

**SCHOTTKY RECTIFIER**  
**HIGH EFFICIENCY SERIES**

**75SLQ045**

**75 Amp, 45V**

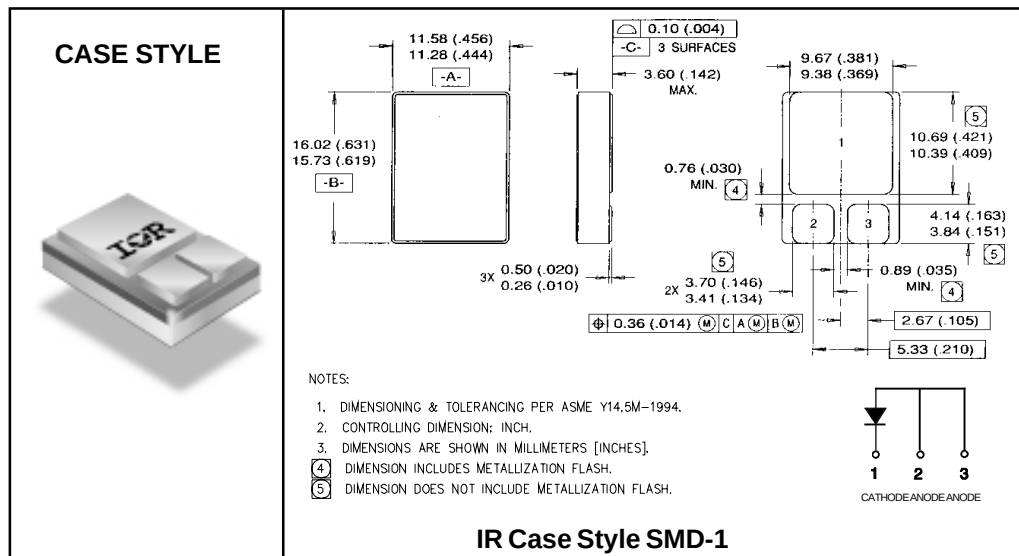
**Major Ratings and Characteristics**

| Characteristics                          | 75SLQ045   | Units      |
|------------------------------------------|------------|------------|
| $I_{F(AV)}$                              | 75         | A          |
| $V_{RRM}$                                | 45         | V          |
| $I_{FSM}$ @ $t_p = 8.3ms$ half-sine      | 500        | A          |
| $V_F$ @ $75A_{pk}$ , $T_J = 125^\circ C$ | 0.6        | V          |
| $T_J$ , $T_{stg}$ Operating and storage  | -55 to 150 | $^\circ C$ |

**Description/Features**

The 75SLQ045 Schottky rectifier has been expressly designed to meet the rigorous requirements of hi-rel environments. It is packaged in the hermetic surface mount SMD-1 ceramic package. The device's forward voltage drop and reverse leakage current are optimized for the lowest power loss and the highest circuit efficiency for typical high frequency switching power supplies and resonant power converters. Full MIL-PRF-19500 quality conformance testing is available on source control drawings to TX, TXV and S quality levels.

- Hermetically Sealed
- Low Forward Voltage Drop
- High Frequency Operation
- Guard Ring for Enhanced Ruggedness and Long term Reliability
- Surface Mount
- Lightweight



**Voltage Ratings**

|                                                        |          |
|--------------------------------------------------------|----------|
| Part number                                            | 75SLQ045 |
| V <sub>R</sub> Max. DC Reverse Voltage (V)             | 45       |
| V <sub>RWM</sub> Max. Working Peak Reverse Voltage (V) |          |

**Absolute Maximum Ratings**

| Parameters                                                          | Limits | Units | Conditions                                              |
|---------------------------------------------------------------------|--------|-------|---------------------------------------------------------|
| I <sub>F(AV)</sub> Max. Average Forward Current<br>See Fig. 5       | 75     | A     | 50% duty cycle @ T <sub>C</sub> = 78°C, square waveform |
| I <sub>FSM</sub> Max. Peak One Cycle Non - Repetitive Surge Current | 500    | A     | @ t <sub>p</sub> = 8.3 ms half-sine                     |

**Electrical Specifications**

| Parameters                                                  | Limits | Units | Conditions                                                 |
|-------------------------------------------------------------|--------|-------|------------------------------------------------------------|
| V <sub>FM</sub> Max. Forward Voltage Drop<br>See Fig. 1①    | 0.68   | V     | @ 75A T <sub>J</sub> = -55°C                               |
|                                                             | 0.87   | V     | @ 150A                                                     |
|                                                             | 0.64   | V     | @ 75A T <sub>J</sub> = 25°C                                |
|                                                             | 0.90   | V     | @ 150A                                                     |
|                                                             | 0.61   | V     | @ 75A T <sub>J</sub> = 125°C                               |
|                                                             | 0.8    | V     | @ 150A                                                     |
| I <sub>RM</sub> Max. Reverse Leakage Current<br>See Fig. 2② | 1.0    | mA    | T <sub>J</sub> = 25°C                                      |
|                                                             | 77     | mA    | T <sub>J</sub> = 100°C                                     |
|                                                             | 300    | mA    | T <sub>J</sub> = 125°C                                     |
| C <sub>T</sub> Max. Junction Capacitance                    | 2700   | pF    | V <sub>R</sub> = 5V <sub>DC</sub> ( 1MHz, 25°C )           |
| L <sub>S</sub> Typical Series Inductance                    | 5.9    | nH    | Measured from center of cathode pad to center of anode pad |

**Thermal-Mechanical Specifications**

| Parameters                                                  | Limits     | Units | Conditions              |
|-------------------------------------------------------------|------------|-------|-------------------------|
| T <sub>J</sub> Max. Junction Temperature Range              | -55 to 150 | °C    |                         |
| T <sub>stg</sub> Max. Storage Temperature Range             | -55 to 150 | °C    |                         |
| R <sub>thJC</sub> Max. Thermal Resistance, Junction to Case | 1.1        | °C/W  | DC operation See Fig. 4 |
| wt Weight (Typical)                                         | 2.6        | g     |                         |
| Die Size (Typical)                                          | 200X200    | mils  |                         |
| Case Style                                                  | SMD-1      |       |                         |

① Pulse Width &lt; 300μs, Duty Cycle &lt; 2%

② Pins 2 and 3 externally tied together

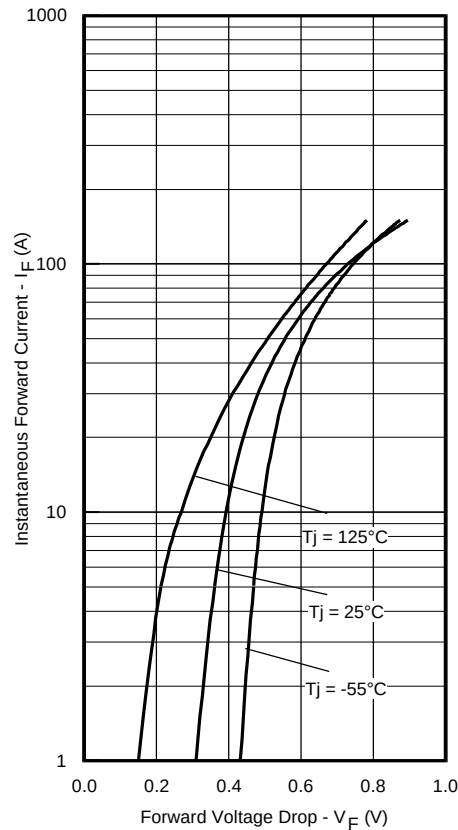


Fig. 1 - Max. Forward Voltage Drop Characteristics

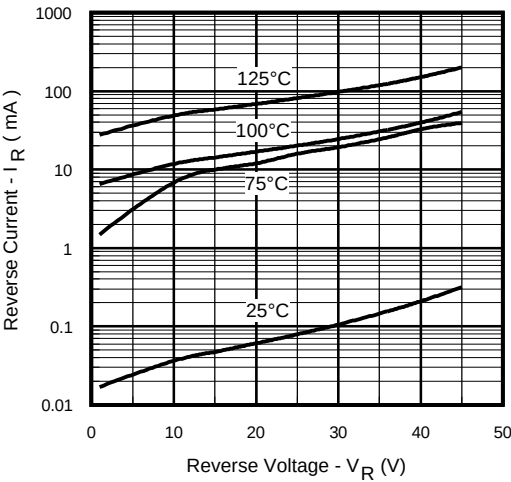


Fig. 2 - Typical Values of Reverse Current Vs. Reverse Voltage

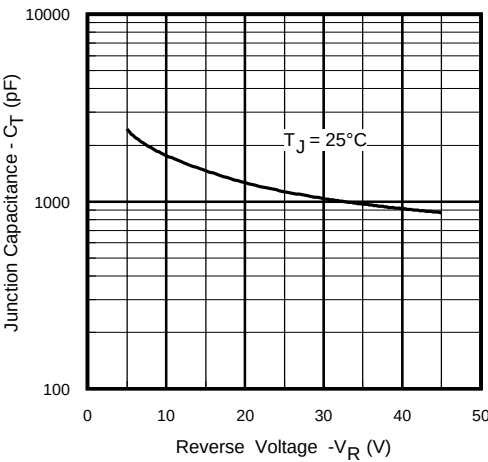
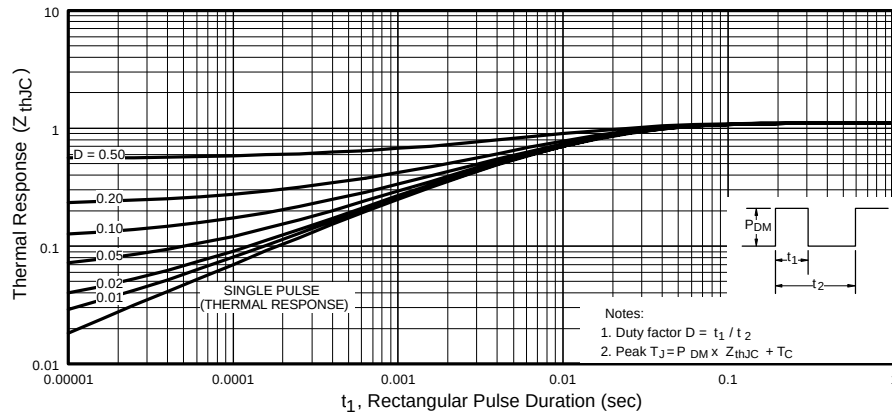
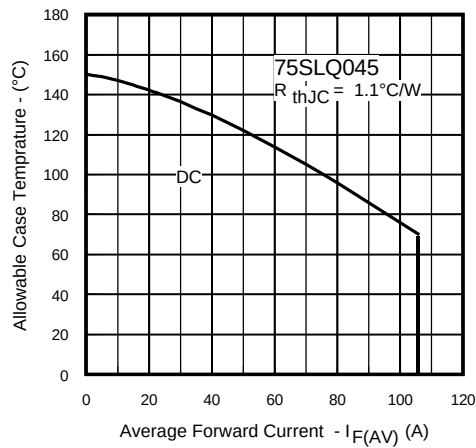


Fig. 3 - Typical Junction Capacitance Vs. Reverse Voltage

Fig. 4 - Max. Thermal Impedance  $Z_{thJC}$  CharacteristicsFig. 5 - Max. Allowable Case Temperature Vs.  
Average Forward Current