

TECHNICAL DATA  
DATA SHEET 777, REV. A

## SILICON SCHOTTKY RECTIFIER

### Very Low Forward Voltage Drop

#### Features:

- 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

#### Maximum Ratings

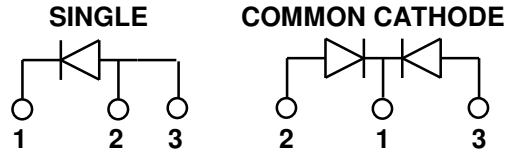
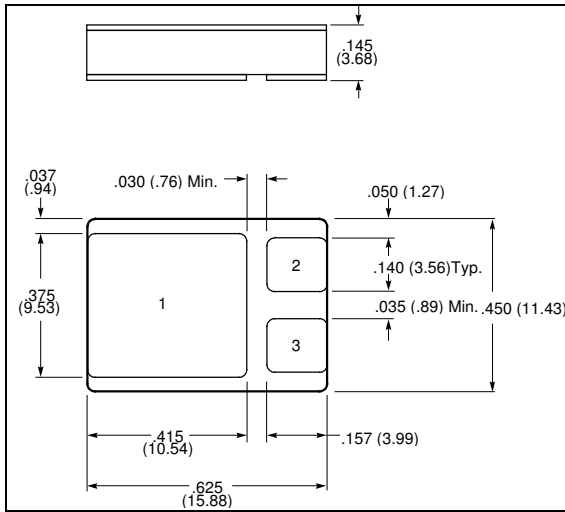
| Characteristics                                  | Symbol          | Condition   | Max.         | Units              |
|--|-----------------|---|--------------|--------------------|
| Peak Inverse Voltage                             | $V_{RWM}$       | -   | 45           | V                  |
| Max. Average Forward Current                     | $I_{F(AV)}$     | 50% duty cycle, rectangular wave form (Single)  | 15           | A                  |
| Max. Average Forward Current                     | $I_{F(AV)}$     | 50% duty cycle, rectangular wave form (Common Cathode)  | 30           | A                  |
| Max. Peak One Cycle Non-Repetitive Surge Current | $I_{FSM}$       | 8.3 ms, half Sine wave (per leg)  | 200          | A                  |
| Non-Repetitive Avalanche Energy                  | $E_{AS}$        | $T_J = 25\text{ }^\circ\text{C}$ , $I_{AS} = 3.0\text{ A}$ ,<br>$L = 4.4\text{ mH}$ (per leg) | 20           | mJ                 |
| Repetitive Avalanche Current                     | $I_{AR}$        | $I_{AS}$ decay linearly to 0 in 1 $\mu\text{s}$<br>$f$ limited by $T_J$ max $V_A = 1.5V_R$    | 3.0          | A                  |
| Maximum Thermal Resistance                       | $R_{\theta JC}$ | (Single)<br>(Common Cathode)  | 1.21<br>0.61 | $^\circ\text{C/W}$ |
| Max. Junction Temperature                        | $T_J$           | -   | -65 to +175  | $^\circ\text{C}$   |
| Max. Storage Temperature                         | $T_{stg}$       | -   | -65 to +175  | $^\circ\text{C}$   |

#### Electrical Characteristics

| Characteristics                     | Symbol   | Condition  | Max. | Units |
|-------------------------------------|----------|--|------|-------|
| Max. Forward Voltage Drop (per leg) | $V_{F1}$ | @ 15A, Pulse, $T_J = 25\text{ }^\circ\text{C}$   | 0.73 | V     |
|                                     | $V_{F2}$ | @ 15A, Pulse, $T_J = 125\text{ }^\circ\text{C}$  | 0.66 | V     |
| Max. Reverse Current (per leg)      | $I_{R1}$ | @ $V_R = 45\text{V}$ , Pulse, $T_J = 25\text{ }^\circ\text{C}$   | 2.0  | mA    |
|                                     | $I_{R2}$ | @ $V_R = 45\text{V}$ , Pulse, $T_J = 125\text{ }^\circ\text{C}$  | 15   | 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) | 800  | pF    |

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**MECHANICAL DIMENSIONS: IN Inches / mm**



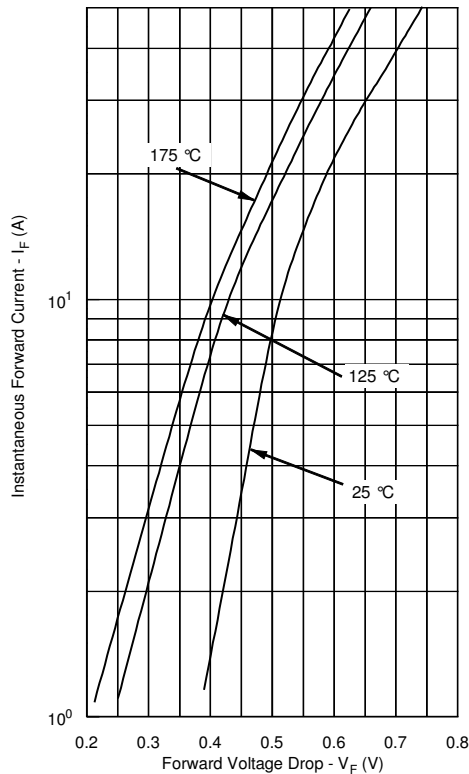
**LCC-3P**

**PINOUT TABLE**

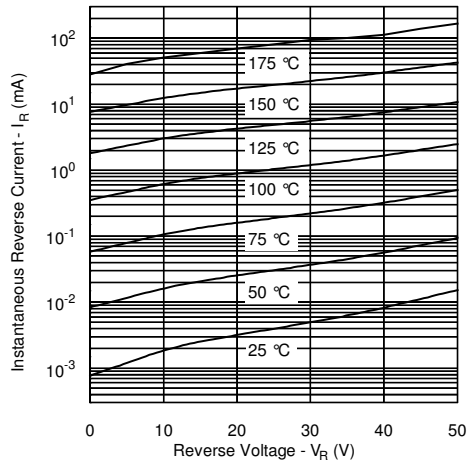
| DEVICE TYPE      | PIN 1          | PIN 2   | PIN 3   |
|------------------|----------------|---------|---------|
| SINGLE RECTIFIER | CATHODE        | ANODE   | ANODE   |
| COMMON CATHODE   | COMMON CATHODE | ANODE 1 | ANODE 2 |

**Note:** The  $V_f$  curves shown are for the SD125SB45 unpackaged die only.

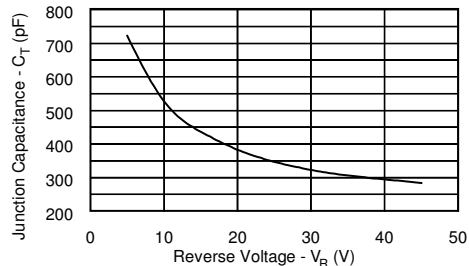
**Typical Forward Characteristics**



**Typical Reverse Characteristics**



**Typical Junction Capacitance**



**TECHNICAL DATA**

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