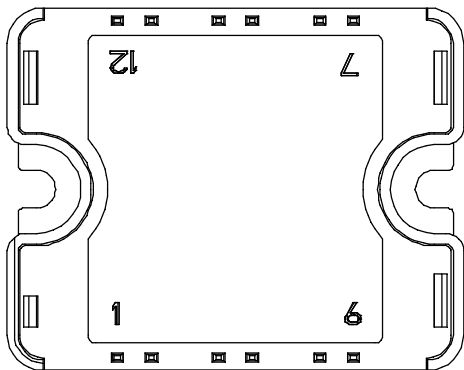
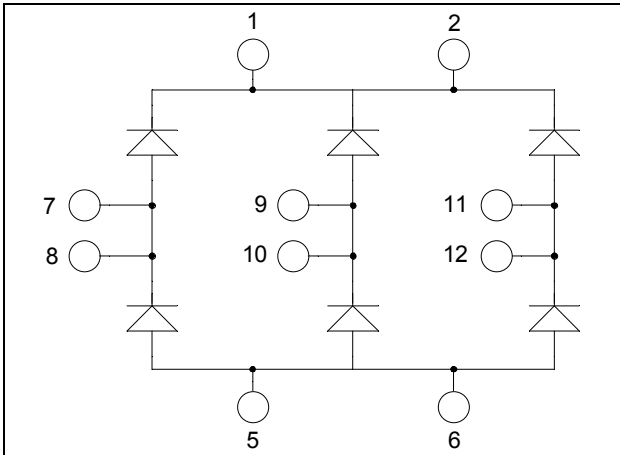


3 Phase rectifier bridge Power Module

$V_{RRM} = 1600V$
 $I_C = 90A @ T_c = 80^\circ C$



All multiple inputs and outputs must be shorted together
 1/2 ; 5/6 ; 7/8 ; 9/10 ; 11/12

Application

- Input rectifiers for inverter
- Battery DC power supply

Features

- High blocking voltage
- High surge current
- Low leakage current
- Very low stray inductance
 - Symmetrical design
- High level of integration

Benefits

- Solderable terminals for easy PCB mounting
- Direct mounting to heatsink (isolated package)
- Low profile
- RoHS compliant

Absolute maximum ratings

Symbol	Parameter	Max ratings	Unit
V_R	Maximum DC reverse Voltage	1600	V
V_{RRM}	Maximum Peak Repetitive Reverse Voltage		
I_F	DC Forward Current	90	A
I_{FSM}	Non-Repetitive Forward Surge Current	850	
		$t=10ms$	
		$T_C = 80^\circ C$	
		$T_J = 45^\circ C$	

CAUTION: These Devices are sensitive to Electrostatic Discharge. Proper Handling Procedures Should Be Followed. See application note APT0502 on www.microsemi.com

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

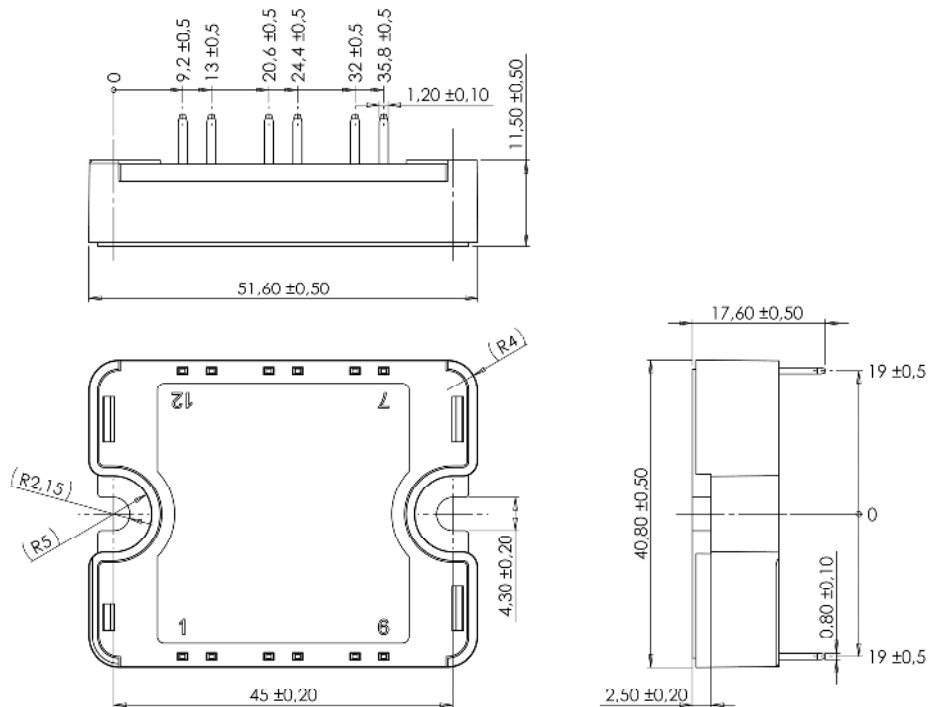
Electrical Characteristics

Symbol	Characteristic	Test Conditions	Min	Typ	Max	Unit
I_R	Reverse Current	$V_R = 1600\text{V}$	$T_j = 25^\circ\text{C}$		50	μA
			$T_j = 125^\circ\text{C}$		4	mA
V_F	Forward Voltage	$I_F = 90\text{A}$	$T_j = 25^\circ\text{C}$		1.3	V
			$T_j = 125^\circ\text{C}$		1.1	
V_T	On – state Voltage			0.8		V
r_T	On – state Slope resistance			4.8		$\text{m}\Omega$

Thermal and package characteristics

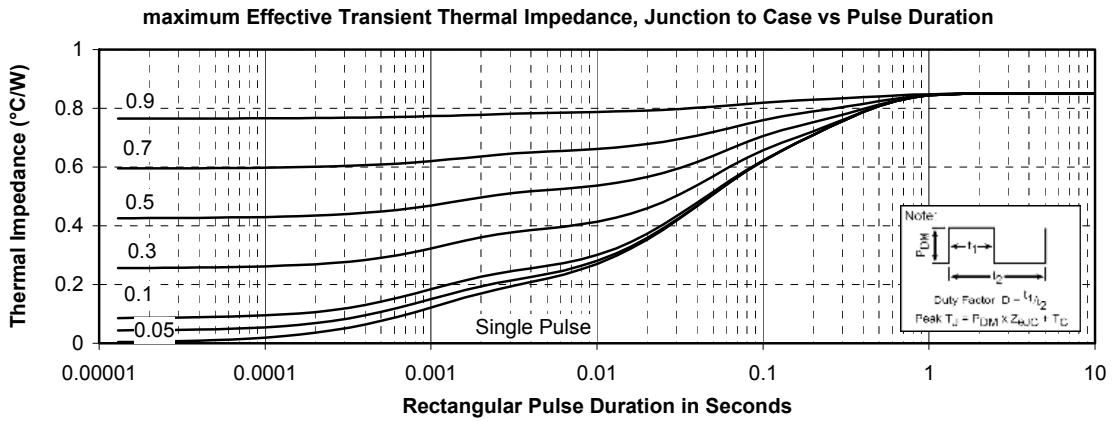
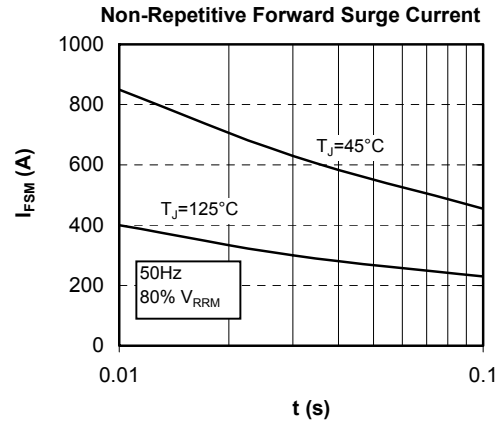
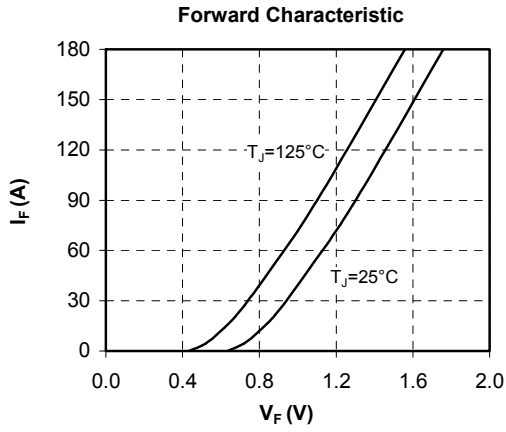
Symbol	Characteristic	Min	Typ	Max	Unit	
R_{thJC}	Junction to Case Thermal Resistance			0.85	$^\circ\text{C}/\text{W}$	
V_{ISOL}	RMS Isolation Voltage, any terminal to case $t=1$ min, 50/60Hz	4000			V	
T_j	Operating junction temperature range	-40		150	$^\circ\text{C}$	
T_{STG}	Storage Temperature Range	-40		125		
T_C	Operating Case Temperature	-40		100		
Torque	Mounting torque	To heatsink	M4	2	3	N.m
Wt	Package Weight				80	g

SP1 Package outline (dimensions in mm)



See application note 1904 - Mounting Instructions for SP1 Power Modules on www.microsemi.com

Typical Performance Curve



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