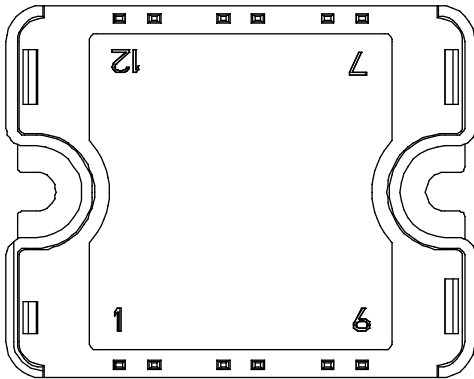
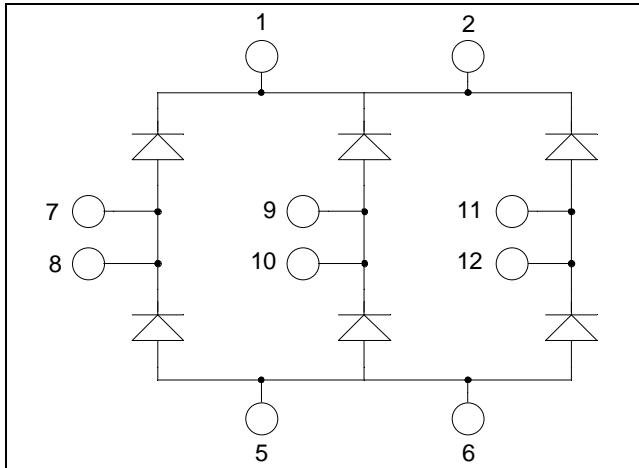


## 3 Phase rectifier bridge Power Module

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



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

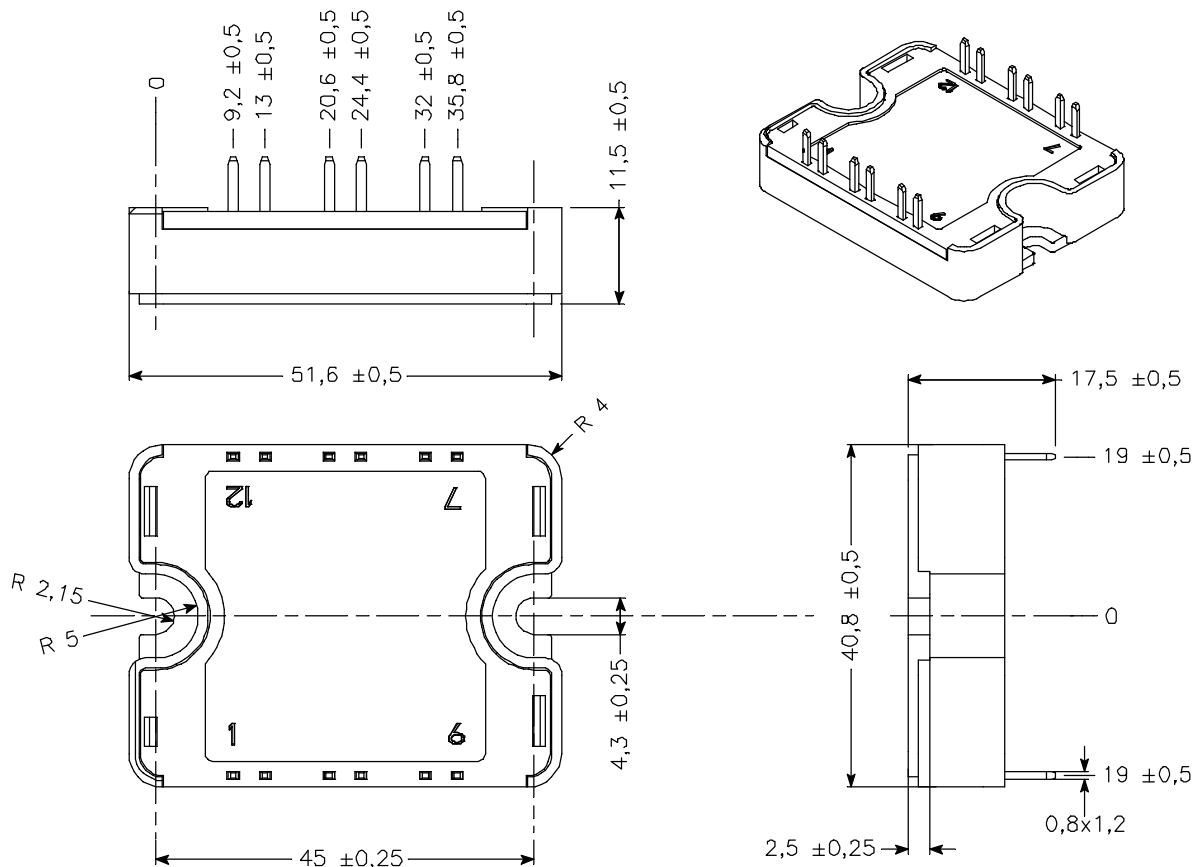
## Electrical Characteristics

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

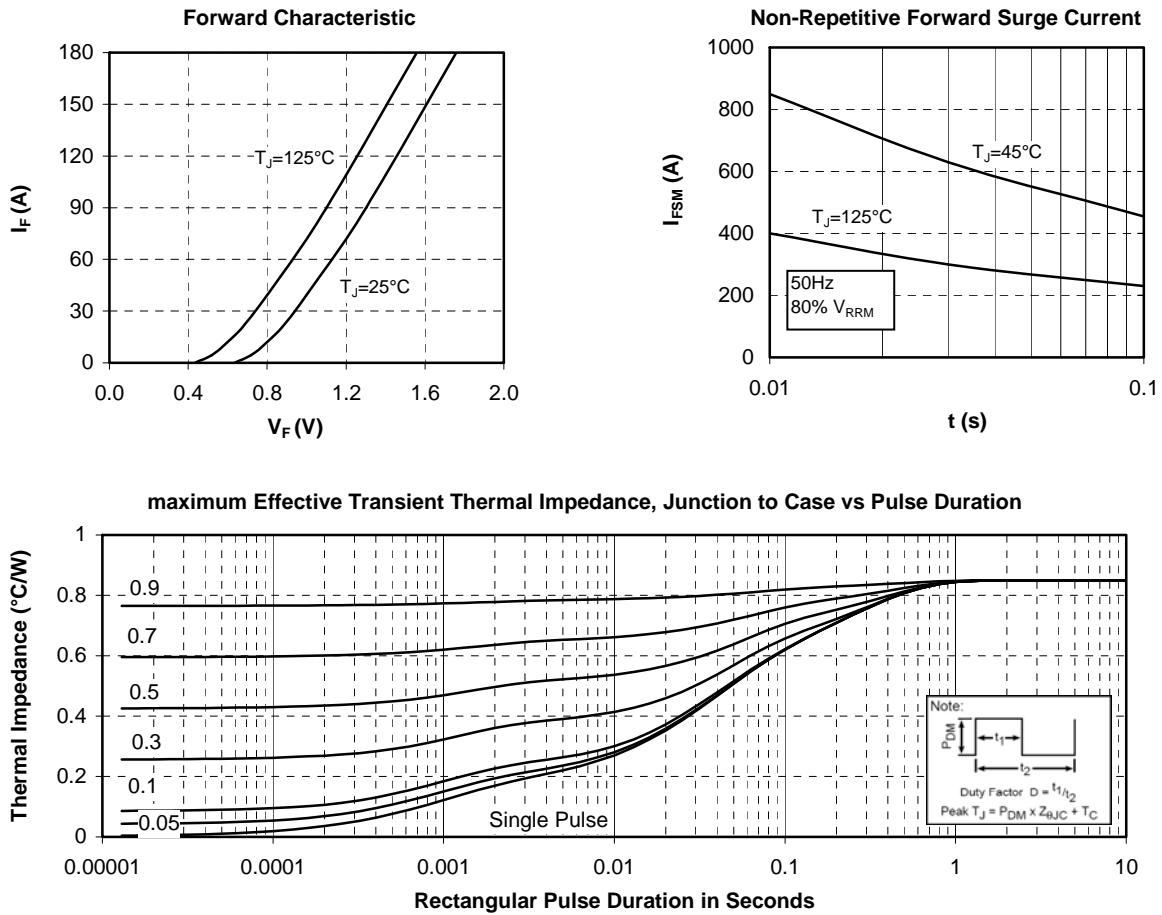
Symbol	Characteristic	Min	Typ	Max	Unit	
$R_{thJC}$	Junction to Case Thermal Resistance			0.85	$^\circ\text{C}/\text{W}$	
$V_{ISOL}$	RMS Isolation Voltage, any terminal to case $t=1\text{ min}$ , $I_{isol}<1\text{mA}$ , 50/60Hz	3500			V	
$T_J$	Operating junction temperature range	-40		150	$^\circ\text{C}$	
$T_{STG}$	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

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