

# **SCHOTTKY BARRIER RECTIFIER**

**VOLTAGE RANGE 20 to 60 Volts CURRENT 1.0 Ampere**

## **FEATURES**

- \* Low power loss, high efficiency
- \* Low leakage
- \* Low forward voltage
- \* High current capability
- \* High speed switching
- \* High surge capability
- \* High reliability

## **MECHANICAL DATA**

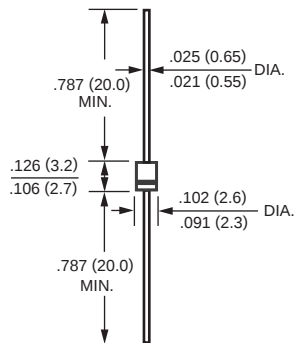
- \* Case: Molded plastic
- \* Epoxy: Device has UL flammability classification 94V-0
- \* Lead: MIL-STD-202E method 208C guaranteed
- \* Mounting position: Any
- \* Weight: 0.12 gram

## **MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS**

Ratings at 25 °C ambient temperature unless otherwise specified.  
Single phase, half wave, 60 Hz, resistive or inductive load.  
For capacitive load, derate current by 20%.



**R-1**



Dimensions in inches and (millimeters)

## **MAXIMUM RATINGS (At TA = 25°C unless otherwise noted)**

| RATINGS                                                                                              | SYMBOL | 1S20         | 1S30 | 1S40 | 1S50         | 1S60 | UNITS |
|------------------------------------------------------------------------------------------------------|--------|--------------|------|------|--------------|------|-------|
| Maximum Recurrent Peak Reverse Voltage                                                               | VRRM   | 20           | 30   | 40   | 50           | 60   | Volts |
| Maximum RMS Voltage                                                                                  | VRMS   | 14           | 21   | 28   | 35           | 42   | Volts |
| Maximum DC Blocking Voltage                                                                          | VDC    | 20           | 30   | 40   | 50           | 60   | Volts |
| Maximum Average Forward Rectified Current<br>.375" (9.5mm) lead length                               | IO     | 1.0          |      |      |              |      | Amps  |
| Peak Forward Surge Current 8.3 ms single half sine-wave<br>superimposed on rated load (JEDEC method) | IFSM   | 35           |      |      |              |      | Amps  |
| Typical Thermal Resistance (Note 1)                                                                  | RθJA   | 50           |      |      |              |      | °C/W  |
| Typical Junction Capacitance (Note 2)                                                                | CJ     | 110          |      |      |              |      | pF    |
| Operating Temperature Range                                                                          | TJ     | -65 to + 125 |      |      | -65 to + 150 |      | °C    |
| Storage Temperature Range                                                                            | TSTG   | -65 to + 150 |      |      |              |      | °C    |

## **ELECTRICAL CHARACTERISTICS (At TA = 25°C unless otherwise noted)**

| CHARACTERISTICS                                                 |                         | SYMBOL         | 1S20 | 1S30 | 1S40 | 1S50 | 1S60 | UNITS |
|-----------------------------------------------------------------|-------------------------|----------------|------|------|------|------|------|-------|
| Maximum Instantaneous Forward Voltage at 1.0A DC                |                         | V <sub>F</sub> | .55  |      |      | .70  |      | Volts |
| Maximum Average Reverse Current<br>at Rated DC Blocking Voltage | @T <sub>A</sub> = 25°C  | I <sub>R</sub> | 1.0  |      |      |      |      | mAmps |
|                                                                 | @T <sub>A</sub> = 100°C |                | 10   |      |      |      |      | mAmps |

NOTES : 1. Thermal Resistance (Junction to Ambient): Vertical PC Board Mounting, 0.5" (12.7mm) Lead Length.  
2. Measured at 1 MHz and applied reverse voltage of 4.0 volts.

# RATING AND CHARACTERISTIC CURVES ( 1S20 THRU 1S60 )

FIG. 1 - TYPICAL FORWARD CURRENT DERATING CURVE

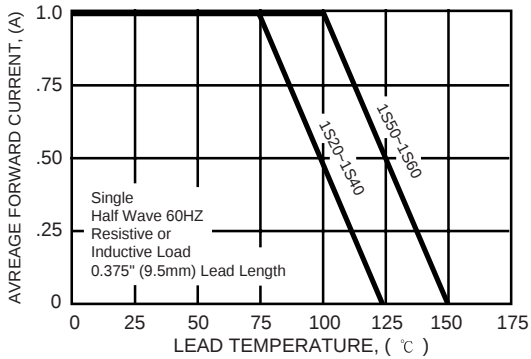


FIG. 2 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

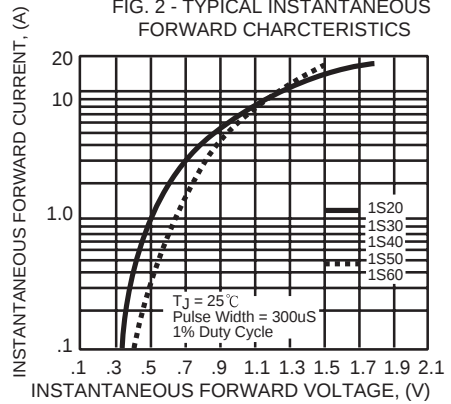


FIG. 3A - TYPICAL REVERSE CHARACTERISTICS

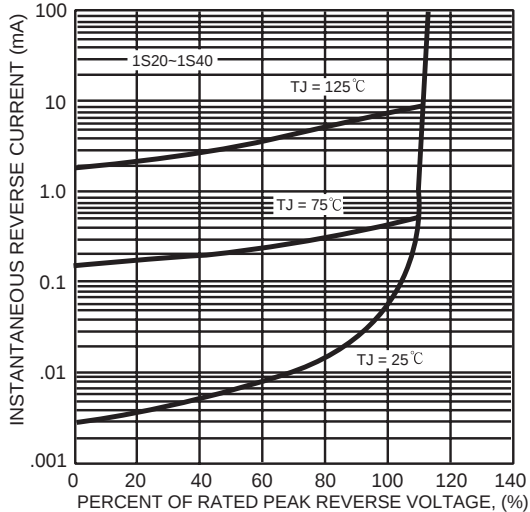


FIG. 3 - TYPICAL REVERSE CHARACTERISTICS

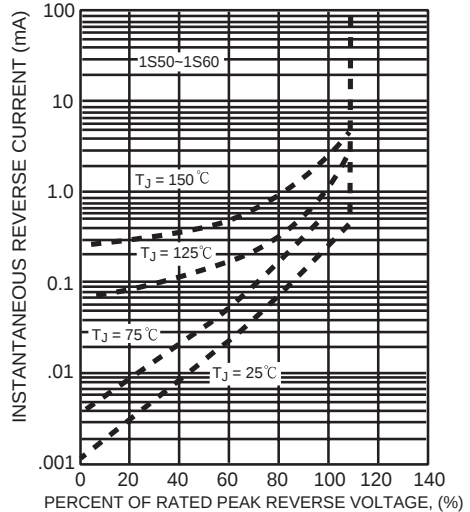


FIG. 4 - TYPICAL JUNCTION CAPACITANCE

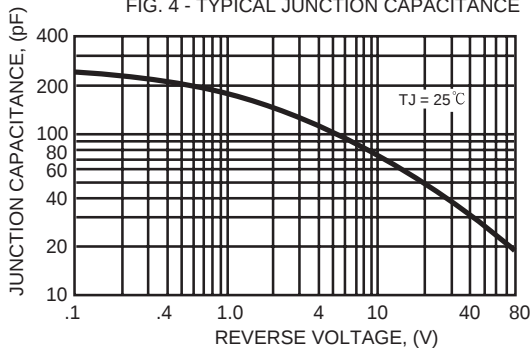


FIG. 5 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

