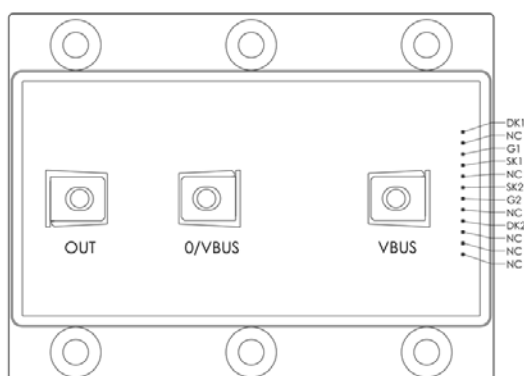
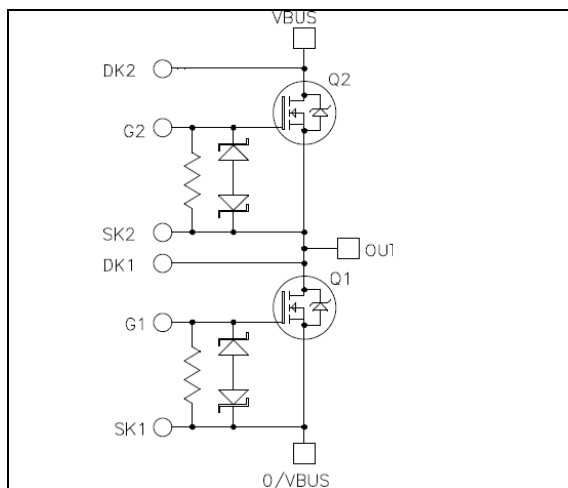


Phase leg MOSFET Power Module

$$V_{DSS} = 200V$$

$$R_{DSon} = 5m\Omega \text{ max @ } T_j = 25^\circ C$$

$$I_D = 350A \text{ @ } T_c = 25^\circ C$$



Application

- Welding converters
- Switched Mode Power Supplies
- Uninterruptible Power Supplies
- Motor control

Features

- MOSFET
 - Low R_{DSon}
 - Low input and Miller capacitance
 - Low gate charge
 - Avalanche energy rated
- Kelvin source for easy drive
- Low stray inductance
- M5 power connectors
- High level of integration

Benefits


- Outstanding performance at high frequency operation
- Direct mounting to heatsink (isolated package)
- Low junction to case thermal resistance
- Low profile
- RoHS Compliant

All ratings @ $T_j = 25^\circ C$ unless otherwise specified

1. MOSFET ratings (per MOSFET)

Absolute maximum ratings

Symbol	Parameter	Max ratings	Unit
V_{DSS}	Drain - Source Voltage	200	V
I_D	Continuous Drain Current	$T_c = 25^\circ C$	A
		$T_c = 80^\circ C$	
I_{DM}	Pulsed Drain current	1500	
V_{GS}	Gate - Source Voltage	± 20	V
R_{DSon}	Drain - Source ON Resistance	5	$m\Omega$
P_D	Maximum Power Dissipation	$T_c = 25^\circ C$	W
E_{AS}	Single Pulse Avalanche Energy	1300	mJ

 **CAUTION:** These Devices are sensitive to Electrostatic Discharge. Proper Handling Procedures Should Be Followed.

Electrical Characteristics

Symbol	Characteristic	Test Conditions	Min	Typ	Max	Unit
I_{DSS}	Zero Gate Voltage Drain Current	$V_{GS} = 0V, V_{DS} = 200V$			1	mA
$R_{DS(on)}$	Drain – Source on Resistance	$V_{GS} = 10V$ $I_D = 280A$	$T_j = 25^\circ C$ $T_j = -45^\circ C$		5 3.6	$m\Omega$
$V_{GS(th)}$	Gate Threshold Voltage	$V_{GS} = V_{DS}, I_D = 8\text{ mA}$	2		4	V
I_{GSS}	Gate – Source Leakage Current	$V_{GS} = \pm 20\text{ V}, V_{DS} = 0V$			± 800	nA

Dynamic Characteristics

Symbol	Characteristic	Test Conditions	Min	Typ	Max	Unit
C_{iss}	Input Capacitance	$V_{GS} = 0V$		41		nF
C_{oss}	Output Capacitance	$V_{DS} = 25V$		9.2		
C_{rss}	Reverse Transfer Capacitance	$f = 1\text{MHz}$		3.1		
Q_g	Total gate Charge	$V_{GS} = 10V$		1184		nC
Q_{gs}	Gate – Source Charge	$V_{Bus} = 100V$		376		
Q_{gd}	Gate – Drain Charge	$I_D = 375A$		600		
$T_{d(on)}$	Turn-on Delay Time	$V_{GS} = 15V$			500	ns
T_r	Rise Time	$V_{Bus} = 130V$			350	
$T_{d(off)}$	Turn-off Delay Time	$I_D = 280A$			1000	
T_f	Fall Time	$R_G = 25\Omega$			600	
R_{thJC}	Junction to Case Thermal Resistance				0.075	$^\circ C/W$

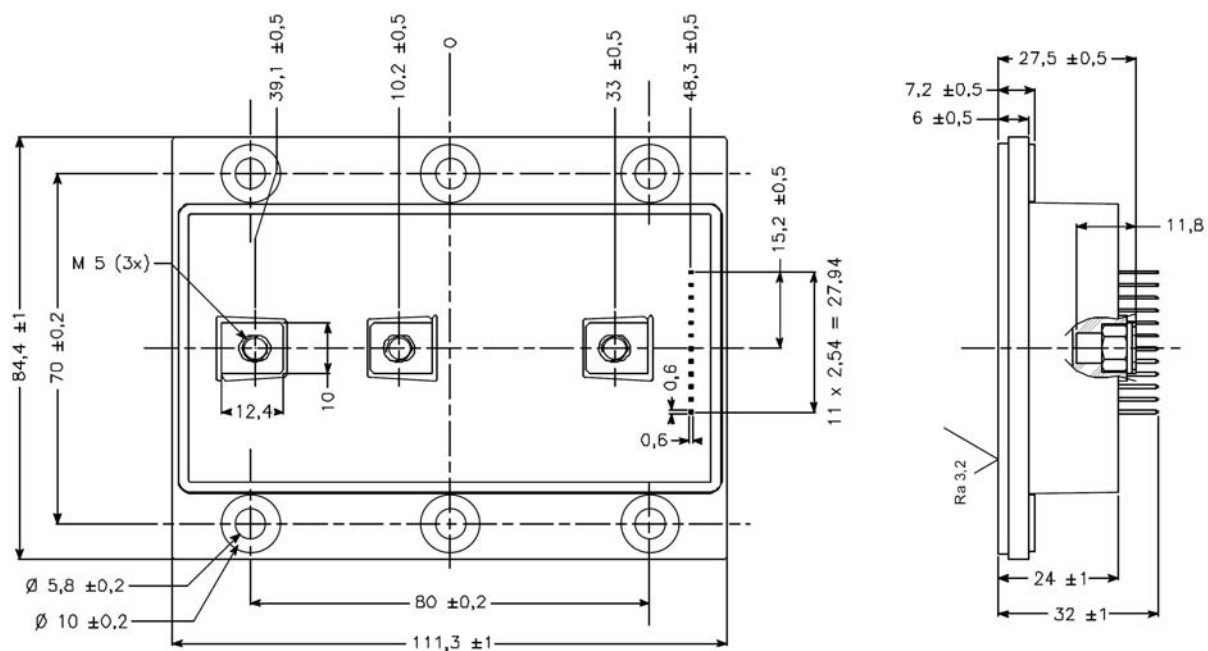
Source - Drain diode ratings and characteristics

Symbol	Characteristic	Test Conditions	Min	Typ	Max	Unit
I_S	Continuous Source current (Body diode)	$T_c = 25^\circ C$ $T_c = 80^\circ C$			350 280	A
V_{SD}	Diode Forward Voltage	$V_{GS} = 0V, I_S = -280A$			1.5	V
t_{rr}	Reverse Recovery Time	$I_S = -375A$ $V_R = 100V$	$T_j = 25^\circ C$ $T_j = 125^\circ C$	130 155	240 420	ns
Q_{rr}	Reverse Recovery Charge	$di_S/dt = 800A/\mu s$	$T_j = 25^\circ C$ $T_j = 125^\circ C$	8 16		

2. Thermal and package characteristics

Symbol	Characteristic			Min	Max	Unit
V _{ISOL}	RMS Isolation Voltage, any terminal to case t =1 min, 50/60Hz			2500		V
T _J	Operating junction temperature range			-40	150	°C
T _{JOP}	Recommended junction temperature under switching conditions			-40	T _J max -25	
T _{STG}	Storage Temperature Range			-40	125	
T _C	Operating Case Temperature			-40	125	
Torque	Mounting torque	To heatsink	M5	2	3.5	N.m
		For terminals	M5	2	3.5	
Wt	Package Weight				550	g

Package outline (dimensions in mm)



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