

## SCHOTTKY BARRIER RECTIFIER

### FEATURES

- ◆ The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- ◆ Metal silicon junction, majority carrier conduction
- ◆ Low power loss, high efficiency
- ◆ High forward surge current capability
- ◆ High temperature soldering guaranteed:  
250°C/10 seconds, 0.375" (9.5mm) lead length, 5 lbs. (2.3kg) tension

### Mechanical Data

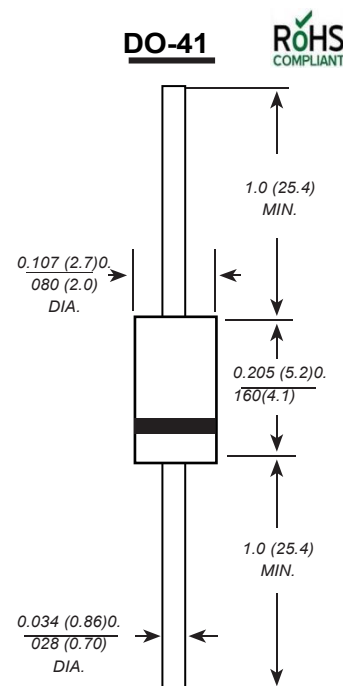
**Case** : JEDEC DO-41 Molded plastic body

**Terminals** : Solder plated, solderable per MIL-STD-750, Method 2026

**Polarity** : Color band denotes cathode end

**Mounting Position** : Any

**Weight** : 0.012 ounce, 0.33 grams



Dimensions in inches and (millimeters)

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase half-wave 60Hz, resistive or inductive load, for capacitive load current derate by 20%.

| Parameter                                                                                                | SYMBOLS           | SR 120      | SR 130     | SR 140     | SR 150     | SR 160     | SR 170      | SR 180     | SR 190     | SR 1100     | SR 1150     | SR 1200     | UNITS |    |
|----------------------------------------------------------------------------------------------------------|-------------------|-------------|------------|------------|------------|------------|-------------|------------|------------|-------------|-------------|-------------|-------|----|
| Marking Code                                                                                             |                   | RCD SR 120  | RCD SR 130 | RCD SR 140 | RCD SR 150 | RCD SR 160 | RCD SR 170  | RCD SR 180 | RCD SR 190 | RCD SR 1100 | RCD SR 1150 | RCD SR 1200 |       |    |
| Maximum repetitive peak reverse voltage                                                                  | V <sub>RRM</sub>  | 20          | 30         | 40         | 50         | 60         | 70          | 80         | 90         | 100         | 150         | 200         | V     |    |
| Maximum RMS voltage                                                                                      | V <sub>RMS</sub>  | 14          | 21         | 28         | 35         | 42         | 49          | 56         | 63         | 70          | 105         | 140         | V     |    |
| Maximum DC blocking voltage                                                                              | V <sub>DC</sub>   | 20          | 30         | 40         | 50         | 60         | 70          | 80         | 90         | 100         | 150         | 200         | V     |    |
| Maximum average forward rectified current<br>0.375"(9.5mm) lead length(see fig.1)                        | I <sub>(AV)</sub> | 1.0         |            |            |            |            |             |            |            |             |             |             | A     |    |
| Peak forward surge current<br>8.3ms single half sine-wave<br>superimposed onrated load (JEDEC Method)    | I <sub>FSM</sub>  | 40          |            |            |            |            |             |            |            |             |             |             | A     |    |
| Maximum instantaneous forward voltage at 1.0A                                                            | V <sub>F</sub>    | 0.55        |            |            | 0.70       |            | 0.85        |            |            |             | 0.95        |             | V     |    |
| Maximum DC reverse current<br>at rated DC blocking voltage<br>T <sub>A</sub> =25℃T <sub>A</sub><br>=100℃ | I <sub>R</sub>    | 0.5         |            |            |            |            |             |            |            |             | 0.2         |             | mA    |    |
|                                                                                                          |                   | 10.0        |            |            | 5.0        |            |             | 2.0        |            |             |             |             |       |    |
| Typical junction capacitance (NOTE 1)                                                                    | C <sub>J</sub>    | 110         |            |            | 80         |            |             |            |            |             |             |             |       | pF |
| Typical thermal resistance (NOTE 2)                                                                      | R <sub>θJA</sub>  | 50.0        |            |            |            |            |             |            |            |             |             |             | ℃/W   |    |
| Operating junction and storage                                                                           | T <sub>J</sub>    | -50 to +125 |            |            |            |            | -50 to +150 |            |            |             |             |             | ℃     |    |
| Storage temperature range                                                                                | T <sub>STG</sub>  | -50 to +150 |            |            |            |            |             |            |            |             |             |             | ℃     |    |

**Note:** 1. Measured at 1MHz and applied reverse voltage of 4.0V D.C.

2. Thermal resistance from junction to ambient at 0.375" (9.5mm) lead length, P.C.B. mounted

FIG. 1- FORWARD CURRENT DERATING CURVE

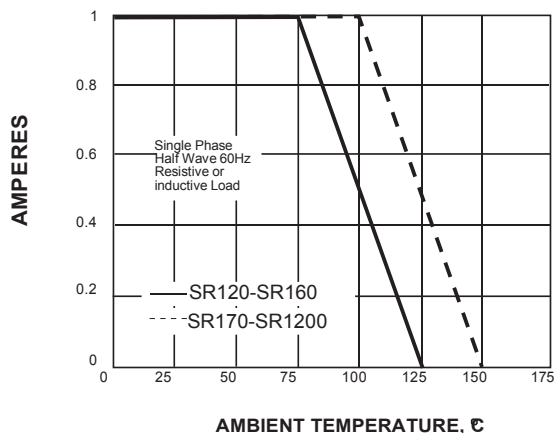


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

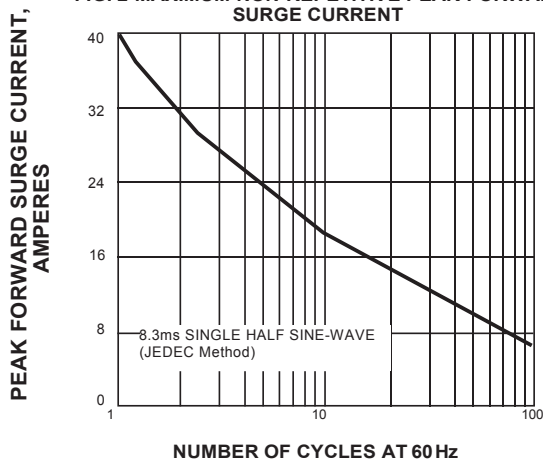


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

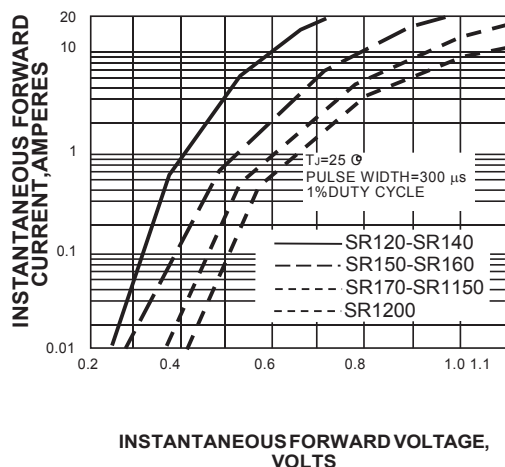


FIG. 4-TYPICAL REVERSE CHARACTERISTICS

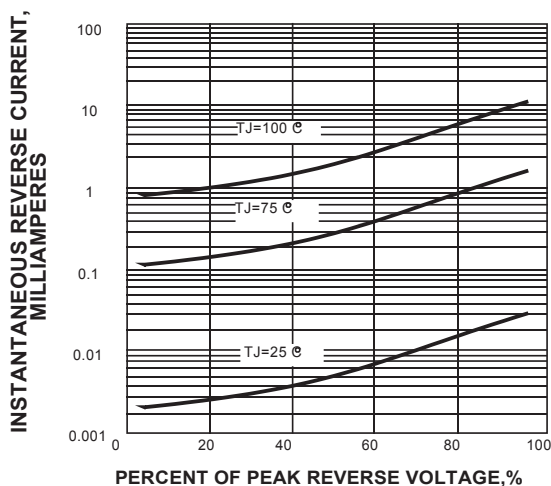


FIG. 5-TYPICAL JUNCTION CAPACITANCE

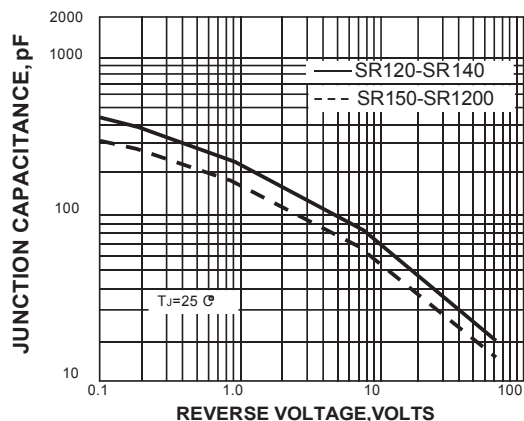
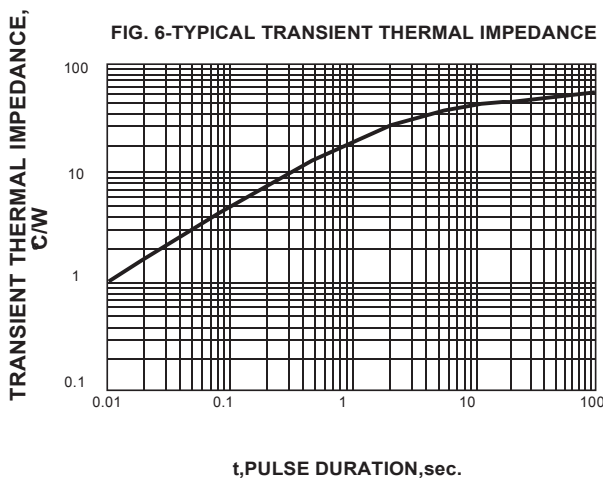


FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE



The curve above is for reference only.