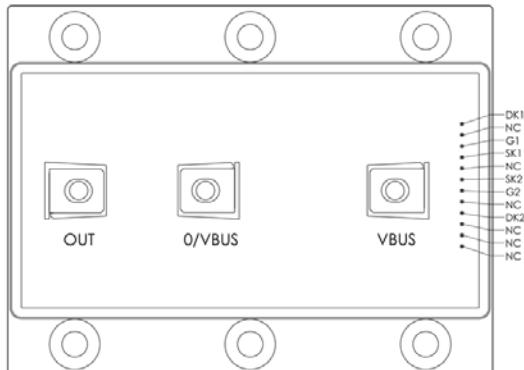
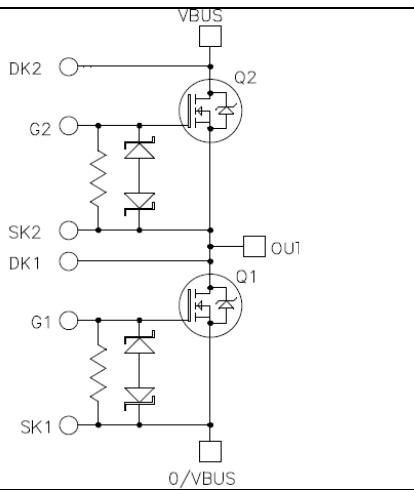


Phase leg **MOSFET Power Module**

V_{DSS} = 200V
R_{DSon} = 5mΩ max @ T_j = 25°C
I_D = 350A @ T_c = 25°C



Application

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

Features

- MOSFET
 - Low $R_{DS(on)}$
 - 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 @ $T_i = 25^\circ\text{C}$ 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	$T_c = 25^\circ\text{C}$	350	A
		$T_c = 80^\circ\text{C}$	280	
I_{DM}	Pulsed Drain current	1500		
V_{GS}	Gate - Source Voltage	± 20		V
R_{DSon}	Drain - Source ON Resistance	5		$\text{m}\Omega$
P_D	Maximum Power Dissipation	$T_c = 25^\circ\text{C}$	1670	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 _{D(on)}	Drain – Source on Resistance	V _{GS} = 10V	T _j = 25°C			5	mΩ
		I _D = 280A	T _j = -45°C			3.6	
V _{GS(th)}	Gate Threshold Voltage	V _{GS} = V _{DS} , I _D = 8 mA		2		4	V
I _{GSS}	Gate – Source Leakage Current	V _{GS} = ±20 V, V _{DS} = 0V				±800	nA

Dynamic Characteristics

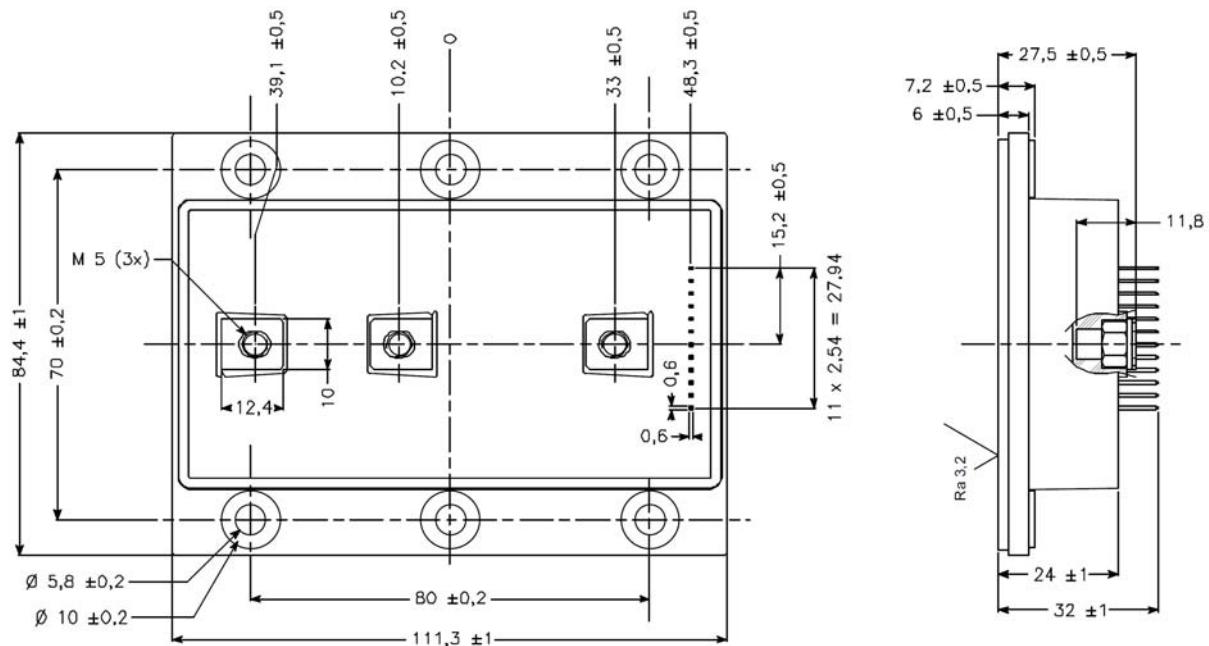
Symbol	Characteristic	Test Conditions		Min	Typ	Max	Unit
C _{iss}	Input Capacitance	V _{GS} = 0V V _{DS} = 25V f = 1MHz			41		nF
C _{oss}	Output Capacitance				9.2		
C _{rss}	Reverse Transfer Capacitance				3.1		
Q _g	Total gate Charge	V _{GS} = 10V V _{Bus} = 100V I _D = 375A			1184		nC
Q _{gs}	Gate – Source Charge				376		
Q _{gd}	Gate – Drain Charge				600		
T _{d(on)}	Turn-on Delay Time	V _{GS} = 15V V _{Bus} = 130V I _D = 280A R _G = 25Ω				500	ns
T _r	Rise Time					350	
T _{d(off)}	Turn-off Delay Time					1000	
T _f	Fall Time					600	
R _{thJC}	Junction to Case Thermal Resistance					0.075	°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°C		350	A		
				T _c = 80°C		280			
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 dI _S /dt = 800A/μs		T _j = 25°C		130	240		
Q _{rr}				T _j = 125°C		155	420		
				T _j = 25°C		8	μC		
				T _j = 125°C		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 _{jmax} -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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