

TECHNICAL DATA  
DATA SHEET 372, REV. A

**SCHOTTKY RECTIFIER**  
**Ultra Low Reverse Leakage**  
**200°C Operating Temperature**

**Applications:**

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

**Features:**

- Ultra low Reverse Leakage Current
- Soft Reverse Recovery at Low and High Temperature
- Very Low Forward Voltage Drop
- Low Power Loss, High Efficiency
- High Surge Capacity
- Guard Ring for Enhanced Durability and Long Term Reliability
- Guaranteed Reverse Avalanche Characteristics
- Out Performs 100 Volt Ultrafast Rectifiers

**Maximum Ratings:**

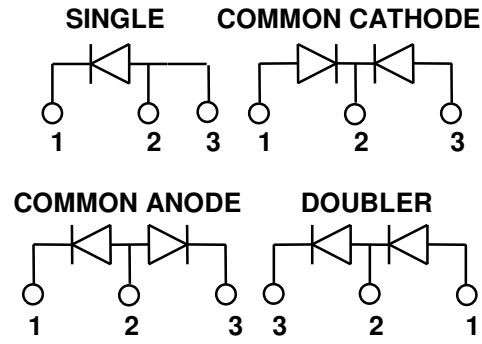
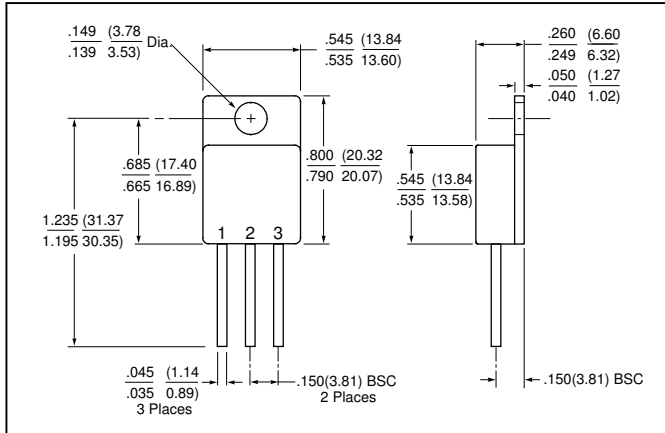
| Characteristics   | Symbol          | Condition  | Max.        | Units              |
|---|-----------------|--|-------------|--------------------|
| Peak Inverse Voltage  | $V_{RWM}$       | -  | 100         | V                  |
| Max. Average Forward Current  | $I_{F(AV)}$     | 50% duty cycle, rectangular wave form<br>-Common Cathode (P) / Anode (N)<br>-Doubler (D) | 6.0<br>3.0  | A                  |
| Max. Peak One Cycle Non-Repetitive Surge Current (per leg)          | $I_{FSM}$       | 8.3 ms, half Sine wave   | 55          | A                  |
| Non-Repetitive Avalanche Energy (per leg)                           | $E_{AS}$        | $T_J = 25\text{ }^\circ\text{C}$ , $I_{AS} = 0.23\text{A}$ ,<br>$L = 130\text{ mH}$      | 3.5         | mJ                 |
| Repetitive Avalanche Current (per leg)                              | $I_{AR}$        | $I_{AS}$ decay linearly to 0 in 1 $\mu\text{s}$<br>$f$ limited by $T_J$ max $V_A=1.5V_R$ | 0.23        | A                  |
| Maximum Thermal Resistance (Junction to Mounting Surface) (per leg) | $R_{\theta JC}$ | -  | 9.2         | $^\circ\text{C/W}$ |
| 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) | $V_{F1}$ | @ 3A, Pulse, $T_J = 25\text{ }^\circ\text{C}$  | 0.94 | V             |
|                                     | $V_{F2}$ | @ 3A, Pulse, $T_J = 125\text{ }^\circ\text{C}$   | 0.78 | V             |
| Max. Reverse Current (per leg)      | $I_{R1}$ | @ $V_R = 100\text{V}$ , Pulse,<br>$T_J = 25\text{ }^\circ\text{C}$   | 5.0  | $\mu\text{A}$ |
|                                     | $I_{R2}$ | @ $V_R = 100\text{V}$ , Pulse,<br>$T_J = 125\text{ }^\circ\text{C}$  | 0.25 | mA            |
| Max. Junction Capacitance (per leg) | $C_T$    | @ $V_R = 5\text{V}$ , $T_C = 25\text{ }^\circ\text{C}$<br>$f_{SIG} = 1\text{MHz}$ ,<br>$V_{SIG} = 50\text{mV}$ (p-p) | 100  | pF            |

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**Mechanical Dimensions: In Inches / mm**

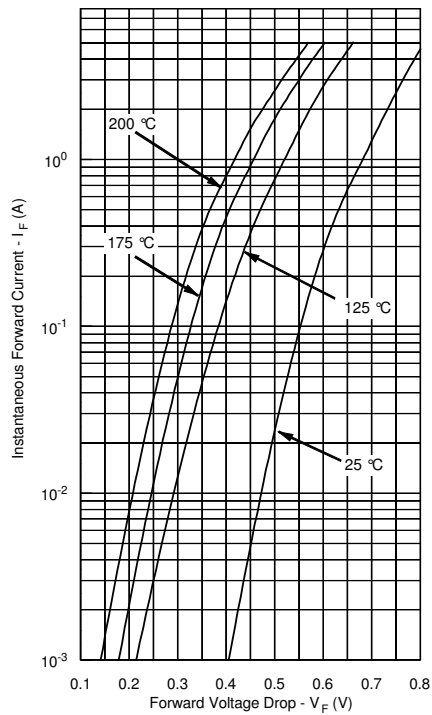


**TO-254**

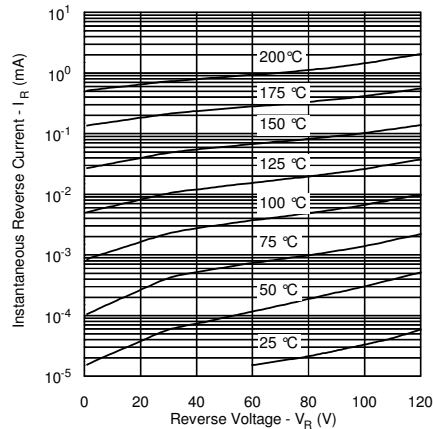
**PINOUT TABLE**

| 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     | ANODE/CATHODE  | CATHODE   |

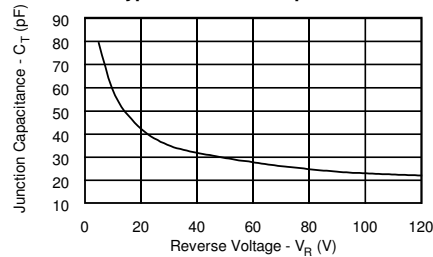
**Typical Forward Characteristics**



**Typical Reverse Characteristics**



**Typical Junction Capacitance**



**Note:** The  $V_f$  curves shown are for the SD060SCU100 unpackaged die only.

**TECHNICAL DATA**

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