

**SCHOTTKY BARRIER RECTIFIER**

**VOLTAGE RANGE 20 to 100 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**

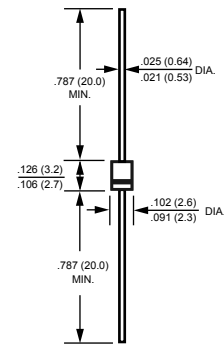
- \* Case: Molded plastic
- \* Epoxy: Device has UL flammability classification 94V-0
- \* Lead: MIL-STD-202E method 208C guaranteed
- \* Mounting position: Any
- \* Weight: 0.12 gram

**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**



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

| RATINGS                                                                                              | SYMBOL           | 1S20         | 1S30 | 1S40 | 1S50 | 1S60 | 1S80 | 1S100 | UNITS |
|------------------------------------------------------------------------------------------------------|------------------|--------------|------|------|------|------|------|-------|-------|
| Maximum Recurrent Peak Reverse Voltage                                                               | V <sub>RRM</sub> | 20           | 30   | 40   | 50   | 60   | 80   | 100   | Volts |
| Maximum RMS Voltage                                                                                  | V <sub>RMS</sub> | 14           | 21   | 28   | 35   | 42   | 56   | 70    | Volts |
| Maximum DC Blocking Voltage                                                                          | V <sub>DC</sub>  | 20           | 30   | 40   | 50   | 60   | 80   | 100   | Volts |
| Maximum Average Forward Rectified Current<br>.375" (9.5mm) lead length                               | I <sub>O</sub>   | 1.0          |      |      |      |      |      |       | Amps  |
| Peak Forward Surge Current 8.3 ms single half sine-wave<br>superimposed on rated load (JEDEC method) | I <sub>FSM</sub> | 20           |      |      |      |      |      |       | Amps  |
| Typical Thermal Resistance (Note 3)                                                                  | R <sub>θJA</sub> | 60           |      |      |      |      |      |       | °C/W  |
|                                                                                                      | R <sub>θJL</sub> | 20           |      |      |      |      |      |       |       |
| Typical Junction Capacitance (Note 1)                                                                | C <sub>J</sub>   | 110          |      |      |      |      |      |       | pF    |
| Operating Temperature Range                                                                          | T <sub>J</sub>   | 150          |      |      |      |      |      |       | °C    |
| Storage Temperature Range                                                                            | T <sub>STG</sub> | -55 to + 150 |      |      |      |      |      |       | °C    |

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

| CHARACTERISTICS                                  |                         | SYMBOL         | 1S20 | 1S30 | 1S40 | 1S50 | 1S60 | 1S80 | 1S100 | UNITS |
|--------------------------------------------------|-------------------------|----------------|------|------|------|------|------|------|-------|-------|
| Maximum Instantaneous Forward Voltage at 1.0A DC |                         | V <sub>F</sub> | .55  |      |      | .70  |      | .85  |       | Volts |
| Maximum Average Reverse Current                  | @T <sub>A</sub> = 25°C  | I <sub>R</sub> | 0.2  |      |      |      |      |      |       | mAmps |
| at Rated DC Blocking Voltage                     | @T <sub>A</sub> = 100°C |                | 10   |      |      |      |      |      |       | mAmps |

- NOTES : 1. Measured at 1 MHz and applied reverse voltage of 4.0 volts.  
2. "Fully ROHS compliant", "100% Sn plating (Pb-free)".  
3. Thermal Resistance : At 9.5mm lead lengths, PCB mounted.

RATING AND CHARACTERISTICS CURVES ( 1S20 THRU 1S100 )

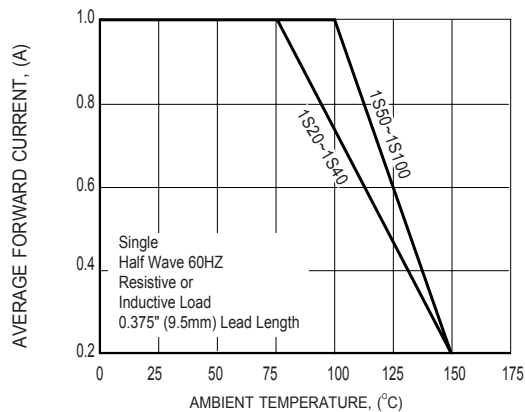


FIG.1 TYPICAL FORWARD CURRENT DERATING CURVE

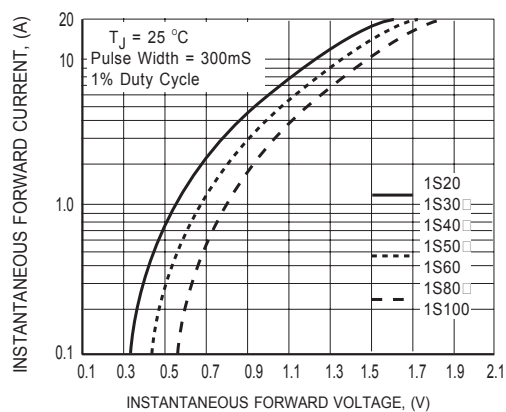


FIG.2 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

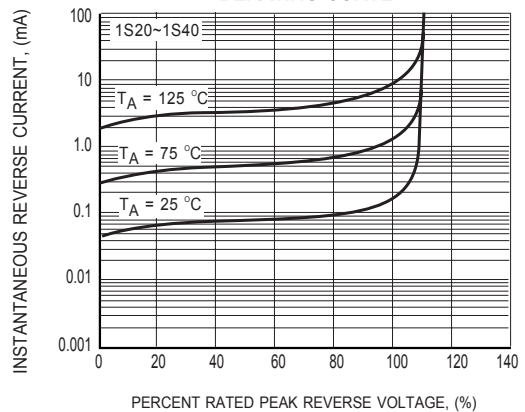


FIG.3 TYPICAL REVERSE CHARACTERISTICS

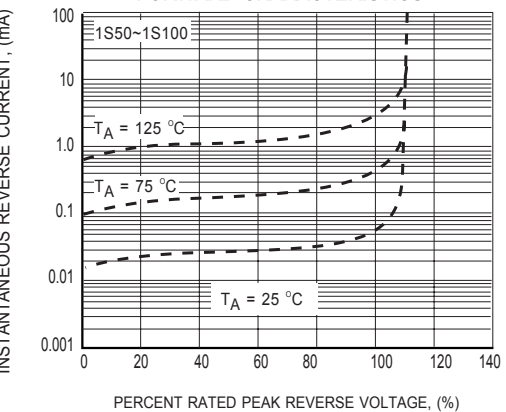


FIG.3 TYPICAL REVERSE CHARACTERISTICS

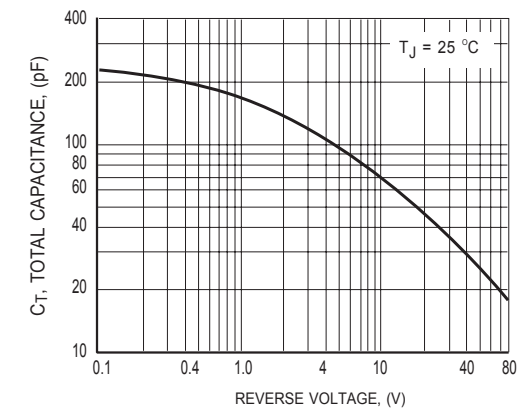


FIG.4 TYPICAL JUNCTION CAPACITANCE

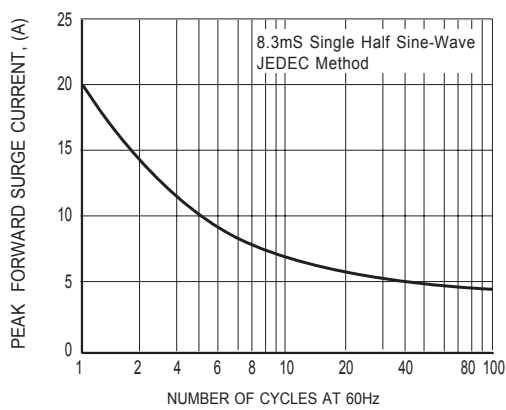


FIG.5 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

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