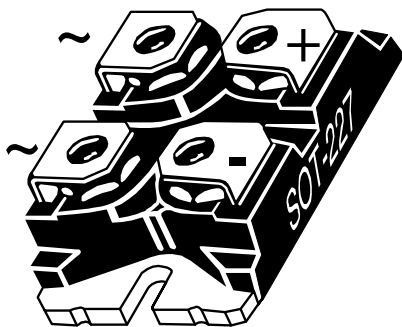
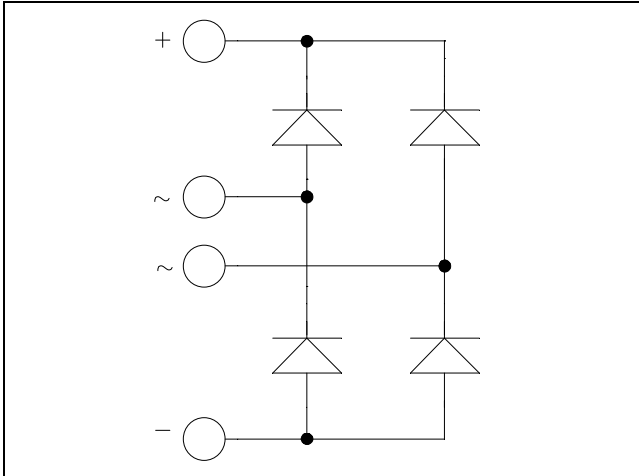


**ISOTOP[®] Rectifier diode
full bridge Power Module**

**$V_{RRM} = 1600V$
 $I_F = 40A @ T_c = 80^{\circ}C$**



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[®] 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 | $T_c = 80^{\circ}C$ | A |
| I_{FSM} | Non-Repetitive Forward Surge Current | $t=10ms$ $T_J = 45^{\circ}C$ | |

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

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

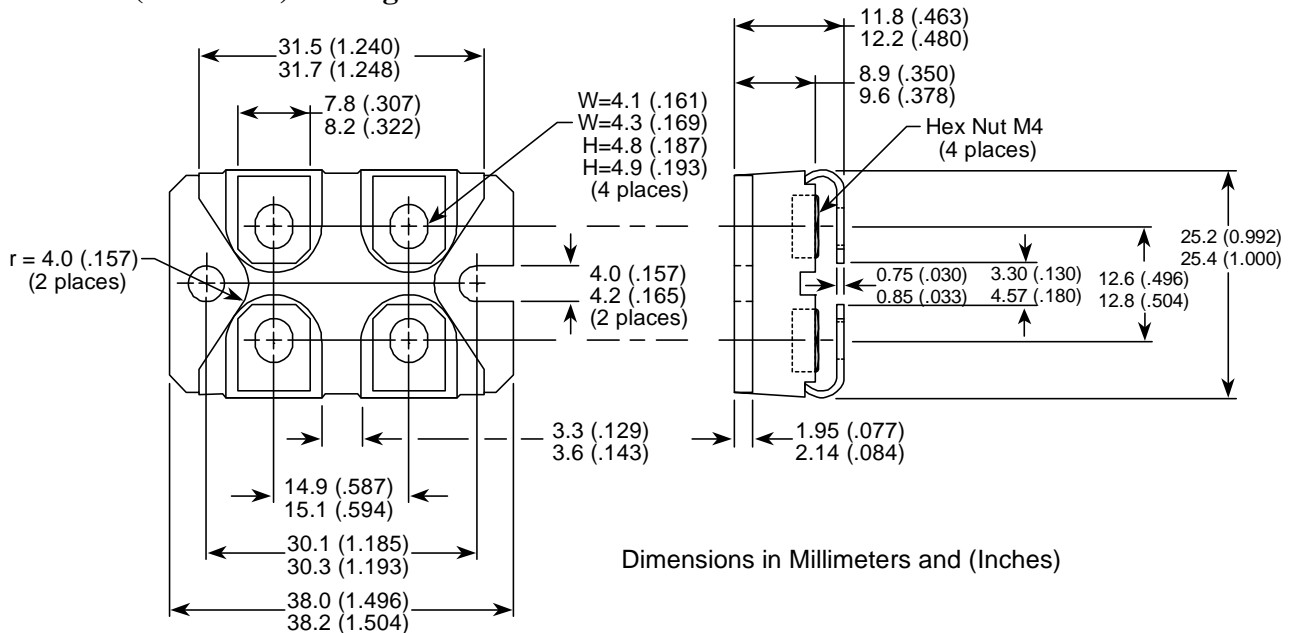
Electrical Characteristics

| Symbol | Characteristic | Test Conditions | Min | Typ | Max | Unit |
|--------|-----------------------------|----------------------|---------------------------|------|-----|------------------|
| I_R | Reverse Current | $V_R = 1600\text{V}$ | $T_j = 25^\circ\text{C}$ | | 20 | μA |
| | | | $T_j = 125^\circ\text{C}$ | | 2 | mA |
| V_F | Forward Voltage | $I_F = 40\text{A}$ | $T_j = 25^\circ\text{C}$ | | 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 | | | 10.5 | | $\text{m}\Omega$ |

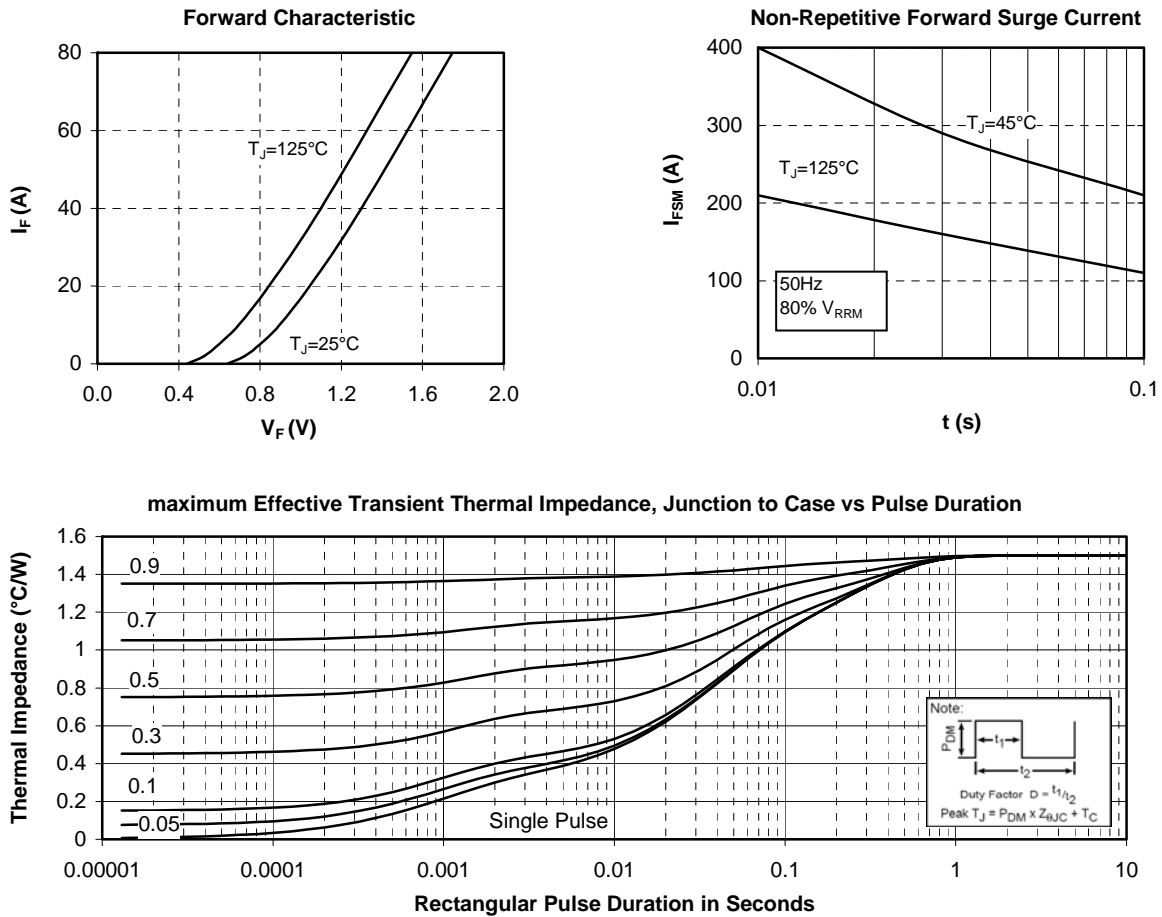
Thermal and package characteristics

| Symbol | Characteristic | Min | Typ | Max | Unit |
|----------------|--|------|------|-----|---------------------------|
| R_{thJC} | Junction to Case Thermal resistance | | | 1.5 | $^\circ\text{C}/\text{W}$ |
| R_{thJA} | Junction to Ambient | | | 20 | $^\circ\text{C}/\text{W}$ |
| V_{ISOL} | RMS Isolation Voltage, any terminal to case $t=1$ min, $I_{isol}<1\text{mA}$, 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 | $\text{N}\cdot\text{m}$ |
| Wt | Package Weight | | 29.2 | | g |

SOT-227 (ISOTOP[®]) Package Outline



Typical Performance Curve



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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 6,939,743 7,352,045 5,283,201 5,801,417 5,648,283 7,196,634 6,664,594 7,157,886 6,939,743 7,342,262 and foreign patents. U.S. and Foreign patents pending. All Rights Reserved.