

### SCHOTTKY BARRIER RECTIFIERS

VOLTAGE RANGE: 20 --- 100 V

CURRENT: 1.0 A

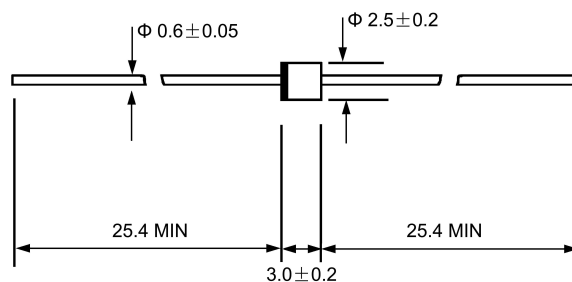
#### FEATURES

- Low switching noise
- Low forward voltage drop
- High current capability
- High switching capability
- High surge capability
- High reliability

#### MECHANICAL DATA

Case: JEDEC R-1, molded plastic  
 Epoxy: device has UL flammability classification 94V-0  
 Lead: MIL-STD 202E method 208c guaranteed  
 Mounting position: Any  
 Weight: 0.007 ounces, 0.20 grams

#### R-1



Dimensions in millimeters

#### 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 by 20%.

|                                                                                                        |                    | 1S20           | 1S30 | 1S40 | 1S50 | 1S60 | 1S80 | 1S100 | UNITS |
|--------------------------------------------------------------------------------------------------------|--------------------|----------------|------|------|------|------|------|-------|-------|
| Maximum recurrent peak reverse voltage                                                                 | V <sub>RRM</sub>   | 20             | 30   | 40   | 50   | 60   | 80   | 100   | V     |
| Maximum RMS voltage                                                                                    | V <sub>RMS</sub>   | 14             | 21   | 28   | 35   | 42   | 56   | 70    | V     |
| Maximum DC blocking voltage                                                                            | V <sub>DC</sub>    | 20             | 30   | 40   | 50   | 60   | 80   | 100   | V     |
| Maximum average forward rectified current<br>9.5mm lead length, (see fig.1)                            | I <sub>F(AV)</sub> | 1.0            |      |      |      |      |      |       | A     |
| Peak forward surge current<br>8.3ms single half-sine-wave<br>superimposed on rated load (JEDEC method) | I <sub>FSM</sub>   | 35             |      |      |      |      |      |       | A     |
| Maximum instantaneous forward voltage<br>@ 1.0A                                                        | V <sub>F</sub>     | 0.55           |      |      | 0.70 |      | 0.85 |       | V     |
| Maximum reverse current @T <sub>A</sub> =25<br>at rated DC blocking voltage @T <sub>A</sub> =100       | I <sub>R</sub>     | 0.5<br>10      |      |      |      |      |      |       | mA    |
| Typical junction capacitance (Note1)                                                                   | C <sub>J</sub>     | 110            |      |      |      |      |      |       | pF    |
| Typical thermal resistance (Note2)                                                                     | R <sub>θJA</sub>   | 50             |      |      |      |      |      |       | /W    |
| Operating junction temperature range                                                                   | T <sub>J</sub>     | - 55 --- + 150 |      |      |      |      |      |       |       |
| Storage temperature range                                                                              | T <sub>STG</sub>   | - 55 --- + 150 |      |      |      |      |      |       |       |

NOTE: 1. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.

2. Thermal resistance junction to ambient

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FIG.1 – FORWARD CURRENT DERATING CURVE

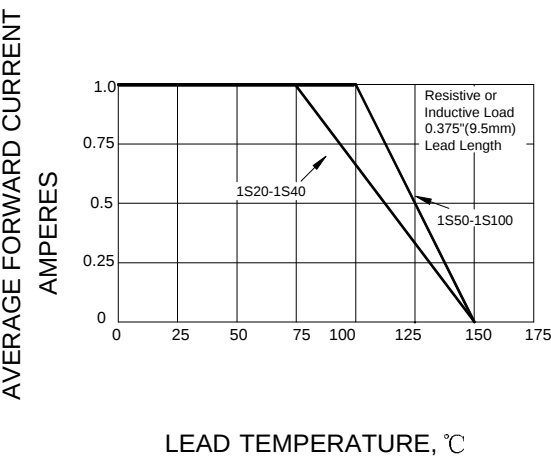


FIG.2 –MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

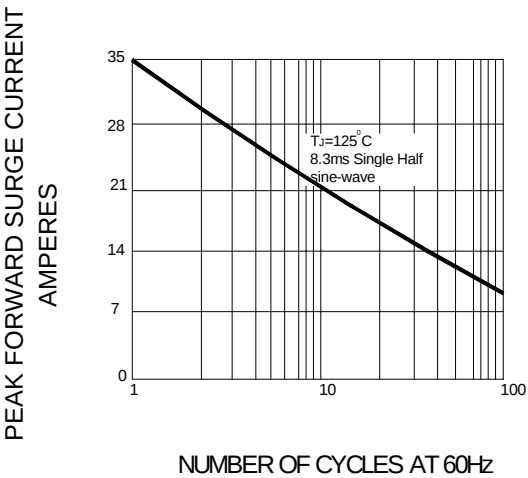


FIG.3 –TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

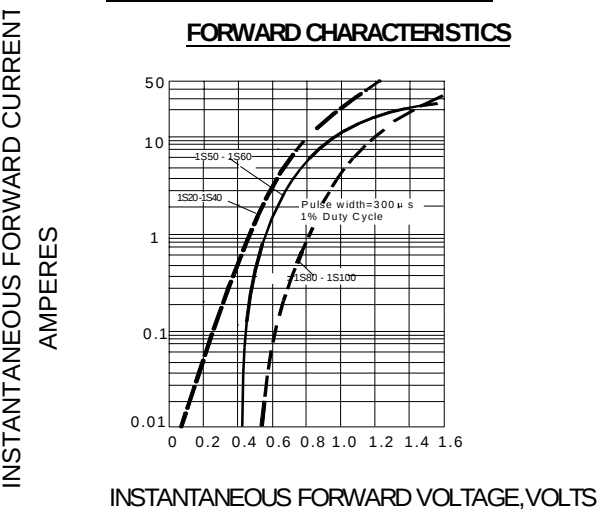


FIG.4-TYPICAL REVERSE CHARACTERISTICS

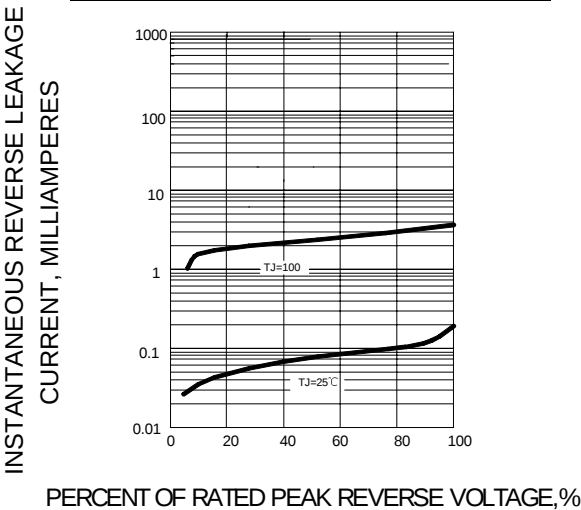


FIG.5-TYPICAL JUNCTION CAPACITANCE

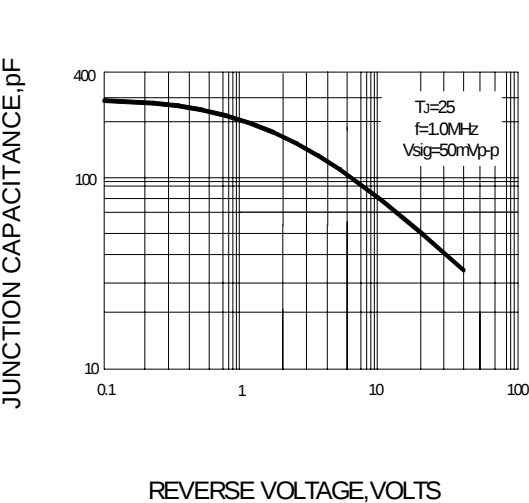


FIG.6-TYPICAL TRANSIENT THERMAL IMPEDANCE

