

TECHNICAL DATA
DATA SHEET 956, REV. B

HERMETIC POWER SCHOTTKY RECTIFIER

Very Low Forward Voltage Drop

Applications:

- Switching Power Supply • Converters • Free-Wheeling Diodes • Polarity Protection Diode

Features:

- Soft Reverse Recovery at Low and High Temperature
- Very Low Forward Voltage Drop
- Low Reverse Leakage Current
- Low Power Loss, High Efficiency
- High Surge Capacity
- Guard Ring for Enhanced Durability and Long Term Reliability
- Add a "C" after the SHD for ceramic seals (SHDC125446)

Maximum Ratings:

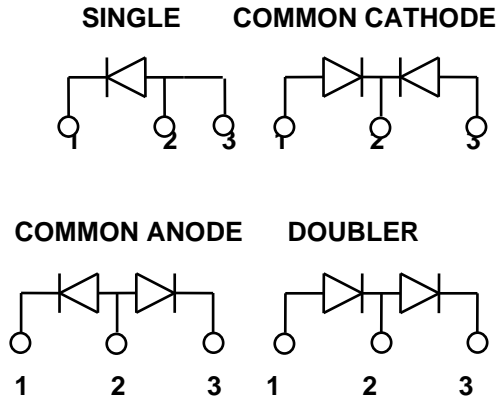
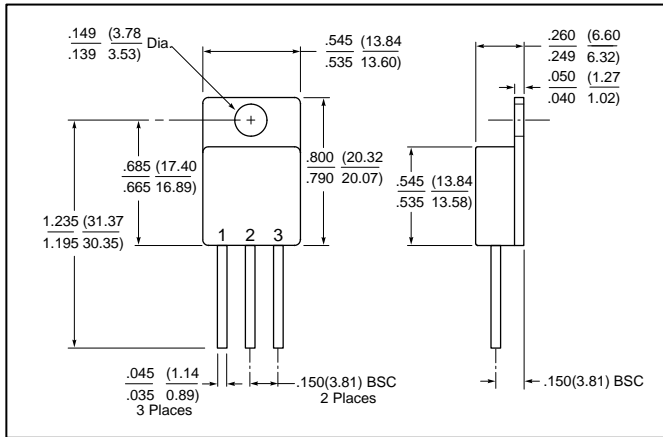
| Characteristics | Symbol | Condition | Max. | Units |
|---|-----------------|---|-------------|--------------------|
| Peak Inverse Voltage | V_{RWM} | - | 200 | V |
| Max. Average Forward Current Common Cathode / Anode | $I_{F(AV)}$ | 50% duty cycle, rectangular wave form | 30 | A |
| Max. Average Forward Current Single / Doubler | $I_{F(AV)}$ | 50% duty cycle, rectangular wave form | 15 | A |
| Max. Peak One Cycle Surge Current Non-Repetitive per leg | I_{FSM} | 8.3 ms, half Sine wave (per leg) | 200 | A |
| Non-Repetitive Avalanche Energy per leg | E_{AS} | $T_J = 25\text{ }^\circ\text{C}$, $I_{AS} = 0.75\text{ A}$, $L = 40\text{mH}$ | 16 | mJ |
| Repetitive Avalanche Current per leg | I_{AR} | I_{AS} decay linearly to 0 in $1\text{ }\mu\text{s}$ f limited by T_J max $V_A=1.5V_R$ | 0.75 | A |
| Thermal Resistance (per leg) | $R_{\theta JC}$ | - | 0.94 | $^\circ\text{C/W}$ |
| Max. Junction Temperature | T_J | - | -65 to +200 | $^\circ\text{C}$ |
| Max. Storage Temperature | T_{stg} | - | -65 to +175 | $^\circ\text{C}$ |

Electrical Characteristics:

| Characteristics | Symbol | Condition | Max. | Units |
|--|----------|--|------|-------|
| Max. Forward Voltage Drop (per leg) | V_{F1} | @ 30A, Pulse, $T_J = 25\text{ }^\circ\text{C}$ | 1.09 | V |
| | V_{F2} | @ 30A, Pulse, $T_J = 125\text{ }^\circ\text{C}$ | 0.93 | V |
| Max. Reverse Current (per leg) | I_{R1} | @ $V_R = 200\text{V}$, Pulse, $T_J = 25\text{ }^\circ\text{C}$ | 0.7 | mA |
| | I_{R2} | @ $V_R = 200\text{V}$, Pulse, $T_J = 125\text{ }^\circ\text{C}$ | 16 | mA |
| Max. Junction Capacitance (per leg) | C_T | @ $V_R = 5\text{V}$, $T_C = 25\text{ }^\circ\text{C}$ $f_{SIG} = 1\text{MHz}$, $V_{SIG} = 50\text{mV}$ (p-p) | 600 | pF |
| Max. Reverse Recovery Time | t_{rr} | $I_F = 0.5\text{ A}$, $I_R = 1.0\text{ A}$, $I_{RM} = 0.25\text{ A}$, $T_J = 25\text{ }^\circ\text{C}$ | 50 | nsec |

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Mechanical Dimensions: In Inches / mm



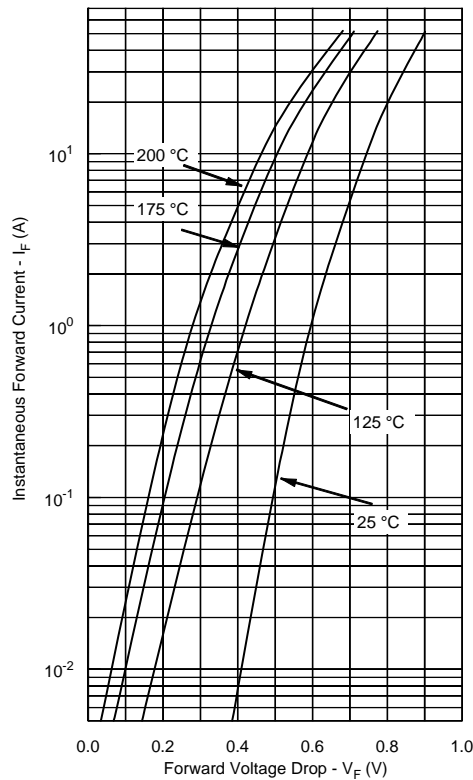
TO-254

PINOUT TABLE

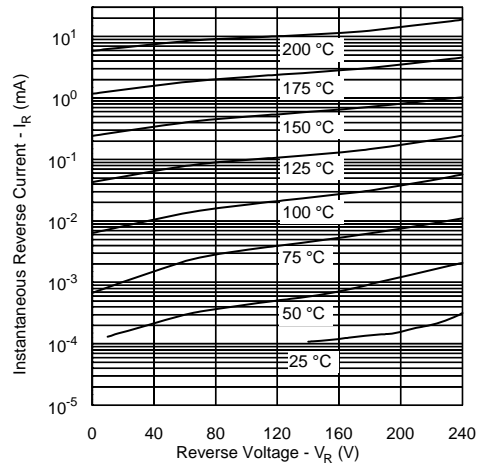
| TYPE | PIN 1 | PIN 2 | PIN 3 |
|------------------------------------|-----------|----------------|-----------|
| SINGLE RECTIFIER | CATHODE | ANODE | ANODE |
| DUAL RECTIFIER, COMMON CATHODE (P) | ANODE 1 | COMMON CATHODE | ANODE 2 |
| DUAL RECTIFIER, COMMON ANODE (N) | CATHODE 1 | COMMON ANODE | CATHODE 2 |
| DUAL RECTIFIER, DOUBLER (D) | ANODE | CATHODE/ ANODE | CATHODE |

Curves shown are for bare die only.

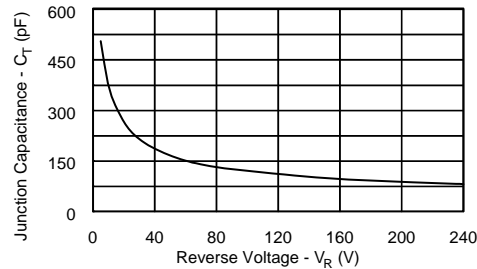
Typical Forward Characteristics



Typical Reverse Characteristics



Typical Junction Capacitance



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