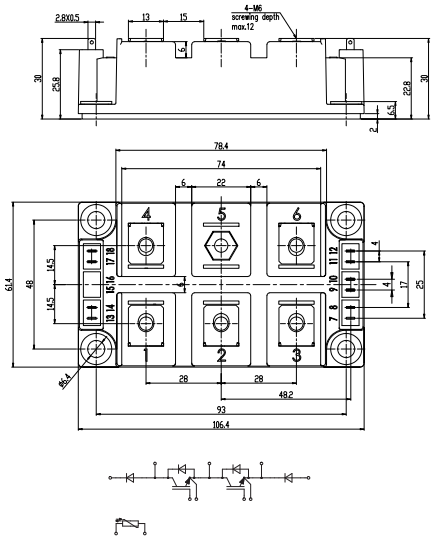
Case C2.4



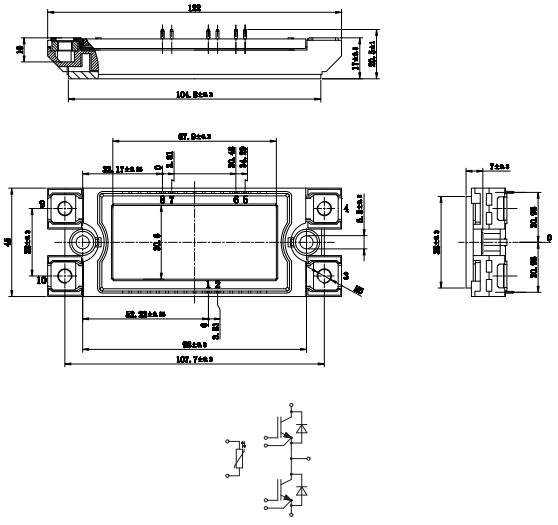
Case C2.5



Case C2.6

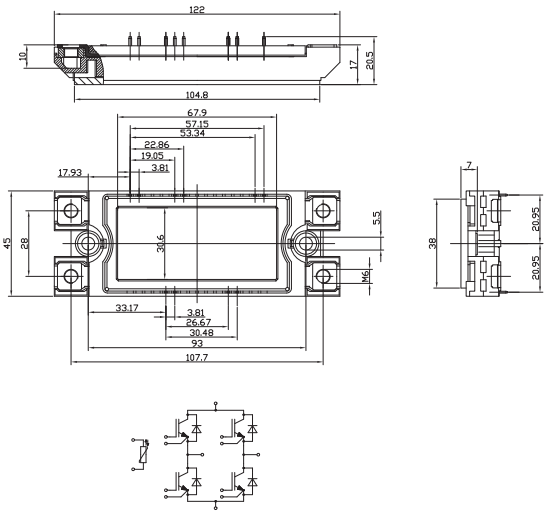


Case C5.1

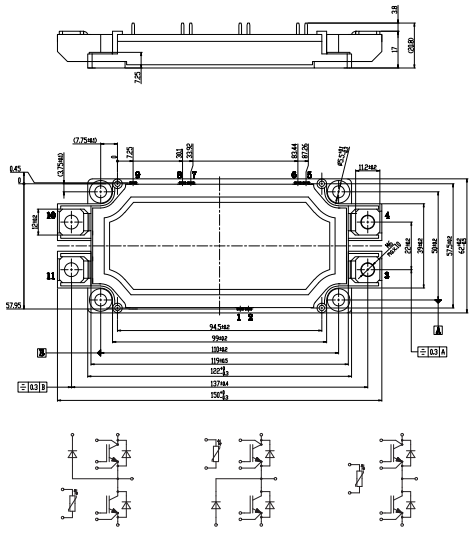


Medium Power Module Package Outlines

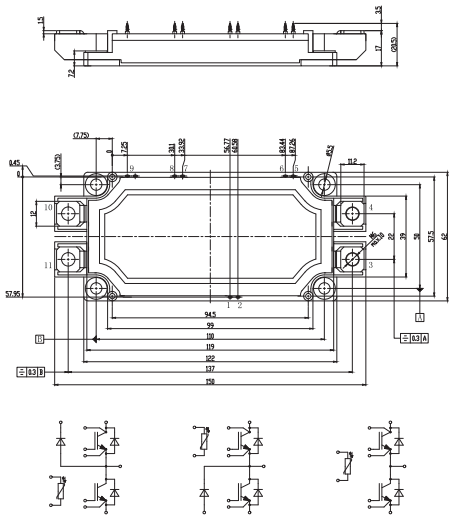
Case C5.5



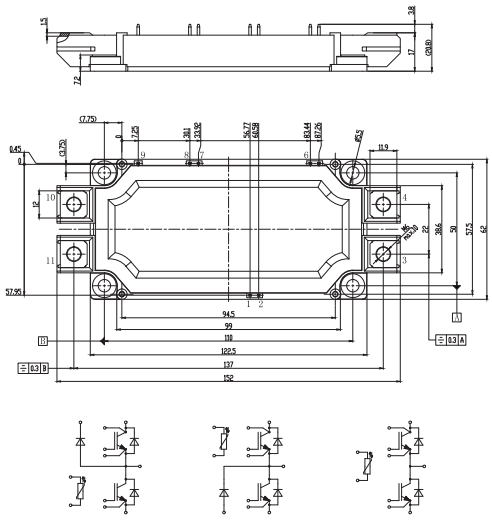
Case C6.1



Case C6.11

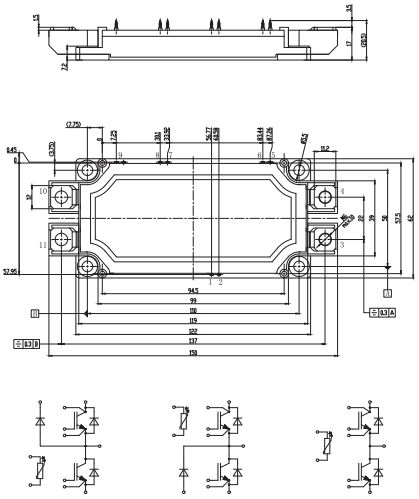


Case C6.12

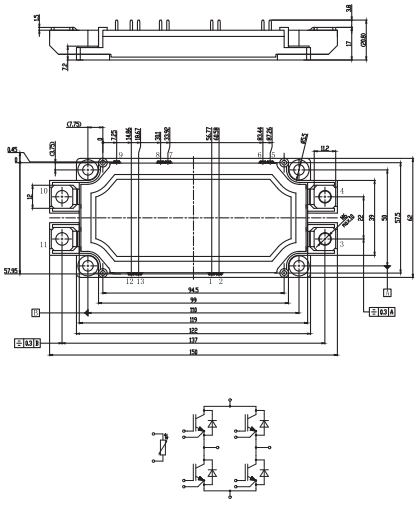


Medium Power Module Package Outlines

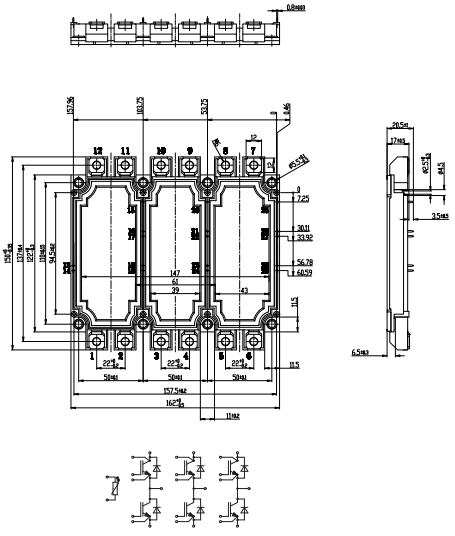
Case C6.13



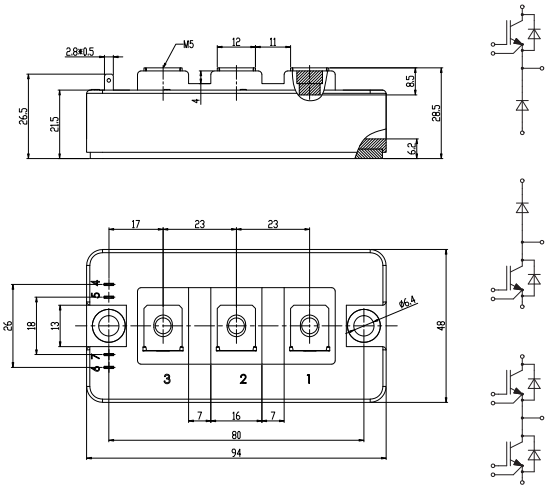
Case C6.14



Case C7.0

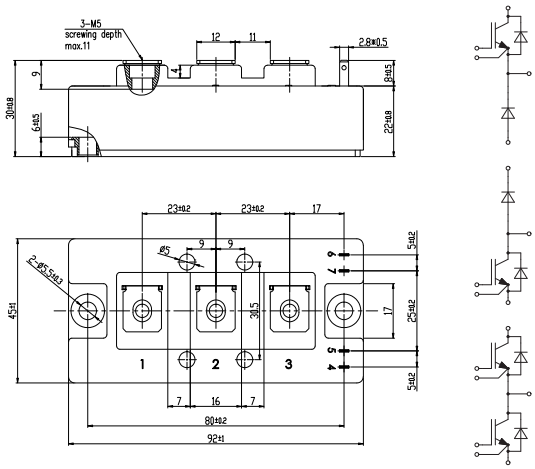


Case C8.0

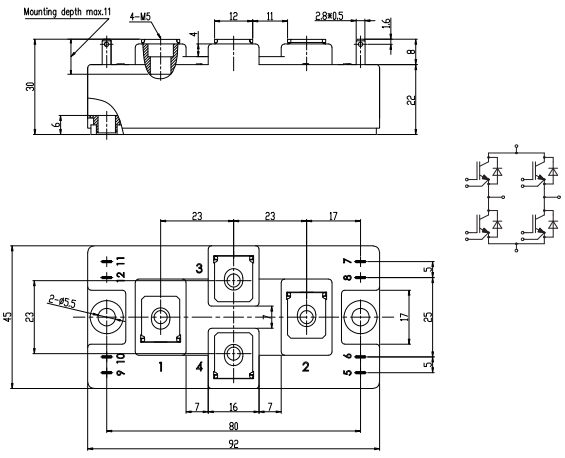


Medium Power Module Package Outlines

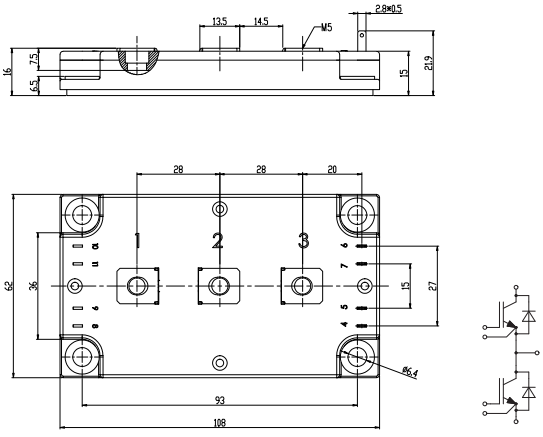
Case C8.1



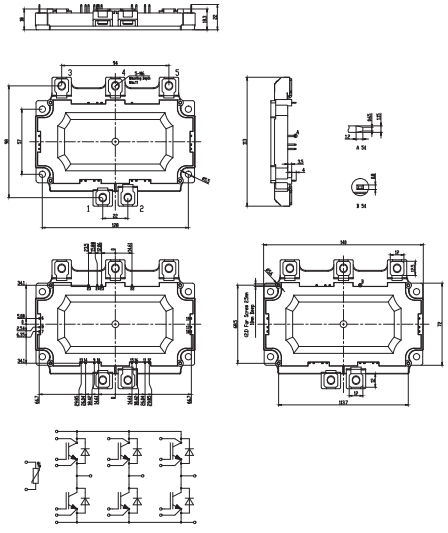
Case C8.2



Case B3.0

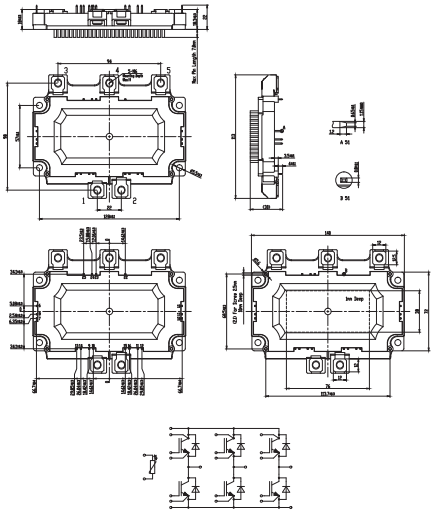


Case P3.0

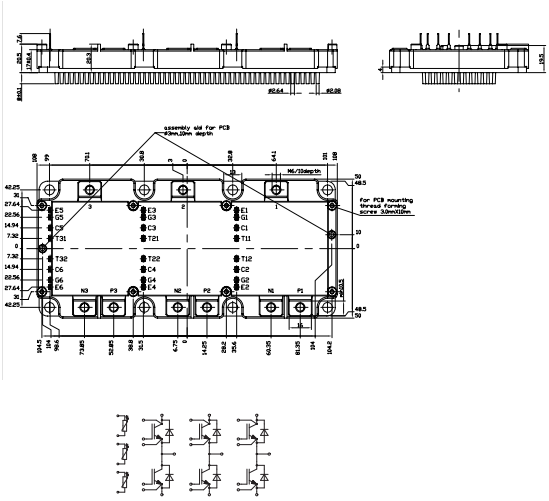


Medium Power Module Package Outlines

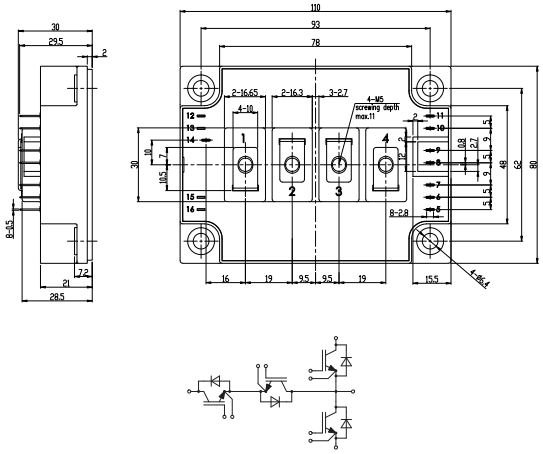
Case P3.1



Case P4.0

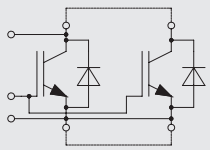


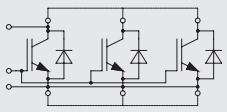
Case E5.0

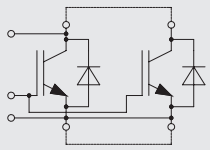


High Power Modules

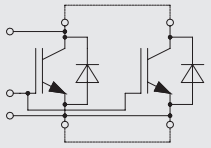
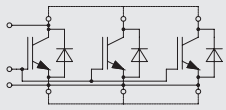
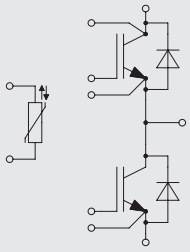
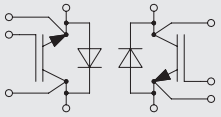
Type	V_{CES} V	I_C @ T_C=25℃ A	I_C @ T_C=80℃ A	$V_{CE(sat)}$ @T_j=25℃ typ. V	(E_{on}+E_{off}) @T_j=125℃ typ. mJ	$R_{th(J-C)}$ K/W	Package Outline/page	Circuit
1200V Single								
Low Loss and Fast IGBT								
GD800SGL120C3S	1200	1300	800	1.90	285	0.022	C3.0/87	
GD1200SGL120C3S	1200	1900	1200	1.90	350	0.016	C3.0/87	
GD1600SGL120C3S	1200	2500	1600	1.90	570	0.013	C3.0/87	
GD2400SGL120C3S	1200	3700	2400	1.90	700	0.009	C3.0/87	
GD800SGL120A3S	1200	1400	800	1.90	285	0.021	C3.0/87	
GD1200SGL120A3S	1200	2000	1200	1.90	350	0.015	C3.0/87	
GD1600SGL120A3S	1200	2600	1600	1.90	570	0.012	C3.0/87	
GD2400SGL120A3S	1200	3800	2400	1.90	700	0.008	C3.0/87	
GD800SGL120C3SN	1200	1300	800	1.90	285	0.022	C3.2/87	
GD1200SGL120C3SN	1200	1900	1200	1.90	350	0.016	C3.2/87	
GD1600SGL120C3SN	1200	2500	1600	1.90	570	0.013	C3.2/87	
GD2400SGL120C3SN	1200	3700	2400	1.90	700	0.009	C3.2/87	
GD800SGL120A3SN	1200	1400	800	1.90	285	0.021	C3.2/87	
GD1200SGL120A3SN	1200	2000	1200	1.90	350	0.015	C3.2/87	
GD1600SGL120A3SN	1200	2600	1600	1.90	570	0.012	C3.2/87	
GD2400SGL120A3SN	1200	3800	2400	1.90	700	0.008	C3.2/87	
GD2400SGL120C4S	1200	4200	2400	1.90	700	0.008	C4.0/87	
GD3600SGL120C4S	1200	5500	3600	1.90	1050	0.007	C4.0/87	
GD2400SGL120A4S	1200	4300	2400	1.90	700	0.007	C4.0/87	
GD3600SGL120A4S	1200	5600	3600	1.90	1050	0.006	C4.0/87	
Trench IGBT, Low Loss								
GD800SGT120C3S	1200	1274	800	1.70	191	0.035	C3.0/87	
GD1200SGT120C3S	1200	1862	1200	1.70	435	0.022	C3.0/87	
GD1600SGT120C3S	1200	2450	1600	1.70	575	0.016	C3.0/87	
GD2400SGT120C3S	1200	3626	2400	1.70	870	0.010	C3.0/87	
GD800SGT120A3S	1200	1372	800	1.70	191	0.033	C3.0/87	
GD1200SGT120A3S	1200	1960	1200	1.70	435	0.020	C3.0/87	
GD1600SGT120A3S	1200	2548	1600	1.70	575	0.015	C3.0/87	
GD2400SGT120A3S	1200	3724	2400	1.70	870	0.009	C3.0/87	
GD800SGT120C3SN	1200	1274	800	1.70	191	0.035	C3.2/87	
GD1200SGT120C3SN	1200	1862	1200	1.70	435	0.022	C3.2/87	
GD1600SGT120C3SN	1200	2450	1600	1.70	575	0.016	C3.2/87	
GD2400SGT120C3SN	1200	3626	2400	1.70	870	0.010	C3.2/87	





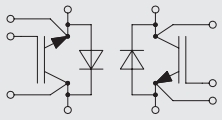


High Power Modules

Type	V_{CES} V	I_C @ T_C=25℃ A	I_C @ T_C=80℃ A	$V_{CE(sat)}$ @T_j=25℃ typ. V	(E_{on}+E_{off}) @T_j=125℃ typ. mJ	$R_{th(J-C)}$ K/W	Package Outline/page	Circuit
GD800SGT120A3SN	1200	1372	800	1.70	191	0.033	C3.2/87	
GD1200SGT120A3SN	1200	1960	1200	1.70	435	0.020	C3.2/87	
GD1600SGT120C3SN	1200	2548	1600	1.70	575	0.015	C3.2/87	
GD2400SGT120A3SN	1200	3724	2400	1.70	870	0.009	C3.2/87	
GD2400SGT120C4S	1200	4116	2400	1.70	870	0.011	C4.0/87	
GD3600SGT120C4S	1200	5390	3600	1.70	1300	0.008	C4.0/87	
GD2400SGT120A4S	1200	4214	2400	1.70	870	0.010	C4.0/87	
GD3600SGT120A4S	1200	5488	3600	1.70	1300	0.078	C4.0/87	
1200V Half Bridge with NTC								
Low Loss and Fast IGBT								
GD450HFL120P1S	1200	630	450	1.90	96	0.039	P1.0/88	
GD600HFL120P1S	1200	990	600	1.90	163	0.029	P1.0/88	
GD900HFL120P1S	1200	1500	900	1.90	300	0.019	P1.0/88	
GD1400HFL120P2S	1200	2700	1400	1.90	465	0.012	P2.0/88	
Trench IGBT, Low Loss								
GD450HFT120P1S	1200	620	450	1.70	98	0.041	P1.0/88	
GD600HFT120P1S	1200	940	600	1.70	130	0.310	P1.0/88	
GD900HFT120P1S	1200	1400	900	1.70	190	0.220	P1.0/88	
GD1400HFT120P2S	1200	2100	1400	1.70	360	0.140	P2.0/88	
Advanced Trench IGBT, Low Loss								
GD450HFY120P1S	1200	620	450	1.65	98	0.045	P1.0/88	
GD600HFY120P1S	1200	940	600	1.65	130	0.340	P1.0/88	
GD900HFY120P1S	1200	1400	900	1.65	190	0.242	P1.0/88	
GD1400HFY120P2S	1200	2100	1400	1.65	360	0.154	P2.0/88	
1200V Half Bridge								
Low Loss and Fast IGBT								
GD600HFL120C3S	1200	950	600	1.90	163	0.032	C3.1/87	
GD800HFL120C3S	1200	1300	800	1.90	285	0.025	C3.1/87	
GD1200HFL120C3S	1200	1700	1200	1.90	350	0.017	C3.1/87	
GD600HFL120A3S	1200	1000	600	1.90	163	0.032	C3.1/87	

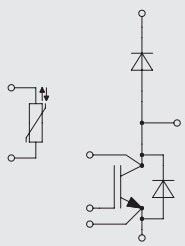
High Power Modules

Type	V_{CES} V	I_C @ T_C=25℃ A	I_C @ T_C=80℃ A	$V_{CE(sat)}$ @T_j=25℃ typ. V	(E_{on}+E_{off}) @T_j=125℃ typ. mJ	$R_{th(J-C)}$ K/W	Package Outline/page	Circuit
GD800HFL120A3S	1200	1400	800	1.90	285	0.025	C3.1/87	
GD1200HFL120A3S	1200	1800	1200	1.90	350	0.017	C3.1/87	
Trench IGBT, Low Loss								
GD600HFT120C3S	1200	850	600	1.70	215	0.044	C3.1/87	
GD800HFT120C3S	1200	1200	800	1.70	285	0.032	C3.1/87	
GD1200HFT120C3S	1200	1600	1200	1.70	435	0.025	C3.1/87	
GD600HFT120A3S	1200	900	600	1.70	230	0.041	C3.1/87	
GD800HFT120A3S	1200	1300	800	1.70	300	0.031	C3.1/87	
GD1200HFT120A3S	1200	1700	1200	1.70	450	0.022	C3.1/87	
Advanced Trench IGBT, Low Loss								
GD600HFY120C3S	1200	850	600	1.65	215	0.048	C3.1/87	
GD800HFY120C3S	1200	1200	800	1.65	285	0.035	C3.1/87	
GD1200HFY120C3S	1200	1600	1200	1.65	435	0.028	C3.1/87	
GD600HFY120A3S	1200	900	600	1.65	230	0.045	C3.1/87	
GD800HFY120A3S	1200	1300	800	1.65	300	0.034	C3.1/87	
GD1200HFY120A3S	1200	1700	1200	1.65	450	0.024	C3.1/87	



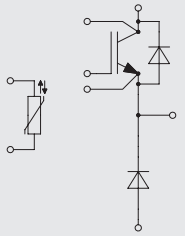
1200V Boost Chopper with NTC

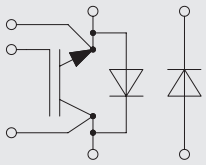
Low Loss and Fast IGBT								
GD450CUL120P1S	1200	630	450	1.90	96	0.039	P1.0/88	
GD600CUL120P1S	1200	990	600	1.90	163	0.029	P1.0/88	
GD900CUL120P1S	1200	1500	900	1.90	300	0.019	P1.0/88	
GD1400CUL120P2S	1200	2700	1400	1.90	465	0.012	P2.0/88	
Trench IGBT, Low Loss								
GD450CUT120P1S	1200	620	450	1.70	98	0.041	P1.0/88	
GD600CUT120P1S	1200	940	600	1.70	130	0.310	P1.0/88	
GD900CUT120P1S	1200	1400	900	1.70	190	0.220	P1.0/88	
GD1400CUT120P2S	1200	2100	1400	1.70	360	0.140	P2.0/88	
Advanced Trench IGBT, Low Loss								
GD450CUY120P1S	1200	620	450	1.65	98	0.045	P1.0/88	
GD600CUY120P1S	1200	940	600	1.65	130	0.340	P1.0/88	
GD900CUY120P1S	1200	1400	900	1.65	190	0.242	P1.0/88	
GD1400CUY120P2S	1200	2100	1400	1.65	360	0.154	P2.0/88	



High Power Modules

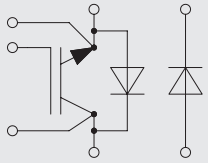
Type	V_{CES} V	I_C @ T_C=25℃ A	I_C @ T_C=80℃ A	$V_{CE(sat)}$ @T_j=25℃ typ. V	(E_{on}+E_{off}) @T_j=125℃ typ. mJ	$R_{th(J-C)}$ K/W	Package Outline/page	Circuit
1200V Buck Chopper with NTC								
Low Loss and Fast IGBT								
GD450CLL120P1S	1200	630	450	1.90	96	0.039	P1.0/88	
GD600CLL120P1S	1200	990	600	1.90	163	0.029	P1.0/88	
GD900CLL120P1S	1200	1500	900	1.90	300	0.019	P1.0/88	
GD1400CLL120P2S	1200	2700	1400	1.90	465	0.012	P2.0/88	
Trench IGBT, Low Loss								
GD450CLT120P1S	1200	620	450	1.70	98	0.041	P1.0/88	
GD600CLT120P1S	1200	940	600	1.70	130	0.310	P1.0/88	
GD900CLT120P1S	1200	1400	900	1.70	190	0.220	P1.0/88	
GD1400CLT120P2S	1200	2100	1400	1.70	360	0.140	P2.0/88	
Advanced Trench IGBT, Low Loss								
GD450CLY120P1S	1200	620	450	1.65	98	0.045	P1.0/88	
GD600CLY120P1S	1200	940	600	1.65	130	0.341	P1.0/88	
GD900CLY120P1S	1200	1400	900	1.65	190	0.242	P1.0/88	
GD1400CLY120P2S	1200	2100	1400	1.65	360	0.154	P2.0/88	
1200V Chopper								
Low Loss and Fast IGBT								
GD600CUL120C3S	1200	950	600	1.90	163	0.032	C3.1/87	
GD600CLL120C3S	1200	950	600	1.90	163	0.032	C3.1/87	
GD800CUL120C3S	1200	1300	800	1.90	285	0.025	C3.1/87	
GD800CLL120C3S	1200	1300	800	1.90	285	0.025	C3.1/87	
GD1200CUL120C3S	1200	1700	1200	1.90	350	0.017	C3.1/87	
GD1200CLL120C3S	1200	1700	1200	1.90	350	0.017	C3.1/87	
GD600CUL120A3S	1200	1000	600	1.90	163	0.032	C3.1/87	
GD600CLL120A3S	1200	1000	600	1.90	163	0.032	C3.1/87	
GD800CUL120A3S	1200	1400	800	1.90	285	0.025	C3.1/87	
GD800CLL120A3S	1200	1400	800	1.90	285	0.025	C3.1/87	
GD1200CUL120A3S	1200	1800	1200	1.90	350	0.017	C3.1/87	
GD1200CLL120A3S	1200	1800	1200	1.90	350	0.017	C3.1/87	
GD600CUL120C3SN	1200	950	600	1.90	163	0.032	C3.2/87	
GD600CLL120C3SN	1200	950	600	1.90	163	0.032	C3.2/87	
GD800CUL120C3SN	1200	1300	800	1.90	285	0.025	C3.2/87	
GD800CLL120C3SN	1200	1300	800	1.90	285	0.025	C3.2/87	





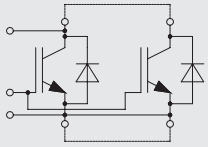
High Power Modules

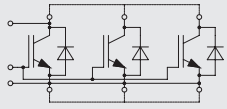
Type	V_{CES} V	I_C @ T_C=25℃ A	I_C @ T_C=80℃ A	$V_{CE(sat)}$ @T_j=25℃ typ. V	(E_{on}+E_{off}) @T_j=125℃ typ. mJ	$R_{th(J-C)}$ K/W	Package Outline/page	Circuit
GD1200CUL120C3SN	1200	1700	1200	1.90	350	0.017	C3.2/87	
GD1200CLL120C3SN	1200	1700	1200	1.90	350	0.017	C3.2/87	
GD600CUL120A3SN	1200	1000	600	1.90	163	0.032	C3.2/87	
GD600CLL120A3SN	1200	1000	600	1.90	163	0.032	C3.2/87	
GD800CUL120A3SN	1200	1400	800	1.90	285	0.025	C3.2/87	
GD800CLL120A3SN	1200	1400	800	1.90	285	0.025	C3.2/87	
GD1200CUL120A3SN	1200	1800	1200	1.90	350	0.017	C3.2/87	
GD1200CLL120A3SN	1200	1800	1200	1.90	350	0.017	C3.2/87	
Trench IGBT, Low Loss								
GD600CUT120C3S	1200	850	600	1.70	215	0.044	C3.1/87	
GD600CLT120C3S	1200	850	600	1.70	215	0.044	C3.1/87	
GD800CUT120C3S	1200	1200	800	1.70	285	0.032	C3.1/87	
GD800CLT120C3S	1200	1200	800	1.70	285	0.032	C3.1/87	
GD1200CUT120C3S	1200	1600	1200	1.70	435	0.025	C3.1/87	
GD1200CLT120C3S	1200	1600	1200	1.70	435	0.025	C3.1/87	
GD600CUT120A3S	1200	900	600	1.70	230	0.041	C3.1/87	
GD600CLT120A3S	1200	900	600	1.70	230	0.041	C3.1/87	
GD800CUT120A3S	1200	1300	800	1.70	300	0.031	C3.1/87	
GD800CLT120A3S	1200	1300	800	1.70	300	0.031	C3.1/87	
GD1200CUT120A3S	1200	1700	1200	1.70	450	0.022	C3.1/87	
GD1200CLT120A3S	1200	1700	1200	1.70	450	0.022	C3.1/87	
GD600CUT120C3SN	1200	850	600	1.70	215	0.044	C3.2/87	
GD600CLT120C3SN	1200	850	600	1.70	215	0.044	C3.2/87	
GD800CUT120C3SN	1200	1200	800	1.70	285	0.032	C3.2/87	
GD800CLT120C3SN	1200	1200	800	1.70	285	0.032	C3.2/87	
GD1200CUT120C3SN	1200	1600	1200	1.70	435	0.025	C3.2/87	
GD1200CLT120C3SN	1200	1600	1200	1.70	435	0.025	C3.2/87	
GD600CUT120A3SN	1200	900	600	1.70	230	0.041	C3.2/87	
GD600CLT120A3SN	1200	900	600	1.70	230	0.041	C3.2/87	
GD800CUT120A3SN	1200	1300	800	1.70	300	0.031	C3.2/87	
GD800CLT120A3SN	1200	1300	800	1.70	300	0.031	C3.2/87	
GD1200CUT120A3SN	1200	1700	1200	1.70	450	0.022	C3.2/87	
GD1200CLT120A3SN	1200	1700	1200	1.70	450	0.022	C3.2/87	

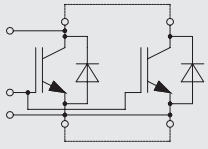


High Power Modules

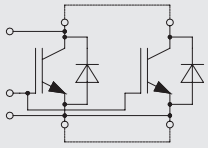
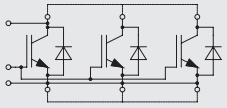
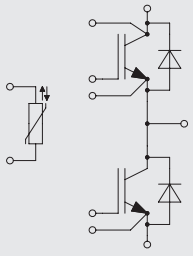
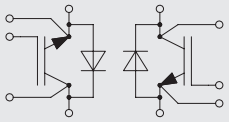
Type	V_{CES} V	I_C @ T_C=25℃ A	I_C @ T_C=80℃ A	$V_{CE(sat)}$ @T_j=25℃ typ. V	(E_{on}+E_{off}) @T_j=125℃ typ. mJ	$R_{th(J-C)}$ K/W	Package Outline/page	Circuit
1700V Single								
Low Loss and Fast IGBT								
GD800SGL170C3S	1700	1200	800	2.30	610	0.021	C3.0/87	
GD1200SGL170C3S	1700	1850	1200	2.30	795	0.016	C3.0/87	
GD1600SGL170C3S	1700	2500	1600	2.30	1085	0.012	C3.0/87	
GD2400SGL170C3S	1700	3500	2400	2.30	1795	0.009	C3.0/87	
GD800SGL170A3S	1700	1300	800	2.30	625	0.020	C3.0/87	
GD1200SGL170A3S	1700	1950	1200	2.30	810	0.013	C3.0/87	
GD1600SGL170A3S	1700	2600	1600	2.30	1100	0.010	C3.0/87	
GD2400SGL170A3S	1700	3600	2400	2.30	1810	0.008	C3.0/87	
GD800SGL170C3SN	1700	1200	800	2.30	610	0.021	C3.2/87	
GD1200SGL170C3SN	1700	1850	1200	2.30	795	0.016	C3.2/87	
GD1600SGL170C3SN	1700	2500	1600	2.30	1085	0.012	C3.2/87	
GD2400SGL170C3SN	1700	3500	2400	2.30	1795	0.009	C3.2/87	
GD800SGL170A3SN	1700	1300	800	2.30	625	0.020	C3.2/87	
GD1200SGL170A3SN	1700	1950	1200	2.30	810	0.013	C3.2/87	
GD1600SGL170A3SN	1700	2600	1600	2.30	1100	0.010	C3.2/87	
GD2400SGL170A3SN	1700	3600	2400	2.30	1810	0.008	C3.2/87	
GD2400SGL170C4S	1700	3700	2400	2.30	1795	0.008	C4.0/87	
GD3600SGL170C4S	1700	5300	3600	2.30	2035	0.006	C4.0/87	
GD2400SGL170A4S	1700	3800	2400	2.30	1810	0.007	C4.0/87	
GD3600SGL170A4S	1700	5400	3600	2.30	2050	0.006	C4.0/87	
Trench IGBT, Low Loss								
GD800SGT170C3S	1700	1300	800	2.00	530	0.026	C3.0/87	
GD1200SGT170C3S	1700	1800	1200	2.00	780	0.017	C3.0/87	
GD1600SGT170C3S	1700	2300	1600	2.00	1030	0.014	C3.0/87	
GD2400SGT170C3S	1700	3200	2400	2.00	1515	0.010	C3.0/87	
GD800SGT170A3S	1700	1400	800	2.00	545	0.021	C3.0/87	
GD1200SGT170A3S	1700	1900	1200	2.00	795	0.014	C3.0/87	
GD1600SGT170A3S	1700	2400	1600	2.00	1045	0.012	C3.0/87	
GD2400SGT170A3S	1700	3300	2400	2.00	1530	0.009	C3.0/87	
GD800SGT170C3SN	1700	1300	800	2.00	530	0.026	C3.2/87	
GD1200SGT170C3SN	1700	1800	1200	2.00	780	0.017	C3.2/87	
GD1600SGT170C3SN	1700	2300	1600	2.00	1030	0.014	C3.2/87	
GD2400SGT170C3SN	1700	3200	2400	2.00	1515	0.010	C3.2/87	





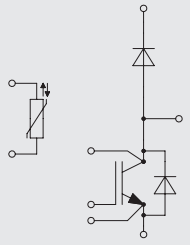


High Power Modules

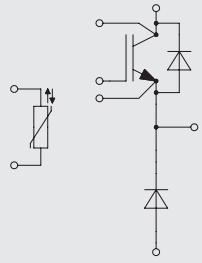
Type	V_{CES} V	I_C @ T_C=25℃ A	I_C @ T_C=80℃ A	$V_{CE(sat)}$ @T_j=25℃ typ. V	(E_{on}+E_{off}) @T_j=125℃ typ. mJ	$R_{th(J-C)}$ K/W	Package Outline/page	Circuit
GD800SGT170A3SN	1700	1400	800	2.00	545	0.021	C3.2/87	
GD1200SGT170A3SN	1700	1900	1200	2.00	795	0.014	C3.2/87	
GD1600SGT170A3SN	1700	2400	1600	2.00	1045	0.012	C3.2/87	
GD2400SGT170A3SN	1700	3300	2400	2.00	1530	0.009	C3.2/87	
GD2400SGT170C4S	1700	3450	2400	2.00	1515	0.009	C4.0/87	
GD3600SGT170C4S	1700	4800	3600	2.00	2225	0.007	C4.0/87	
GD2400SGT170A4S	1700	3600	2400	2.00	1530	0.008	C4.0/87	
GD3600SGT170A4S	1700	4800	3600	2.00	2240	0.006	C4.0/87	
1700V Half Bridge with NTC								
Low Loss and Fast IGBT								
GD450HFL170P1S	1700	630	450	2.30	320	0.039	P1.0/88	
GD650HFL170P1S	1700	940	650	2.30	550	0.029	P1.0/88	
GD1000HFL170P2S	1700	1500	1000	2.30	770	0.018	P2.0/88	
GD1400HFL170P2S	1700	2400	1400	2.30	996	0.174	P2.0/88	
Trench IGBT, Low Loss								
GD450HFT170P1S	1700	640	450	2.00	300	0.054	P1.0/88	
GD650HFT170P1S	1700	950	600	2.00	500	0.036	P1.0/88	
GD1000HFT170P2S	1700	1600	1000	2.00	700	0.024	P2.0/88	
GD1400HFT170P2S	1700	2500	1400	2.00	1074	0.174	P2.0/88	
1700V Half Bridge								
Low Loss and Fast IGBT								
GD600HFL170C3S	1700	900	600	2.30	470	0.033	C3.1/87	
GD800HFL170C3S	1700	1200	800	2.30	605	0.026	C3.1/87	
GD1200HFL170C3S	1700	1700	1200	2.30	850	0.021	C3.1/87	
GD600HFL170A3S	1700	975	600	2.30	490	0.018	C3.1/87	
GD800HFL170A3S	1700	1300	800	2.30	625	0.026	C3.1/87	
GD1200HFL170A3S	1700	1800	1200	2.30	890	0.020	C3.1/87	
Trench IGBT, Low Loss								
GD600HFT170C3S	1700	910	600	2.00	405	0.034	C3.1/87	
GD800HFT170C3S	1700	1220	800	2.00	535	0.028	C3.1/87	
GD1200HFT170C3S	1700	1720	1200	2.00	795	0.021	C3.1/87	
GD600HFT170A3S	1700	980	600	2.00	405	0.029	C3.1/87	
GD800HFT170A3S	1700	1400	800	2.00	535	0.024	C3.1/87	
GD1200HFT170A3S	1700	1850	1200	2.00	795	0.019	C3.1/87	

High Power Modules

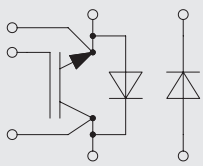
Type	V_{CES} V	I_C @ T_C=25℃ A	I_C @ T_C=80℃ A	$V_{CE(sat)}$ @T_j=25℃ typ. V	(E_{on}+E_{off}) @T_j=125℃ typ. mJ	$R_{th(J-C)}$ K/W	Package Outline/page	Circuit
1700V Boost Chopper with NTC								
Low Loss and Fast IGBT								
GD450CUL170P1S	1700	630	450	2.30	320	0.039	P1.0/88	
GD650CUL170P1S	1700	940	650	2.30	550	0.029	P1.0/88	
GD1000CUL170P2S	1700	1500	1000	2.30	770	0.018	P2.0/88	
GD1400CUL170P2S	1700	2400	1400	2.30	996	0.174	P2.0/88	
Trench IGBT, Low Loss								
GD450CUT170P1S	1700	640	450	2.00	300	0.054	P1.0/88	
GD650CUT170P1S	1700	950	600	2.00	500	0.036	P1.0/88	
GD1000CUT170P2S	1700	1600	1000	2.00	700	0.024	P2.0/88	
GD1400CLT170P2S	1700	2500	1400	2.00	1074	0.174	P2.0/88	



1700V Buck Chopper with NTC								
Low Loss and Fast IGBT								
GD450CLL170P1S	1700	630	450	2.30	320	0.039	P1.0/88	
GD650CLL170P1S	1700	940	650	2.30	550	0.029	P1.0/88	
GD1000CLL170P2S	1700	1500	1000	2.30	770	0.018	P2.0/88	
GD1400CLL170P2S	1700	2400	1400	2.30	996	0.174	P2.0/88	
Trench IGBT, Low Loss								
GD450CLT170P1S	1700	640	450	2.00	300	0.054	P1.0/88	
GD650CLT170CP1S	1700	950	600	2.00	500	0.036	P1.0/88	
GD1000CLT170P2S	1700	1600	1000	2.00	700	0.024	P2.0/88	
GD1400CLT170P2S	1700	2500	1400	2.00	1074	0.174	P2.0/88	

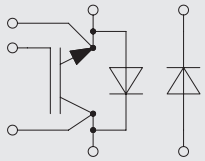


1700V Chopper								
Low Loss and Fast IGBT								
GD600CUL170C3S	1700	900	600	2.30	470	0.029	C3.1/87	
GD600CLL170C3S	1700	900	600	2.30	470	0.029	C3.1/87	
GD800CUL170C3S	1700	1200	800	2.30	605	0.024	C3.1/87	
GD800CLL170C3S	1700	1200	800	2.30	605	0.024	C3.1/87	
GD1200CUL170C3S	1700	1700	1200	2.30	850	0.018	C3.1/87	
GD1200CLL170C3S	1700	1700	1200	2.30	850	0.018	C3.1/87	
GD600CUL170A3S	1700	975	600	2.30	490	0.026	C3.1/87	



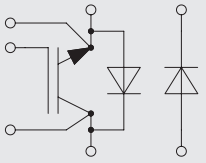
High Power Modules

Type	V_{CES} V	I_C @ T_C=25℃ A	I_C @ T_C=80℃ A	$V_{CE(sat)}$ @T_j=25℃ typ. V	(E_{on}+E_{off}) @T_j=125℃ typ. mJ	$R_{th(J-C)}$ K/W	Package Outline/page	Circuit
GD600CLL170A3S	1700	975	600	2.30	490	0.026	C3.1/87	
GD800CUL170A3S	1700	1300	800	2.30	625	0.020	C3.1/87	
GD800CLL170A3S	1700	1300	800	2.30	625	0.020	C3.1/87	
GD1200CUL170A3S	1700	1800	1200	2.30	890	0.016	C3.1/87	
GD1200CLL170A3S	1700	1800	1200	2.30	890	0.016	C3.1/87	
GD600CUL170C3SN	1700	900	600	2.30	470	0.029	C3.2/87	
GD600CLL170C3SN	1700	900	600	2.30	470	0.029	C3.2/87	
GD800CUL170C3SN	1700	1200	800	2.30	605	0.024	C3.2/87	
GD800CLL170C3SN	1700	1200	800	2.30	605	0.024	C3.2/87	
GD1200CUL170C3SN	1700	1700	1200	2.30	850	0.018	C3.2/87	
GD1200CLL170C3SN	1700	1700	1200	2.30	850	0.018	C3.2/87	
GD600CUL170A3SN	1700	975	600	2.30	490	0.026	C3.2/87	
GD600CLL170A3SN	1700	975	600	2.30	490	0.026	C3.2/87	
GD800CUL170A3SN	1700	1300	800	2.30	625	0.020	C3.2/87	
GD800CLL170A3SN	1700	1300	800	2.30	625	0.020	C3.2/87	
GD1200CUL170A3SN	1700	1800	1200	2.30	890	0.016	C3.2/87	
GD1200CLL170A3SN	1700	1800	1200	2.30	890	0.016	C3.2/87	
Trench IGBT, Low Loss								
GD600CUT170C3S	1700	918	600	2.00	405	0.034	C3.1/87	
GD600CLT170C3S	1700	918	600	2.00	405	0.034	C3.1/87	
GD800CUT170C3S	1700	1224	800	2.00	535	0.028	C3.1/87	
GD800CLT170C3S	1700	1224	800	2.00	535	0.028	C3.1/87	
GD1200CUT170C3S	1700	1734	1200	2.00	795	0.021	C3.1/87	
GD1200CLT170C3S	1700	1734	1200	2.00	795	0.021	C3.1/87	
GD600CUT170A3S	1700	994.5	600	2.00	405	0.029	C3.1/87	
GD600CLT170A3S	1700	994.5	600	2.00	405	0.029	C3.1/87	
GD800CUT170A3S	1700	1326	800	2.00	535	0.024	C3.1/87	
GD800CLT170A3S	1700	1326	800	2.00	535	0.024	C3.1/87	
GD1200CUT170A3S	1700	1836	1200	2.00	795	0.019	C3.1/87	
GD1200CLT170A3S	1700	1836	1200	2.00	795	0.019	C3.1/87	
GD600CUT170C3SN	1700	918	600	2.00	405	0.034	C3.2/87	
GD600CLT170C3SN	1700	918	600	2.00	405	0.034	C3.2/87	
GD800CUT170C3SN	1700	1224	800	2.00	535	0.028	C3.2/87	
GD800CLT170C3SN	1700	1224	800	2.00	535	0.028	C3.2/87	
GD1200CUT170C3SN	1700	1734	1200	2.00	795	0.021	C3.2/87	



High Power Modules

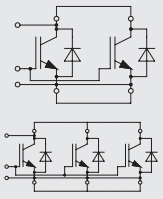
Type	V_{CES} V	I_C @ T_C=25℃ A	I_C @ T_C=80℃ A	$V_{CE(sat)}$ @T_j=25℃ typ. V	(E_{on}+E_{off}) @T_j=125℃ typ. mJ	$R_{th(J-C)}$ K/W	Package Outline/page	Circuit
GD1200CLT170C3SN	1700	1734	1200	2.00	795	0.021	C3.2/87	
GD600CUT170A3SN	1700	994.5	600	2.00	405	0.029	C3.2/87	
GD600CLT170A3SN	1700	994.5	600	2.00	405	0.029	C3.2/87	
GD800CUT170A3SN	1700	1326	800	2.00	535	0.024	C3.2/87	
GD800CLT170A3SN	1700	1326	800	2.00	535	0.024	C3.2/87	
GD1200CUT170A3SN	1700	1836	1200	2.00	795	0.019	C3.2/87	
GD1200CLT170A3SN	1700	1836	1200	2.00	795	0.019	C3.2/87	



3300V Single

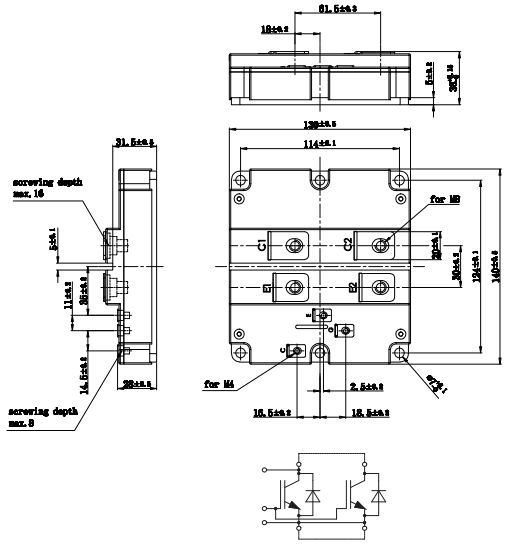
Low Loss and Fast IGBT

GD800SGL330A3S	3300	1600	800	2.40	2630	0.009	C3.2/87	
GD1000SGL330A3S	3300	2000	1000	2.40	3240	0.009	C3.2/87	
GD1200SGL330A4S	3300	2400	1200	2.40	3630	0.006	C4.0/87	
GD1500SGL330A4S	3300	3000	1500	2.40	4680	0.006	C4.0/87	

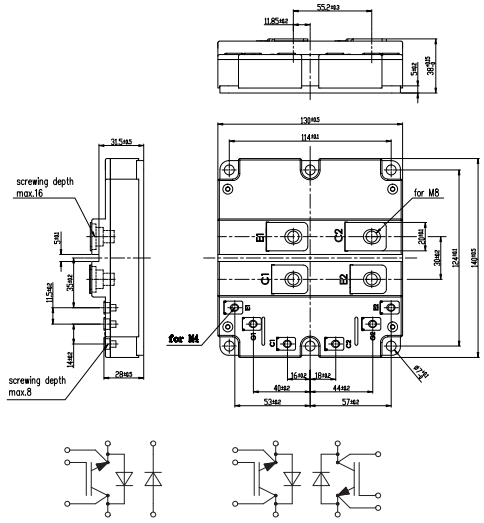


High Power Module Package Outlines

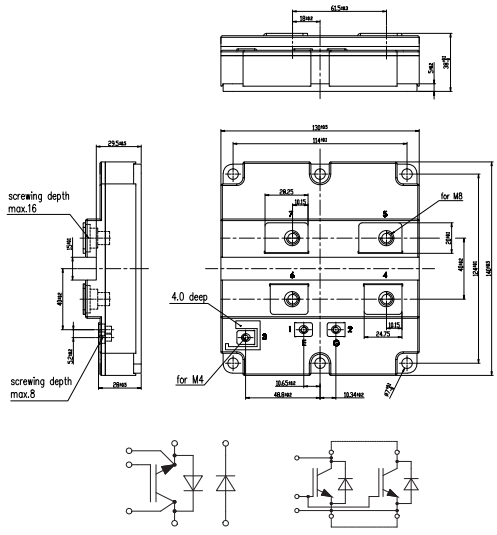
Case C3.0



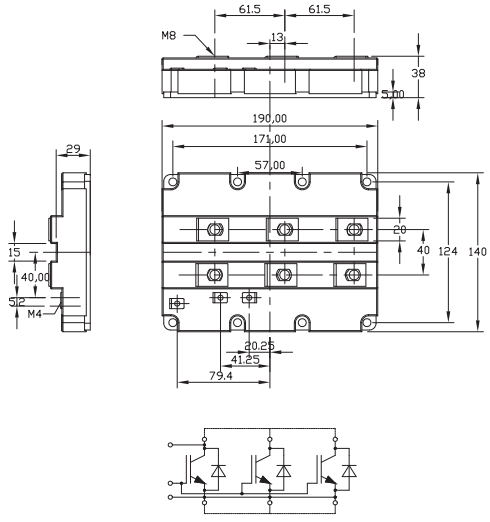
Case C3.1



Case C3.2

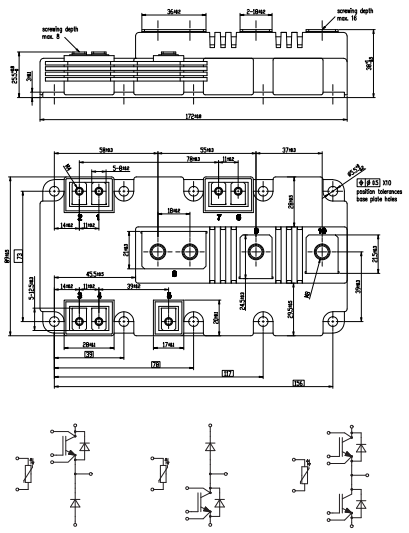


Case C4.0

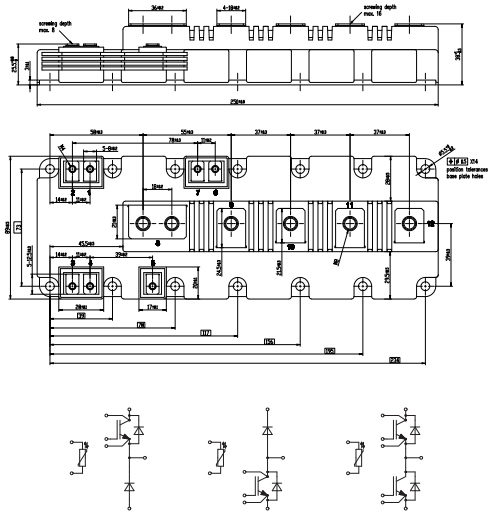


High Power Module Package Outlines

Case P1.0

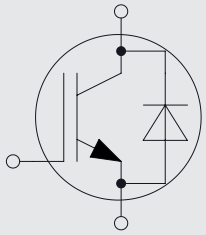


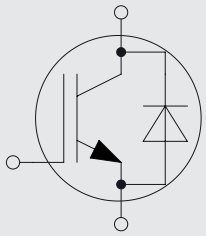
Case P2.0



IGBT Discretes

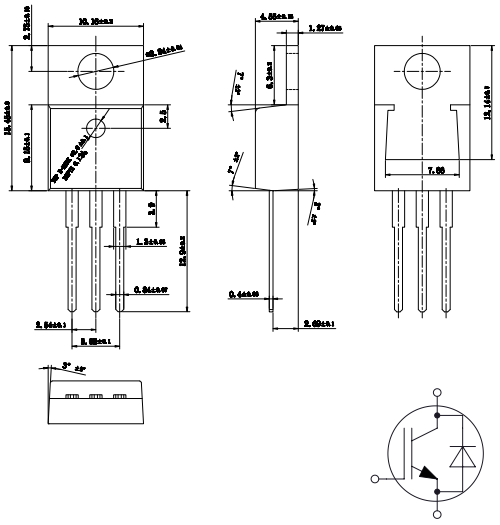
Type	V_{CES} V	I_C @ T_C=25℃ A	I_C @ T_C=100℃ A	$V_{CE(sat)}$ @T_j=25℃ typ. V	(E_{on}+E_{off}) @T_j=125℃ typ. mJ	$R_{th(J-C)}$ K/W	Package Outline/page	Circuit
600V/650V IGBT and Diode								
Trench IGBT, Low Loss								
DG10T06T1	600	20	10	1.65	0.23	1.49	T1/90	
DG15T06T1	600	30	15	1.65	0.38	1.07	T1/90	
DG25T06T1	600	50	25	1.65	0.72	0.61	T1/90	
DG25T06T2	600	50	25	1.65	0.72	0.65	T2/90	
DG40T06T2	600	80	40	1.65	1.17	0.56	T2/90	
DG50T06T2	600	100	50	1.65	1.91	0.45	T2/90	
DG75T06T2	600	140	75	1.65	4.62	0.33	T2/90	
1200V IGBT and Diode								
Trench IGBT, Low Loss								
DG10T12T2	1200	20	10	1.70	0.91	0.71	T2/90	
DG15T12T2	1200	30	15	1.70	1.81	0.59	T2/90	
DG25T12T2	1200	50	25	1.70	2.85	0.41	T2/90	
DG40T12T2	1200	80	40	1.70	5.98	0.31	T2/90	
DG50T12T2	1200	100	50	1.70	6.78	0.21	T2/90	
DG75T12T2	1200	150	75	1.70	12.30	0.13	T2/90	
Advanced Trench IGBT, Low Loss								
DG10Y12T2	1200	20	10	1.65	0.91	0.75	T2/90	
DG15Y12T2	1200	30	15	1.65	1.81	0.61	T2/90	
DG25Y12T2	1200	50	25	1.65	2.85	0.43	T2/90	
DG40Y12T2	1200	80	40	1.65	5.98	0.32	T2/90	
DG50Y12T2	1200	100	50	1.65	6.78	0.22	T2/90	
DG75Y12T2	1200	150	75	1.65	12.30	0.14	T2/90	
Advanced Trench IGBT, Ultra Fast								
DG10F12T2	1200	20	10	1.75	0.81	0.75	T2/90	
DG15F12T2	1200	30	15	1.75	1.24	0.61	T2/90	
DG25F12T2	1200	50	25	1.75	2.02	0.43	T2/90	
DG40F12T2	1200	80	40	1.75	4.56	0.32	T2/90	
DG50F12T2	1200	100	50	1.75	5.51	0.22	T2/90	
DG75F12T2	1200	150	75	1.75	8.33	0.14	T2/90	



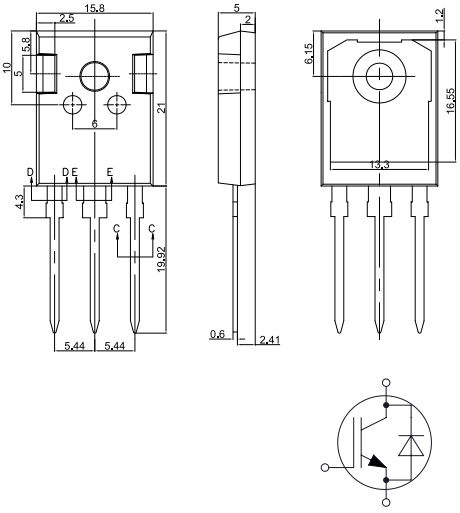


IGBT Discretes Package Outlines

Case T1.0

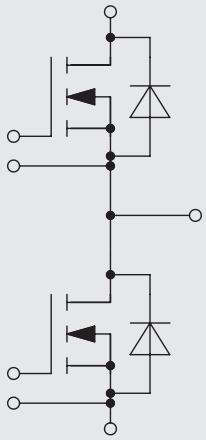


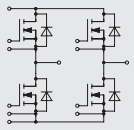
Case T2.0



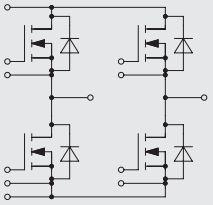
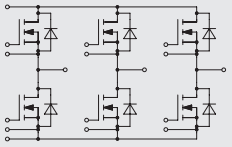
MOSFET Modules

Type	V_{DSS} V	I_D @ T_C=25℃ A	I_D @ T_C=80℃ A	$R_{DS(on)}$ @T_j=25℃ max. mohm	$R_{th(J-C)}$ K/W	Package Outline/page	Circuit
Half Bridge							
MD680HFN100B3S	100	680	480	2.25	0.094	B3.0/93	
MD1020HFN100B3S	100	1020	720	1.50	0.061	B3.0/93	
MD1160HFM100B3S	100	1160	800	0.65	0.115	B3.0/93	
MD680HFN100C2S	100	680	480	2.25	0.094	C2.0/93	
MD1020HFN100C2S	100	1020	720	1.50	0.061	C2.0/93	
MD1160HFM100C2S	100	1160	800	0.65	0.115	C2.0/93	
MD1560HFM100B6S	100	1560	1104	0.58	0.075	B6.0/93	
MD2160HFM100B6S	100	2160	1560	0.38	0.059	B6.0/93	
MD420HFN150B3S	150	420	296	3.75	0.092	B3.0/93	
MD630HFN150B3S	150	630	446	2.50	0.063	B3.0/93	
MD840HFN150B3S	150	840	592	1.88	0.046	B3.0/93	
MD1026HFM150B3S	150	1026	726	0.01	0.072	B3.0/93	
MD420HFN150C2S	150	420	296	3.75	0.092	C2.0/93	
MD630HFN150C2S	150	630	446	2.50	0.063	C2.0/93	
MD840HFN150C2S	150	840	592	1.88	0.046	C2.0/93	
MD1026HFM150C2S	150	1026	726	0.01	0.072	C2.0/93	
MD392HFN200B3S	200	392	284	5.75	0.109	B3.0/93	
MD520HFM200B3S	200	520	368	2.43	0.103	B3.0/93	
MD588HFN200B3S	200	588	426	3.83	0.071	B3.0/93	
MD780HFM200B3S	200	780	552	1.62	0.072	B3.0/93	
MD392HFN200C2S	200	392	284	5.75	0.109	C2.0/93	
MD520HFM200C2S	200	520	368	2.43	0.103	C2.0/93	
MD588HFN200C2S	200	588	426	3.83	0.071	C2.0/93	
MD780HFM200C2S	200	780	552	1.62	0.072	C2.0/93	
MD88HFN500B3S	500	88	70	67.50	0.174	B3.0/93	
MD128HFN500B3S	500	128	88	42.50	0.124	B3.0/93	
MD160HFN500B3S	500	160	120	32.50	0.095	B3.0/93	
MD88HFN500C2S	500	88	70	67.50	0.174	C2.0/93	
MD128HFN500C2S	500	128	88	42.50	0.124	C2.0/93	
MD160HFN500C2S	500	160	120	32.50	0.095	C2.0/93	
Full Bridge							
MD340HCN100B3S	100	340	240	4.50	0.181	B3.1/93	
MD510HCN100B3S	100	510	360	3.00	0.125	B3.1/93	
MD580HCM100B3S	100	580	400	1.30	0.122	B3.1/93	



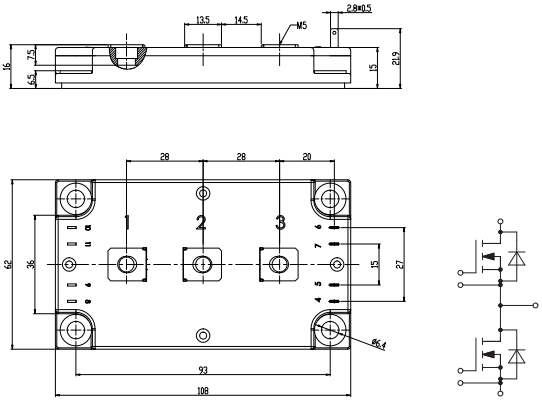


MOSFET Modules

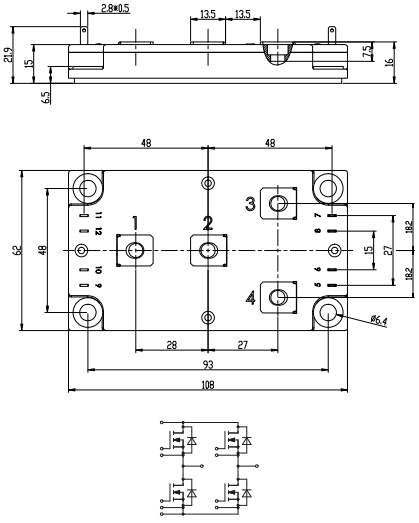
Type	V_{DSS} V	I_D @ T_C=25℃ A	I_D @ T_C=80℃ A	$R_{DS(on)}$ @ T_j=25℃ max. m0hm	$R_{th(J-C)}$ K/W	Package Outline/page	Circuit
MD210HCN150B3S	150	210	148	7.50	0.184	B3.1/93	
MD315HCN150B3S	150	315	223	5.00	0.126	B3.1/93	
MD420HCN150B3S	150	420	296	3.75	0.092	B3.1/93	
MD513HCM150B3S	150	513	363	0.02	0.144	B3.1/93	
MD196HCN200B3S	200	196	142	11.50	0.306	B3.1/93	
MD260HCM200B3S	200	260	184	4.85	0.204	B3.1/93	
MD294HCN200B3S	200	294	213	7.67	0.148	B3.1/93	
MD390HCM200B3S	200	390	276	3.23	0.136	B3.1/93	
MD44HCN500B3S	500	44	35	135.00	0.348	B3.1/93	
MD64HCN500B3S	500	64	44	85.00	0.248	B3.1/93	
MD80HCN500B3S	500	80	60	65.00	0.191	B3.1/93	
3 Phase Bridge							
MD340FFN100C2S	100	340	240	4.50	0.181	C2.7/94	
MD510FFN100C2S	100	510	360	3.00	0.125	C2.7/94	
MD580FFM100C2S	100	580	400	1.30	0.122	C2.7/94	
MD210FFN150C2S	150	210	148	7.50	0.184	C2.7/94	
MD315FFN150C2S	150	315	223	5.00	0.126	C2.7/94	
MD513FFM150C2S	150	513	363	0.02	0.144	C2.7/94	
MD196FFN200C2S	200	196	142	11.50	0.306	C2.7/94	
MD260FFM200C2S	200	260	184	4.85	0.204	C2.7/94	
MD294FFN200C2S	200	294	213	7.67	0.148	C2.7/94	
MD390FFM200C2S	200	390	276	3.23	0.136	C2.7/94	
MD44FFN500C2S	500	44	35	135.00	0.348	C2.7/94	
MD64FFN500C2S	500	64	44	85.00	0.248	C2.7/94	
MD80FFN500C2S	500	80	60	65.00	0.191	C2.7/94	

MOSFET Module Package Outlines

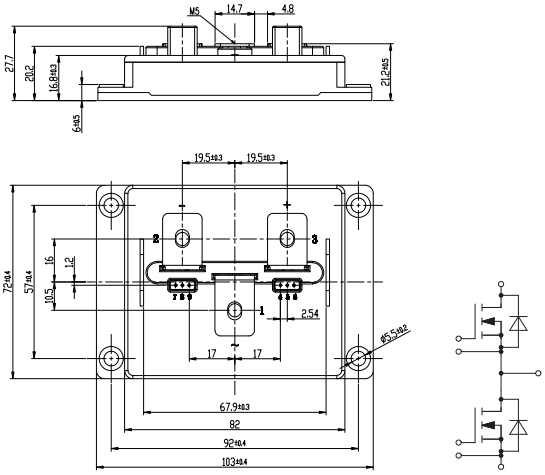
Case B3.0



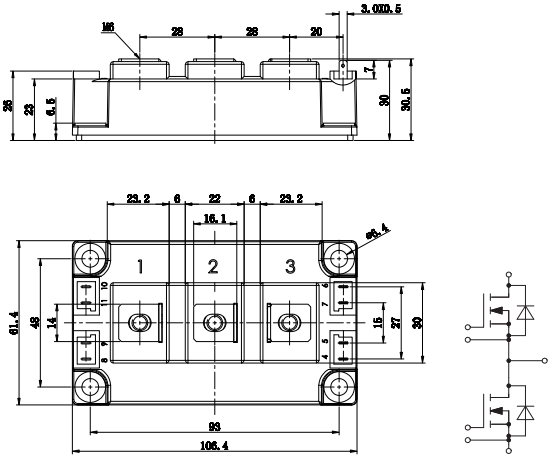
Case B3.1



Case B6.0

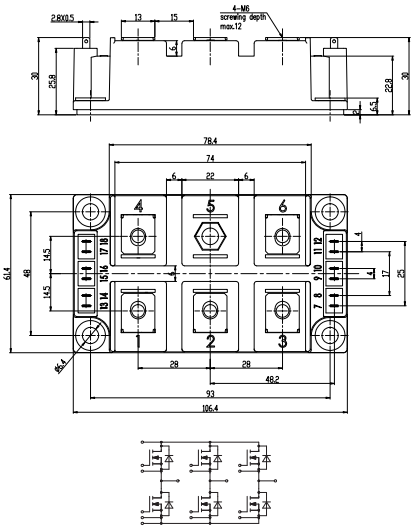


Case C2.0

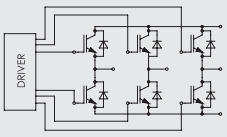


MOSFET Module Package Outlines

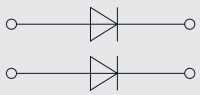
Case C2.7



IPM Modules

Type	V_{CES} V	I_C @ T_C=25℃ A	I_C @ T_C=80℃ A	$V_{CE(sat)}$ @T_j=25℃ typ. V	(E_{on}+E_{off}) @T_j=125℃ typ. mJ	$R_{th(J-C)}$ K/W	Package Outline/page	Circuit
ID10FT06A1S	600	10	6	2.20	0.60	3.400	A1.0/100	
ID15FT06A1S	600	15	9	2.20	0.80	2.300	A1.0/100	
ID20FT06A1S	600	20	12	2.20	1.20	1.800	A1.0/100	
ID30FT06A1S	600	30	18	2.20	1.80	1.200	A1.0/100	

FRD Modules

Type	V_{RRM} V	I_F @ T_C=25℃ A	I_F @ T_C=80℃ A	V_F @T_j=25℃ typ. V	E_{REC} @T_j=125℃ typ. mJ	$R_{th(J-C)}$ K/W	Package Outline/page	Circuit
Common Cathode								
FD200CCH40D1S	400	330	200	1.20	3.00	0.500	D1.0/100	
FD300CCH40D1S	400	420	300	1.20	6.00	0.300	D1.0/100	
FD200CCH60D1S	600	330	200	1.30	4.00	0.500	D1.0/100	
FD300CCH60D1S	600	420	300	1.30	8.00	0.300	D1.0/100	
FD300CCH40D3S	400	420	300	1.20	6.00	0.300	D3.0/100	
FD200CCH60D3S	600	330	200	1.30	4.00	0.500	D3.0/100	
FD300CCH60D3S	600	420	300	1.30	8.00	0.300	D3.0/100	
Double Single								
FD300DGH70D2S	700	420	300	1.30	8.00	0.300	D2.0/100	
FD200DGH10D6S	100	330	200	1.20	3.00	0.500	D6.0/101	
FD200DGH40D6S	400	330	200	1.20	3.00	0.500	D6.0/101	
FD120DGH60D6S	600	200	120	1.30	2.04	0.450	D6.0/101	
FD300DGH60D6S	600	420	300	1.30	8.00	0.300	D6.0/101	
FD120DGH120D6S	1200	200	120	1.75	9.50	0.270	D6.0/101	
Half Bridge								
FD50HFH60C9S	600	90	50	1.40	1.10	0.790	C9.0/102	
FD75HFH60C9S	600	135	75	1.40	1.40	0.680	C9.0/102	
FD100HFH60C9S	600	180	100	1.40	1.70	0.540	C9.0/102	
FD150HFH60C1S	600	270	150	1.40	3.00	0.450	C1.0/101	
FD200HFH60C1S	600	360	200	1.40	4.00	0.330	C1.0/101	
FD300HFH60C1S	600	540	300	1.40	6.50	0.240	C1.0/101	
FD400HFH60C2S	600	720	400	1.40	8.30	0.170	C2.0/101	
FD600HFH60C2S	600	1080	600	1.40	14.00	0.110	C2.0/101	

FRD Modules

Type	V_{RRM} V	I_F @ T_C=25℃ A	I_F @ T_C=80℃ A	V_F @T_j=25℃ typ. V	E_{REC} @T_j=125℃ typ. mJ	$R_{th(J-C)}$ K/W	Package Outline/page	Circuit
FD800HFH60C2S	600	1440	800	1.40	18.50	0.078	C2.0/101	
FD30HFH120C9S	1200	54	30	1.75	2.34	0.700	C9.0/102	
FD50HFH120C9S	1200	90	50	1.75	3.69	0.490	C9.0/102	
FD75HFH120C9S	1200	135	75	1.75	5.40	0.350	C9.0/102	
FD100HFH120C1S	1200	180	100	1.75	8.10	0.320	C1.0/101	
FD150HFH120C1S	1200	270	150	1.75	10.80	0.280	C1.0/101	
FD200HFH120C1S	1200	360	200	1.75	15.30	0.145	C1.0/101	
FD300HFH120C2S	1200	540	300	1.75	23.40	0.109	C2.0/101	
FD400HFH120C2S	1200	720	400	1.75	30.60	0.061	C2.0/101	
FD600HFH120C2S	1200	1080	600	1.75	49.50	0.038	C2.0/101	
FD800HFH120C2S	1200	1440	800	1.75	63.00	0.031	C2.0/101	
FD30HFE120C9S	1200	56	30	1.65	2.60	1.100	C9.0/102	
FD50HFE120C9S	1200	92	50	1.65	4.10	0.620	C9.0/102	
FD75HFE120C9S	1200	140	75	1.65	6.00	0.490	C9.0/102	
FD100HFE120C1S	1200	185	100	1.65	9.00	0.410	C1.0/101	
FD150HFE120C1S	1200	275	150	1.65	12.00	0.320	C1.0/101	
FD200HFE120C1S	1200	370	200	1.65	17.00	0.209	C1.0/101	
FD300HFE120C1S	1200	550	300	1.65	26.00	0.147	C1.0/101	
FD400HFE120C2S	1200	730	400	1.65	34.00	0.106	C2.0/101	
FD600HFE120C2S	1200	1100	600	1.65	55.00	0.062	C2.0/101	
FD800HFE120C2S	1200	1500	800	1.65	70.00	0.043	C2.0/101	
FD50HFE170C1S	1700	90	50	1.80	13.50	0.590	C1.0/101	
FD75HFE170C1S	1700	135	75	1.80	20.50	0.460	C1.0/101	
FD100HFE170C1S	1700	180	100	1.80	27.50	0.380	C1.0/101	
FD150HFE170C1S	1700	270	150	1.80	36.00	0.320	C1.0/101	
FD200HFE170C1S	1700	360	200	1.80	48.00	0.270	C1.0/101	
FD300HFE170C2S	1700	540	300	1.80	71.00	0.150	C2.0/101	
FD400HFE170C2S	1700	720	400	1.80	96.00	0.093	C2.0/101	
FD600HFE170C2S	1700	1080	600	1.80	145.00	0.054	C2.0/101	
FD800HFE170C2S	1700	1440	800	1.80	200.00	0.038	C2.0/101	
FD30HFS120C9S	1200	50	30	1.95	2.08	0.810	C9.0/102	
FD50HFS120C9S	1200	85	50	1.95	3.28	0.490	C9.0/102	
FD75HFS120C9S	1200	130	75	1.95	4.80	0.490	C9.0/102	
FD100HFS120C1S	1200	170	100	1.95	7.20	0.360	C1.0/101	
FD150HFS120C1S	1200	260	150	1.95	9.60	0.330	C1.0/101	

FRD Modules

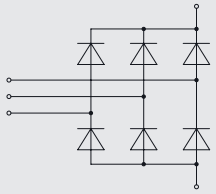
Type	V_{RRM} V	I_F @ T_C=25℃ A	I_F @ T_C=80℃ A	V_F @T_j=25℃ typ. V	E_{REC} @T_j=125℃ typ. mJ	$R_{th(J-C)}$ K/W	Package Outline/page	Circuit
FD200HFS120C1S	1200	350	200	1.95	13.60	0.170	C1.0/101	
FD300HFS120C2S	1200	530	300	1.95	20.80	0.109	C2.0/101	
FD400HFS120C2S	1200	720	400	1.95	27.20	0.075	C2.0/101	
FD600HFS120C2S	1200	1000	600	1.95	44.00	0.044	C2.0/101	
FD800HFS120C2S	1200	1400	800	1.95	56.00	0.034	C2.0/101	

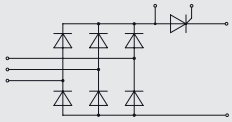
Rectifier Modules

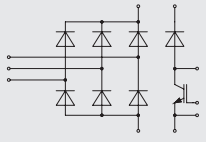
Type	V_{RRM} V	I_F @ T_C=100℃ A	V_F @T_j=25℃ typ. V	$R_{th(J-C)}$ K/W	Package Outline/page	Circuit
Half Bridge						
RD30HFJ180C9S	1800	30	1.2	0.74	C9.0/102	
RD60HFJ180C9S	1800	60	1.2	0.43	C9.0/102	
RD80HFJ180C9S	1800	80	1.2	0.43	C9.0/102	
RD110HFJ180C9S	1800	110	1.2	0.45	C9.0/102	
RD110HFJ180C1S	1800	110	1.2	0.46	C1.0/101	
RD165HFJ180C1S	1800	165	1.2	0.34	C1.0/101	
RD210HFJ180C1S	1800	210	1.2	0.24	C1.0/101	
RD260HFJ180K8S	1800	260	1.2	0.19	K8.0/103	
RD353HFJ180K8S	1800	353	1.2	0.13	K8.0/103	
RD380HFJ180K8S	1800	380	1.2	0.11	K8.0/103	
RD701HFJ180K9S	1800	701	1.2	0.07	K9.0/103	
RD30HFS180C9S	1800	30	1.2	0.74	C9.0/102	
RD60HFS180C9S	1800	60	1.2	0.43	C9.0/102	
RD80HFS180C9S	1800	80	1.2	0.43	C9.0/102	
RD110HFS180C9S	1800	110	1.2	0.45	C9.0/102	
RD110HFS180C1S	1800	110	1.2	0.46	C1.0/101	
RD165HFS180C1S	1800	165	1.2	0.34	C1.0/101	
RD210HFS180C1S	1800	210	1.2	0.24	C1.0/101	
RD260HFS180K8S	1800	260	1.2	0.19	K8.0/103	
RD353HFS180K8S	1800	353	1.2	0.13	K8.0/103	
RD380HFS180K8S	1800	380	1.2	0.11	K8.0/103	
RD701HFS180K9S	1800	701	1.2	0.07	K9.0/103	

Rectifier Modules

Type	V_{RRM} V	I_F @ T_C=100℃ A	V_F @T_j=25℃ typ. V	$R_{th(J-C)}$ K/W	Package Outline/page	Circuit
3 Phase Bridge						
RD50FFJ180K1S	1800	50	1.2	0.57	K1.0/102	
RD80FFJ180K1S	1800	80	1.2	0.57	K1.0/102	
RD100FFJ180K1S	1800	100	1.2	0.57	K1.0/102	
RD110FFJ180K2S	1800	110	1.2	0.57	K2.0/102	
RD160FFJ180K2S	1800	160	1.2	0.43	K2.0/102	
RD210FFJ180K2S	1800	210	1.2	0.32	K2.0/102	
RD50FFS180K1S	1800	50	1.2	0.73	K1.0/102	
RD80FFS180K1S	1800	80	1.2	0.59	K1.0/102	
RD100FFS180K1S	1800	100	1.2	0.59	K1.0/102	
RD110FFS180K2S	1800	110	1.2	0.59	K2.0/102	
RD160FFS180K2S	1800	160	1.2	0.44	K2.0/102	
RD210FFS180K2S	1800	210	1.2	0.26	K2.0/102	
3 Phase Bridge +Thyristor						
RD50FPJ180K6S	1800	50	1.2	0.73	K6.0/103	
RD75FPJ180K6S	1800	75	1.2	0.68	K6.0/103	
RD100FPJ180K6S	1800	100	1.2	0.59	K6.0/103	
RD150FPJ180K7S	1800	150	1.2	0.44	K7.0/103	
RD200FPJ180K7S	1800	200	1.2	0.26	K7.0/103	
RD50FPS180K6S	1800	50	1.2	0.73	K6.0/103	
RD75FPS180K6S	1800	75	1.2	0.68	K6.0/103	
RD100FPS180K6S	1800	100	1.2	0.59	K6.0/103	
RD150FPS180K7S	1800	150	1.2	0.44	K7.0/103	
RD200FPS180K7S	1800	200	1.2	0.26	K7.0/103	
3 Phase Bridge+Brake						
RD85PBS160C5S	1600	85	1.2	0.55	C5.6/102	
RD100PBS160C5S	1600	100	1.2	0.47	C5.6/102	
RD180PBS180C5S	1800	180	1.2	0.21	C5.6/102	

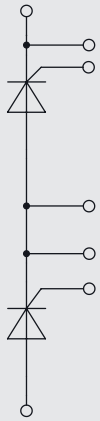






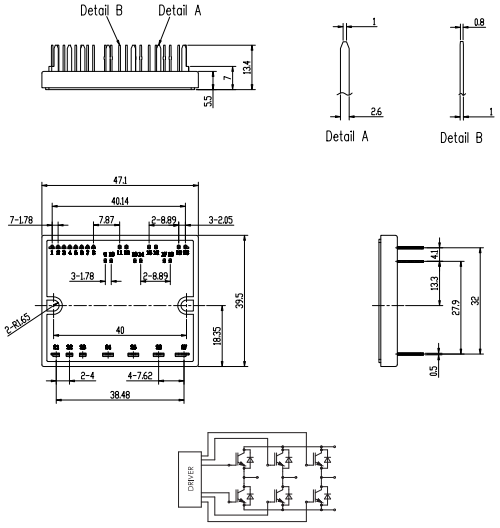
Thyristor Modules

Type	V_{RRM} V	I_T @ T_C=100℃ A	V_T @T_j=25℃ typ. V	$R_{th(J-C)}$ K/W	Package Outline/page	Circuit
Half Bridge						
TD30HFJ180C9S	1800	30	1.2	0.45	C9.0/102	
TD60HFJ180C9S	1800	60	1.2	0.30	C9.0/102	
TD80HFJ180C9S	1800	80	1.2	0.30	C9.0/102	
TD110HFJ180C9S	1800	110	1.2	0.26	C9.0/102	
TD130HFJ180C1S	1800	130	1.2	0.26	C1.1/101	
TD165HFJ180C1S	1800	165	1.2	0.14	C1.1/101	
TD250HFJ180K8S	1800	250	1.2	0.12	K8.0/103	
TD275HFJ180K8S	1800	275	1.2	0.10	K8.0/103	
TD320HFJ180K8S	1800	320	1.2	0.09	K8.0/103	
TD460HFJ180K9S	1800	460	1.2	0.08	K9.0/103	
TD570HFJ180K9S	1800	570	1.2	0.07	K9.0/103	
TD30HFS180C9S	1800	30	1.2	0.45	C9.0/102	
TD60HFS180C9S	1800	60	1.2	0.30	C9.0/102	
TD80HFS180C9S	1800	80	1.2	0.30	C9.0/102	
TD110HFS180C9S	1800	110	1.2	0.26	C9.0/102	
TD130HFS180C1S	1800	130	1.2	0.26	C1.1/101	
TD165HFS180C1S	1800	165	1.2	0.14	C1.1/101	

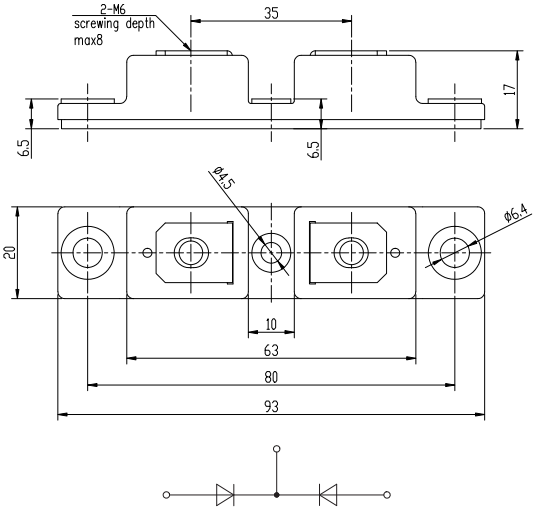


IPM/FRD/Rectifier/Thyristor Module Package Outlines

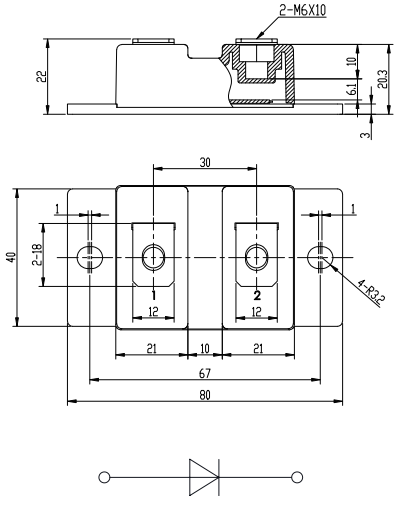
Case A1.0



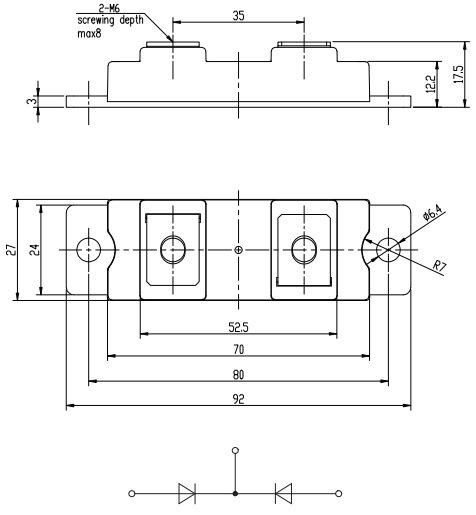
Case D1.0



Case D2.0

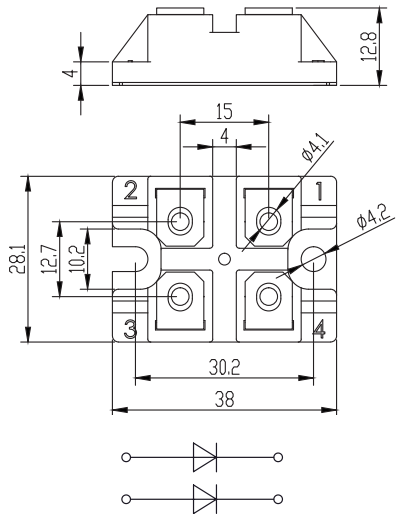


Case D3.0

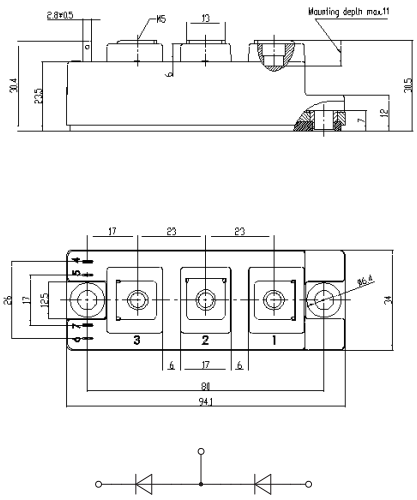


IPM/FRD/Rectifier/Thyristor Module Package Outlines

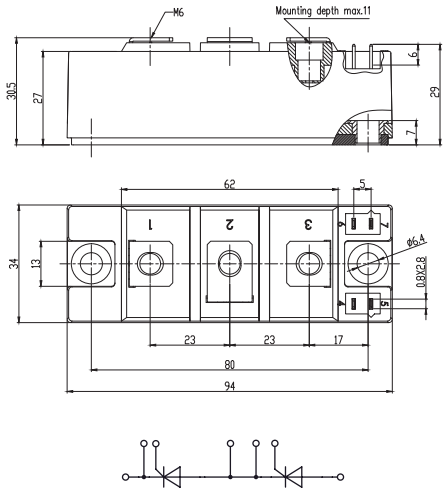
Case D6.0



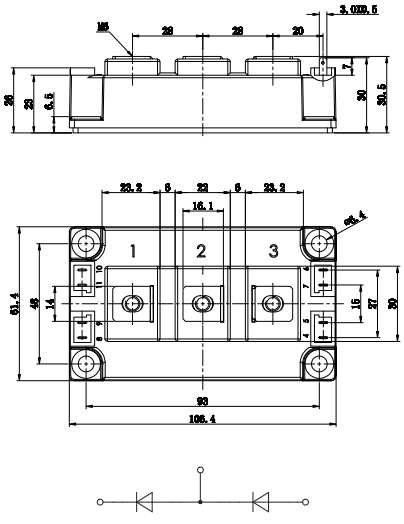
Case C1.0



Case C1.1

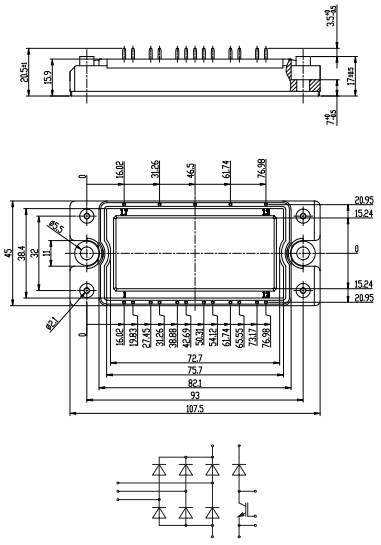


Case C2.0

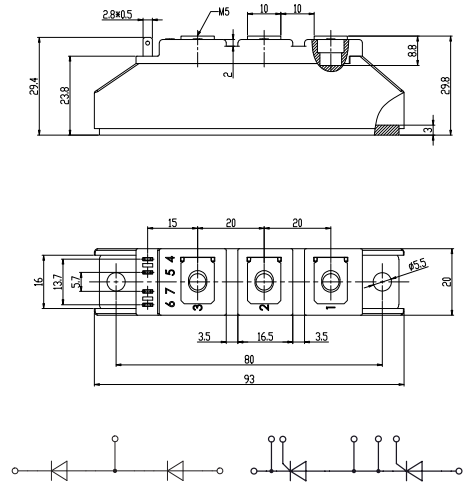


IPM/FRD/Rectifier/Thyristor Module Package Outlines

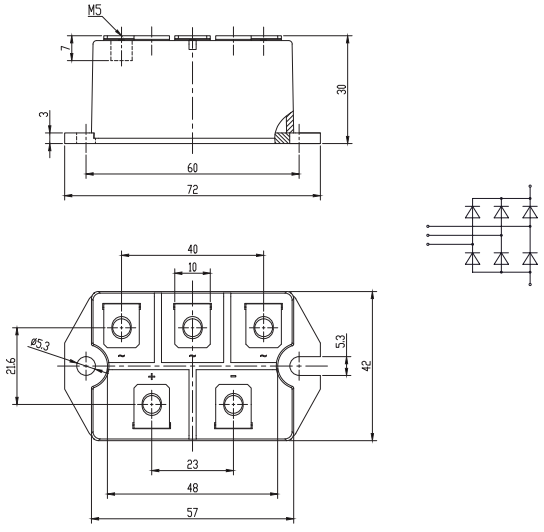
Case C5.6



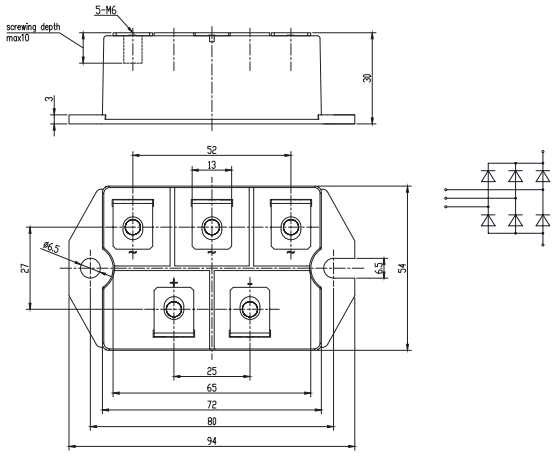
Case C9.0



Case K1.0

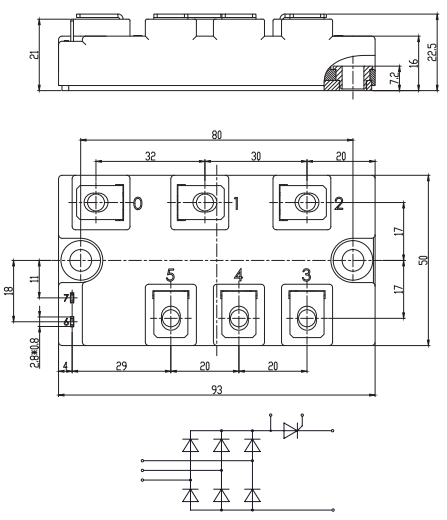


Case K2.0

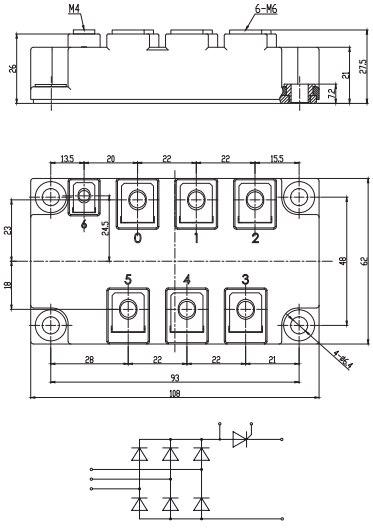


IPM/FRD/Rectifier/Thyristor Module Package Outlines

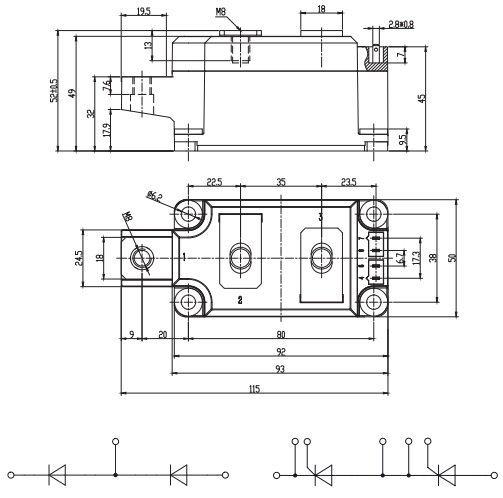
Case K6.0



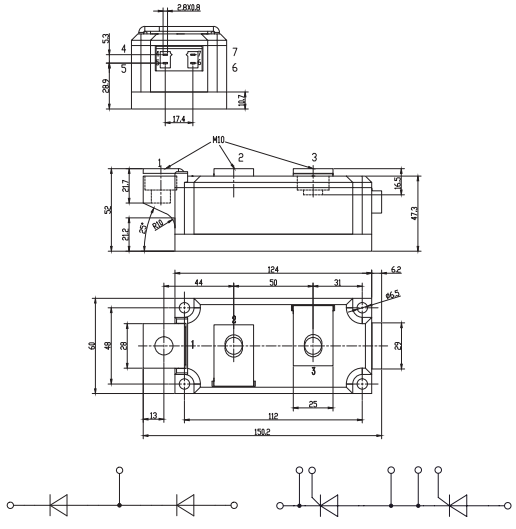
Case K7.0



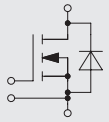
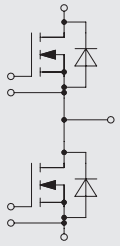
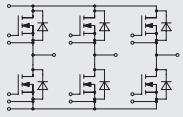
Case K8.0



Case K9.0

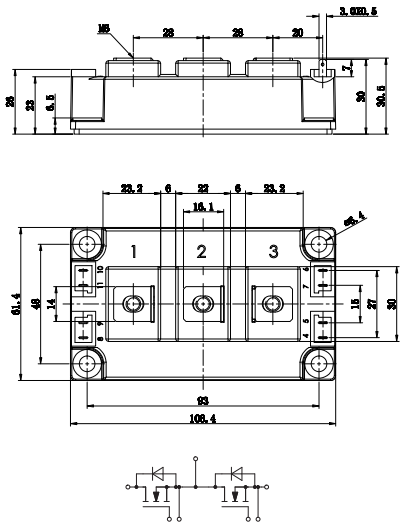


SiC Modules

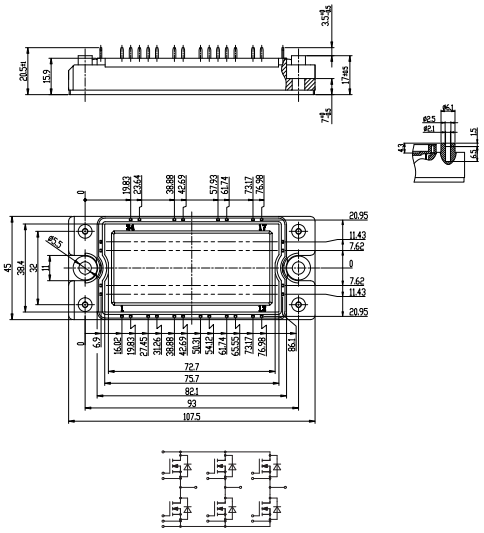
Type	V_{DSS} V	I_D@ T_C=25℃ A	I_D@ T_C=80℃ A	$R_{DS\ (on)}$ @T_j=125℃max. mOhm	$R_{th(J-C)}$ K/W	Package Outline/page	Circuit
Mosfet SiC							
Single							
MD47SGC120D6S	1200	47	37	49.00	0.538	D6.0/105	
MD75SGC120D6S	1200	75	50	58.50	0.415	D6.0/105	
Half Bridge							
MD120HFC120C2S	1200	193	120	16.30	0.174	C2.0/105	
MD300HFC120C2S	1200	480	300	9.75	0.168	C2.0/105	
MD300HFC170C2S	1700	430	300	11.70	0.086	C2.0/105	
MD120HFC120B3S	1200	193	120	16.30	0.174	B3.7/105	
MD300HFC120B3S	1200	480	300	9.75	0.168	B3.7/105	
MD300HFC170B3S	1700	430	300	11.70	0.086	B3.7/105	
3 Phase Bridge							
MD20FFC120C5S	1200	30	20	98.00	0.076	C5.2/105	
MD50FFC120C5S	1200	90	50	34.00	0.041	C5.2/105	

SiC Module Package Outlines

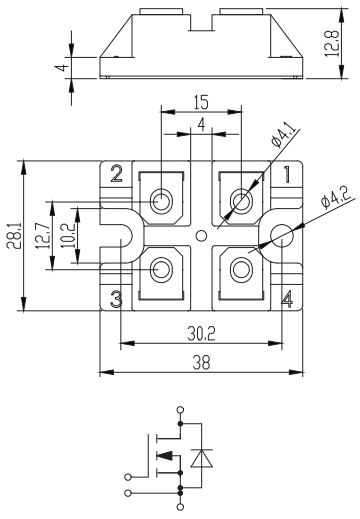
Case C2.0



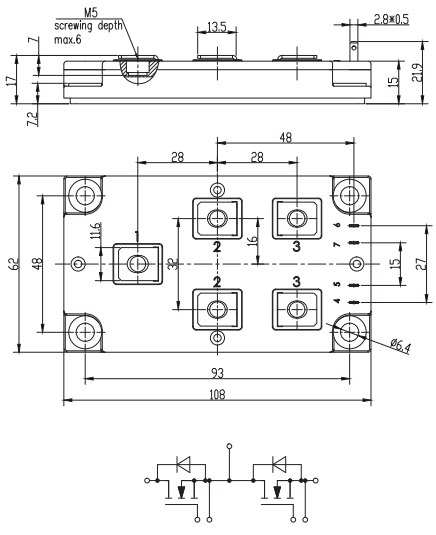
Case C5.2



CaseD6.0



Case B3.7



Application Notes

使用斯达模块时门极电阻Rg选型表

前言

门极电阻 Rg 影响着 IGBT 开关特性的设定，因此正确的选择门极电阻，使得使用时在 IGBT 中产生一个合理的开关速度是在使用 IGBT 时最先需要考虑的问题。但门极电阻的选择是一个十分复杂的工作。简而言之，减小 Rg 会让导通和关断时间缩短且开关损耗也会相应地减小，但引发的门极振荡和高速的 di/dt 与 dv/dt 可能会对系统带来负面的影响；同样，增加 Rg, 虽然可以避免上述的一些问题，但除了会增加开关的延迟外，对系统保护与 IGBT 自身的保护以及散热设计也会产生程度不一的影响。

门极电阻选型中参数的制约关系

由于电路中必然存在杂散电感， 因此减小 Rg 时必须考虑 di/dt 所产生的影响。过高的 di/dt 除了会在 IGBT 关断时产生过大的峰值电压从而产生过压击穿的风险外，在开通时也容易造成二极管反向恢复电流过大及 IGBT 内部闩锁 (latch–up) 进而产生失效。同时过高的 dv/dt 与 di/dt 也会引发更高的共模与差模噪声，导致驱动电路甚至其它器件的误动作。当增大 Rg 时必须考虑关断延时与门极电压抬升的影响，关断时间延长而造成死区的设置不足，除了会增大上下管直通的可能性，在模块上下管开关断的过程中，产生的飘移电流会通过门极电阻，从而给关断状态下的 IGBT 造成更高的误导通的风险。在这种情况下，给予足够的负压值作关断以防止误导通是最常见的作法，但是过大的负压除了进一步增加开通的延迟外，同时也会加快 IGBT 关断的速度，增加过压击穿的风险。门极电阻也决定了短路承受电流的时间与门极电压的抬升的高度，过小的 Rg 会缩短 IGBT 短路电流可以承受的时间，造成保护不及。但过大的 Rg 也会促使短路电流的进一步增加，同样可能会导致 IGBT 的闩锁或瞬间过温进而失效。另外 Rg 也影响了 IGBT 切换的损耗，进而会影响模块稳态操作时内部温度的升高，降低异常操作的余量。

上述设计的考虑是相互制约的，所以门极电阻的选择和优化事实上是一个比较复杂的技术问题，通常需要实际上机试验和调试，才有机会取得一个较合适的设计。为了使选用斯达模块的工程师能够较快地调试出合适的 Rg, 本文在一定的假设条件基础上为初始调试提供一些参考依据。

门极电阻与IGBT动态特性的关系

在特定驱动电压下，门极电阻与IGBT的动态特性关系简单表示如下表一：

表一 门极电阻的变化对IGBT动态特性的影响

动态参数	门极电阻 Rg 增大	门极电阻 Rg 减小
ton	增大	减小
toff	增大	减小
Eon	增大	减小
Eoff	增大	减小
开通浪涌电压	减小	增大
关断浪涌电压	减小	增大
导通峰值电流	减小	增大
主要特性	门极电阻 Rg 增大	门极电阻 Rg 减小
二极管关断尖峰电流	减小	增大
dv/dt	减小	增大
di/dt	减小	增大
EMI	减小	增大

选型时对门极电阻特性的要求

1. 低感或无感电阻 ；
2. 高精度；
3. 温度系数小 ；
4. 不同环境下的机械特性稳定。

Application Notes

选型时对门极电阻功率的要求

$$P(turn\ on)=F\times(\frac{1}{2}Qg\times\left|+Vge\right|+\frac{1}{2}Cies\times\left|-Vge\right|^2)$$

$$P(turn\ on)=P(turn\ off)$$

$$P(driving)=P(turn\ on)+P(turn\ off)$$

$$=F\times(Qg\times\left|+Vge\right|+Cies\times\left|-Vge\right|^2)$$

选用门极电阻的功率等级必须大于计算总功耗的 2 倍以上。

其中：

P(turn on)：开通时损耗在 Rg 的功耗

P(turn off)：关断时损耗在 Rg 的功耗

P(driving)： 损耗在 Rg 的总功耗

+Vge： 正向偏置电源电压

–Vge： 反向偏置电源电压

F： 开关频率

Qg： 从 0V 到 +Vge 为止的充电电荷量

Cies： IGBT 的输入电容

选型时其他注意事项

1. 驱动引线要尽量短，如必需用较长的引线时要双绞拧成一体；
2. 驱动引线和 IGBT 的主电路配线尽量要远离，布线时两者建议正交；
3. 不要和其它信号引线绑扎在一起；
4. 箝位二极管和下拉电阻应尽可能靠近 IGBT 的门极；
5. 在门极处于开路状态下，必需确保 ESD 的防护措施有效。

使用斯达模块时门极电阻Rg选型表

以下为斯达根据在变频器、电焊机和电镀电源三个应用领域中常见的技术条件，结合实际应用经验为通用型斯达模块的门极电阻选型提供的推荐表。具体请见下表（以下数据仅供参考）：

表二 在变频器应用中门极电阻Rg推荐值

模块型号	门极电阻推荐值(Ω)
GD10PJK120L1S	75
GD15PJK120L1S	62
GD10PIK120C5S	75
GD15PIK120C5S	62
GD25PIK120C5S	47
GD25PIT120C5S	47
GD40PIK120C5S	43
GD50PIL120C6S	33
GD75PIL120C6S	22
GD75FFL120C6S	22
GD100FFL120C6S	15
GD150FFL120C6S	10
GD50HFL120C1S	33
GD75HFL120C1S	22
GD100HFL120C1S	15
GD150HFL120C8S	10
GD200HFL120C8S	7.5
GD100HFL120C2S	15
GD150HFL120C2S	10
GD200HFL120C2S	7.5
GD300HFL120C2S	5.6
GD400HFL120C2S	4.3

备注：

1. 要求 +Vge=15V，–Vge=–5—–10V之间
2. IGBT门极与发射极之间可加电容微调

Application Notes

表三 在电焊机（只使用于硬开关焊机）应用中门极电阻Rg推荐值

模块型号	门极电阻推荐值（Ω）
GD50HFU120C1S	18
GD50HFL120C1S	18
GD75HFU120C1S	15
GD75HFL120C1S	15
GD100HFU120C1S	10
GD100HFL120C1S	10
GD100HFU120C2S	10
GD100HFL120C2S	10
GD150HFU120C2S	5
GD150HFL120C2S	5

备注：

1. 要求 +Vge=15V，–Vge=–5—–10V之间
2. IGBT门极与发射极之间可加电容微调

表四 在电镀电源应用中门极电阻Rg推荐值

模块型号	门极电阻推荐值(Ω)
GD50HFL120C1S	33
GD75HFL120C1S	22
GD100HFL120C1S	15
GD150HFL120C8S	10
GD200HFL120C8S	7.5
GD100HFL120C2S	15
GD150HFL120C2S	10
GD200HFL120C2S	7.5
GD300HFL120C2S	5.6
GD400HFL120C2S	4.3

备注：

1. 要求 +Vge=15V，–Vge=–5—–10V之间
2. IGBT门极与发射极之间可加电容微调

结论

门极电阻的选择因为与系统的整体设计有很大的关联性，是一个十分复杂的工作，通过斯达提供的选型建议，希望可以使我们的客户较快地调试出合适的 Rg。

Note:

This Catalog contains product specifications, characteristics, structure and dimensions as of April 2016. The contents are subject to change without prior notice for specification change or other reasons. When using a product listed in this Catalog, be sure to obtain the latest specifications. If you need to use a product in the Catalog for equipment requiring higher reliability than normal, be sure to obtain prior written approval by StarPower.

All applications described in this Catalog exemplify the use of StarPower products for your reference only. No right or license, either expressed or implied, under any patent, copyright, trade secret or other intellectual property right owned by StarPower is granted.