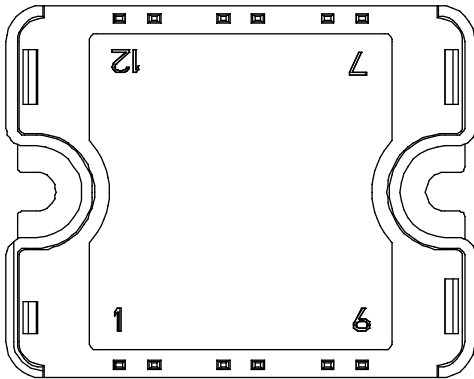
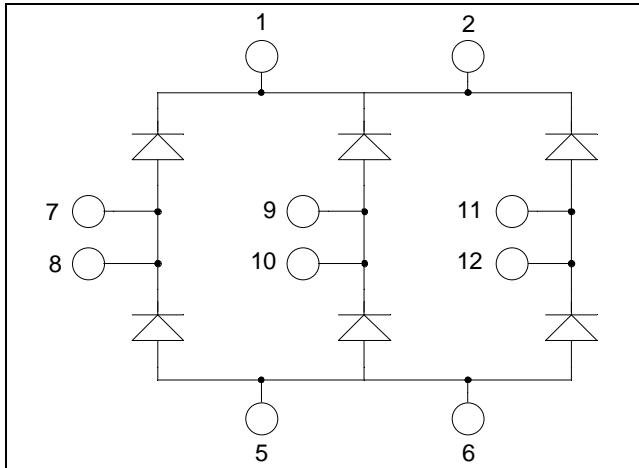


## 3 Phase rectifier bridge Power Module

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



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	$T_J = 45^\circ C$

**CAUTION:** These Devices are sensitive to Electrostatic Discharge. Proper Handling Procedures Should Be Followed. See application note APT0502 on [www.microsemi.com](http://www.microsemi.com)

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

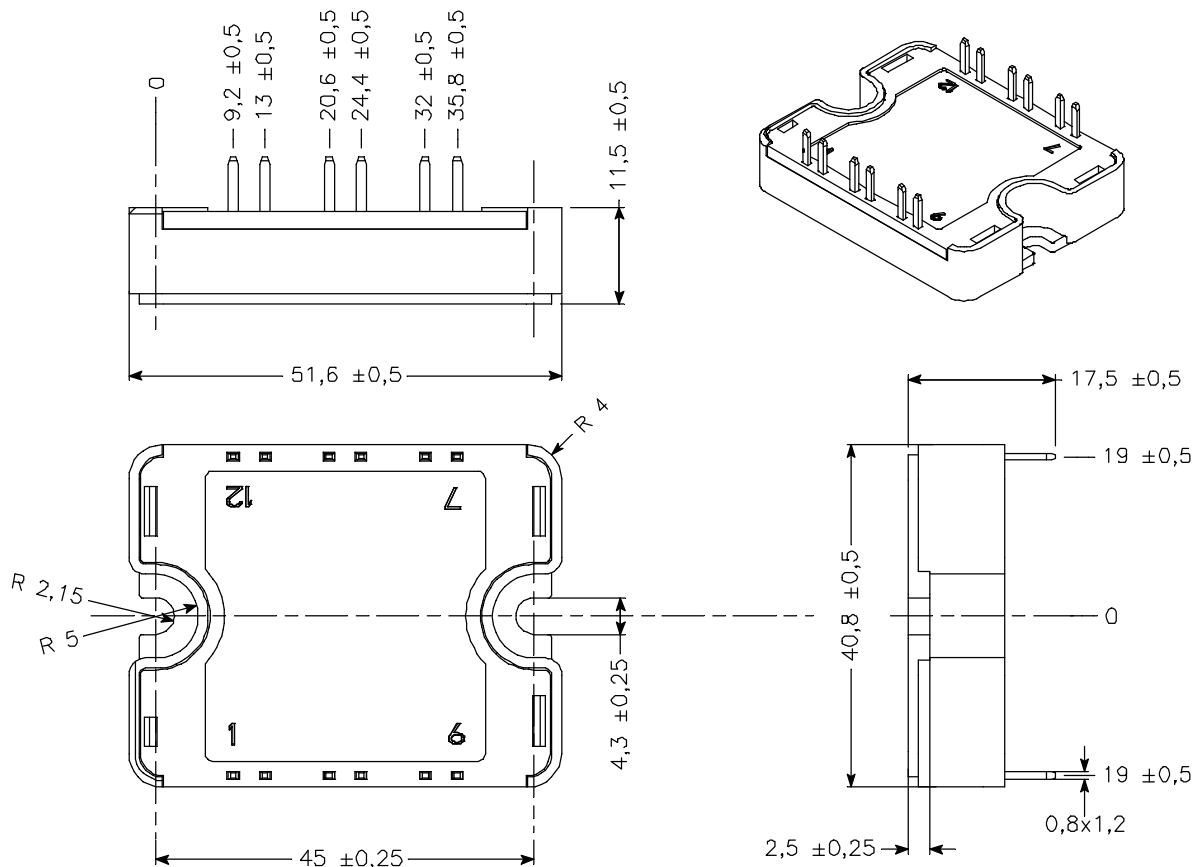
## Electrical Characteristics

Symbol	Characteristic	Test Conditions	Min	Typ	Max	Unit
$I_R$	Reverse Current	$V_R = 1600\text{V}$	$T_j = 25^\circ\text{C}$		50	$\mu\text{A}$
			$T_j = 125^\circ\text{C}$		4	$\text{mA}$
$V_F$	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

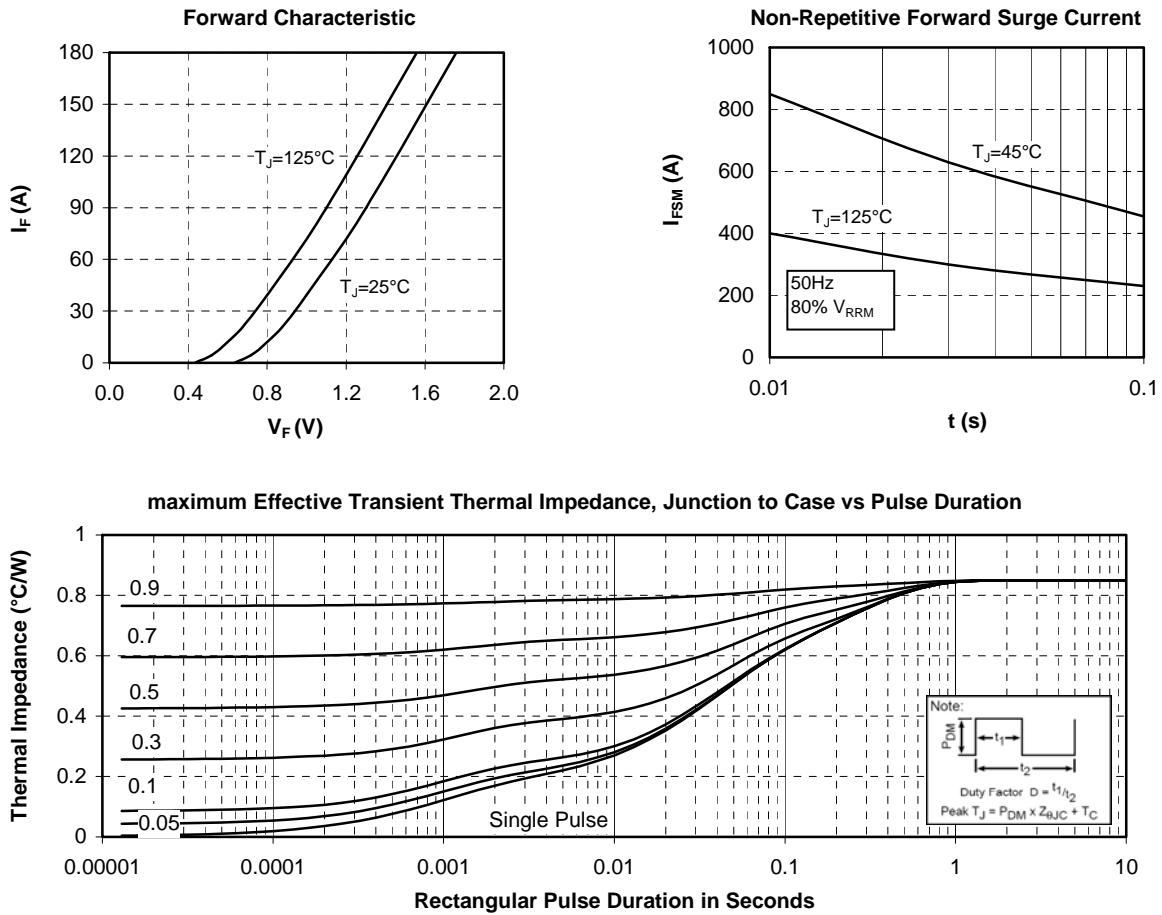
Symbol	Characteristic	Min	Typ	Max	Unit	
$R_{thJC}$	Junction to Case Thermal Resistance			0.85	$^\circ\text{C}/\text{W}$	
$V_{ISOL}$	RMS Isolation Voltage, any terminal to case $t=1$ min, $I_{isol}<1\text{mA}$ , 50/60Hz	3500			V	
$T_J$	Operating junction temperature range	-40		150	$^\circ\text{C}$	
$T_{STG}$	Storage Temperature Range	-40		125		
$T_C$	Operating Case Temperature	-40		100		
Torque	Mounting torque	To heatsink	M4	2.5	4.7	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](http://www.microsemi.com)

## Typical Performance Curve



Microsemi reserves the right to change, without notice, the specifications and information contained herein

Microsemi's products are covered by one or more of U.S. patents 4,895,810 5,045,903 5,089,434 5,182,234 5,019,522 5,262,336 6,503,786 5,256,583 4,748,103 5,283,202 5,231,474 5,434,095 5,528,058 and foreign patents. U.S. and Foreign patents pending. All Rights Reserved.