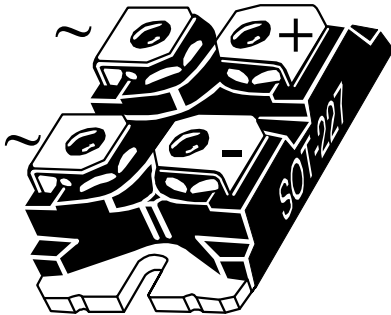
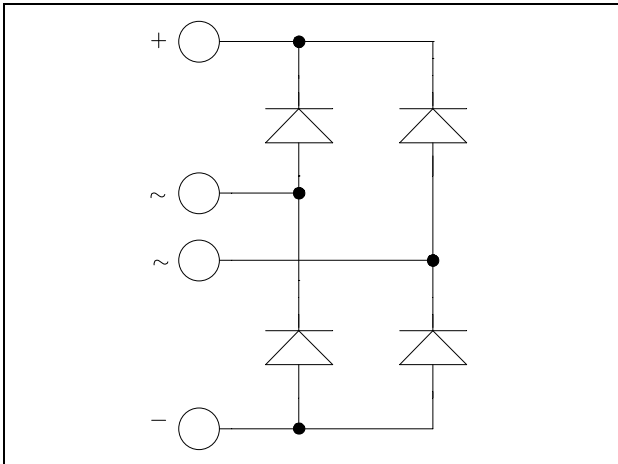


**ISOTOP[®] Rectifier diode
full bridge Power Module**

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



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[®] 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

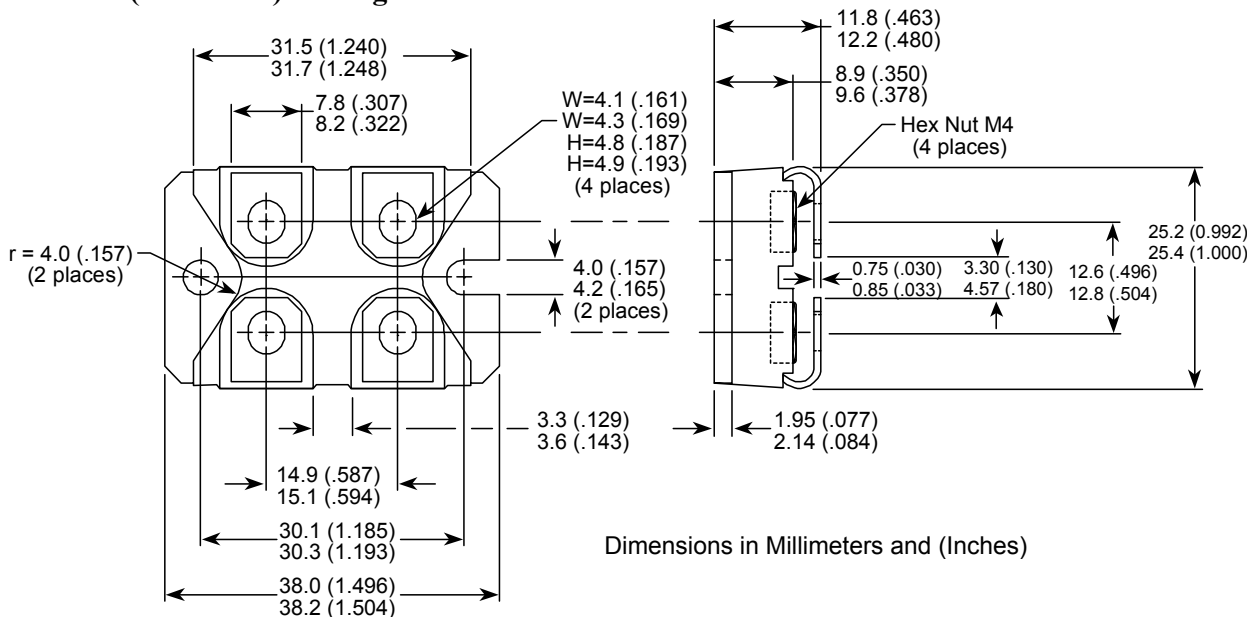
All ratings @ $T_j = 25^\circ\text{C}$ unless otherwise specified

Electrical Characteristics

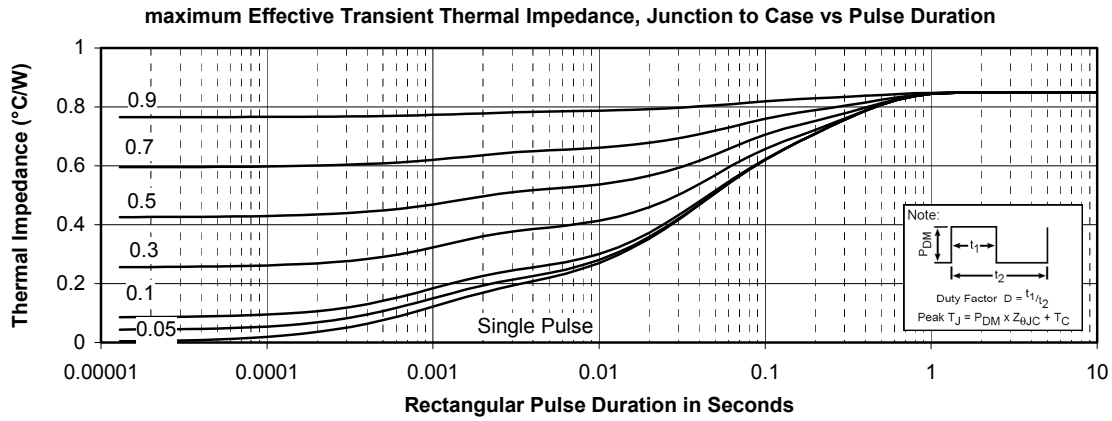
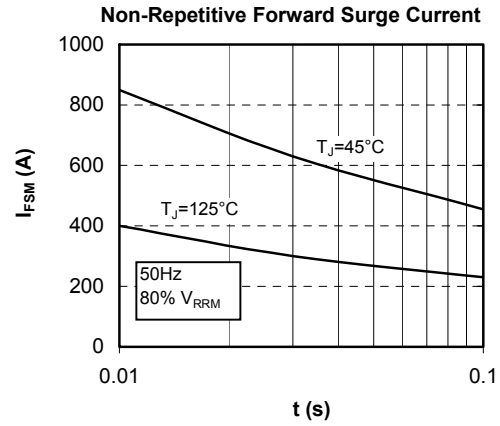
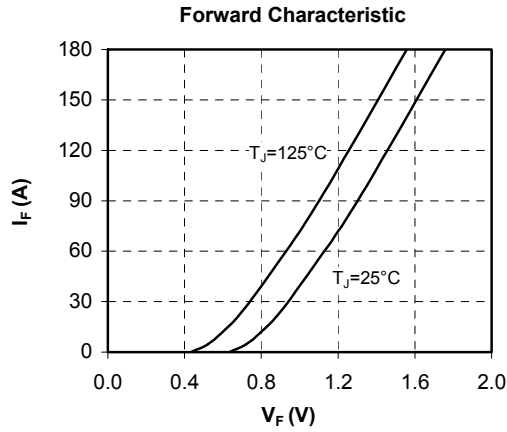
| Symbol | Characteristic | Test Conditions | Min | Typ | Max | Unit |
|--------|-----------------------------|----------------------|---------------------------|-----|-----|------------------|
| I_R | Reverse Current | $V_R = 1600\text{V}$ | $T_j = 25^\circ\text{C}$ | | 50 | μA |
| | | | $T_j = 125^\circ\text{C}$ | | 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 | $^\circ\text{C}/\text{W}$ |
| 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[®]) Package Outline


Typical Performance Curve



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