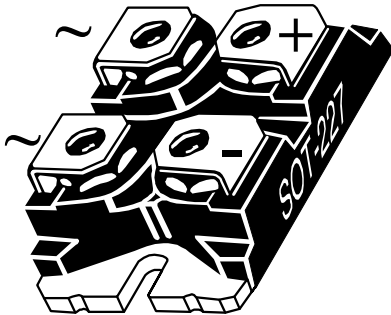
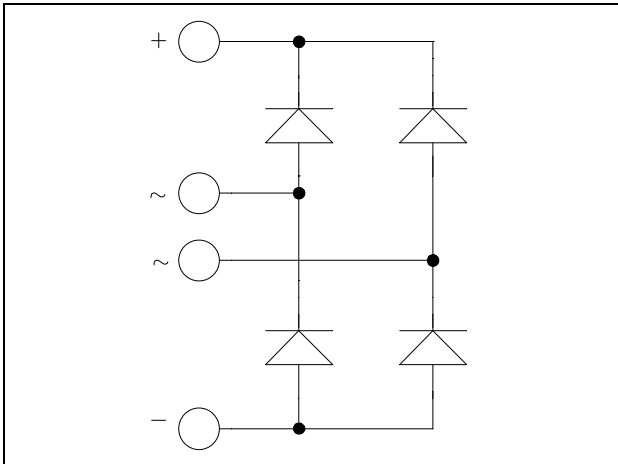


**ISOTOP<sup>®</sup> Rectifier diode  
full bridge Power Module**

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



### Application

- Input mains rectifier

### Features

- Planar double passivated chips
- High blocking voltage
- High current
- Low leakage current
- Very low stray inductance
- High level of integration
- ISOTOP<sup>®</sup> Package (SOT-227)

### Benefits

- Outstanding performance at high frequency operation
- Low losses
- Low noise switching
- Direct mounting to heatsink (isolated package)
- Low junction to case thermal resistance
- 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	80	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

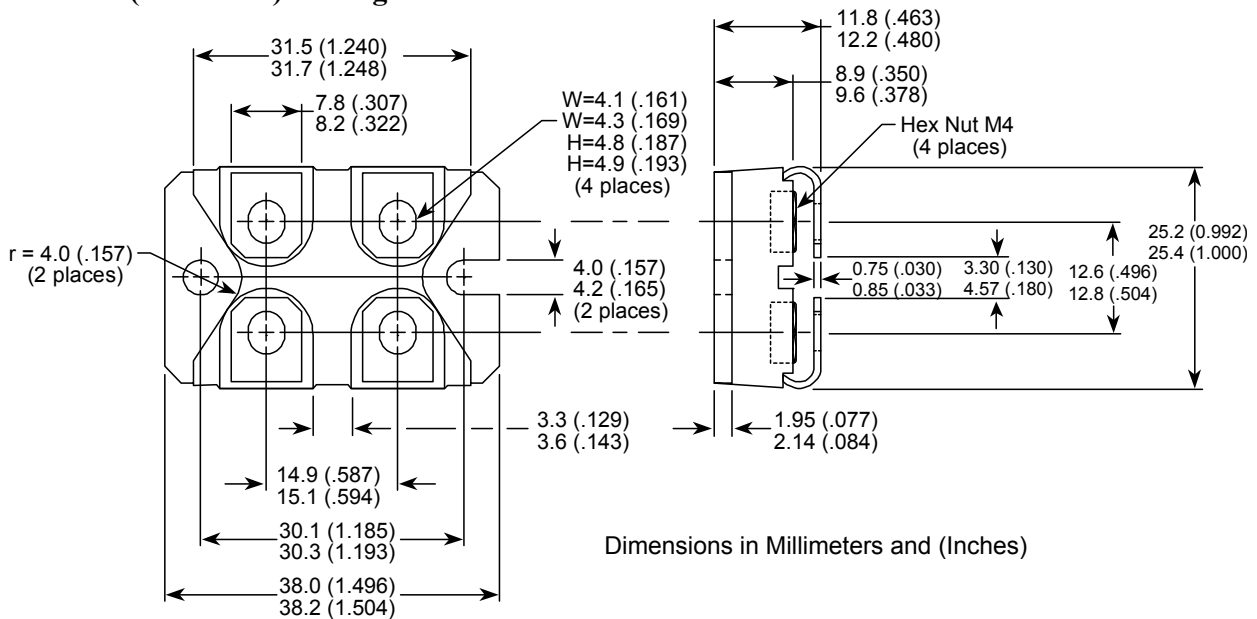
### Electrical Characteristics

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		$\text{m}\Omega$

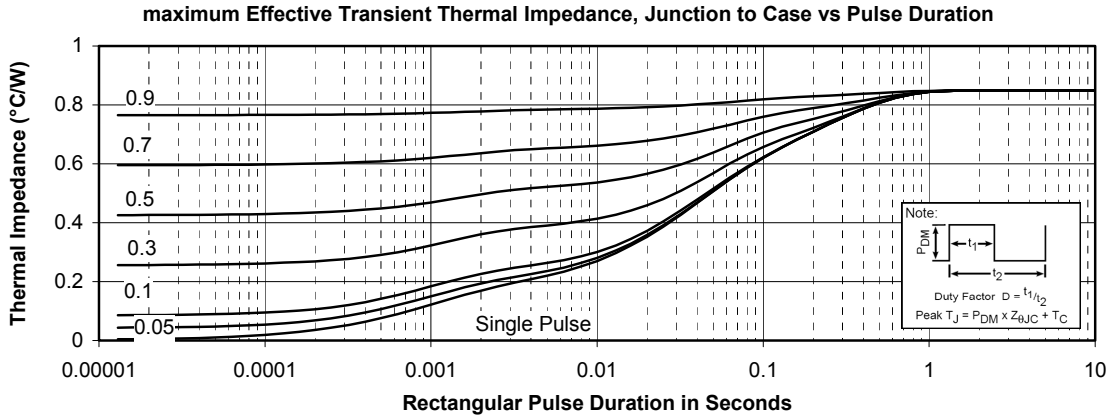
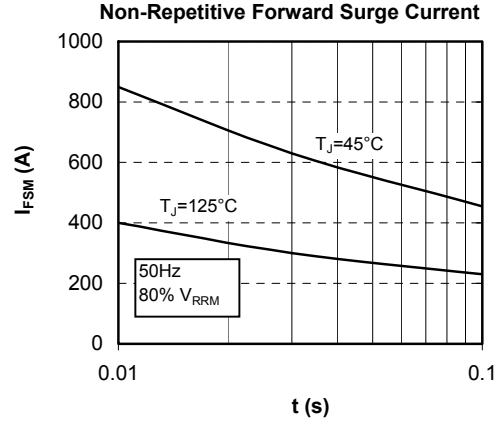
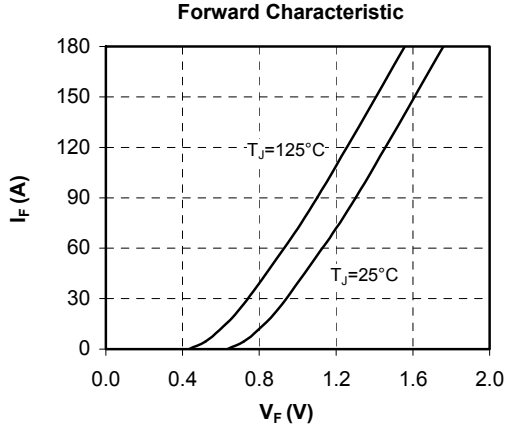
### Thermal and package characteristics

Symbol	Characteristic	Min	Typ	Max	Unit
$R_{thJC}$	Junction to Case Thermal resistance			0.85	$^\circ\text{C}/\text{W}$
$R_{thJA}$	Junction to Ambient			20	$^\circ\text{C}/\text{W}$
$V_{ISOL}$	RMS Isolation Voltage, any terminal to case $t=1$ min, 50/60Hz	2500			V
$T_J, T_{STG}$	Storage Temperature Range	-55		150	$^\circ\text{C}$
$T_L$	Max Lead Temp for Soldering: 0.063" from case for 10 sec			300	
Torque	Mounting torque (Mounting = 8-32 or 4mm Machine and terminals = 4mm Machine)			1.5	N.m
Wt	Package Weight		29.2		g

### SOT-227 (ISOTOP<sup>®</sup>) Package Outline



**Typical Performance Curve**



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