

SCHOTTKY BARRIER RECTIFIER

VOLTAGE RANGE 20 to 100 Volts CURRENT 1.0 Ampere

FEATURES

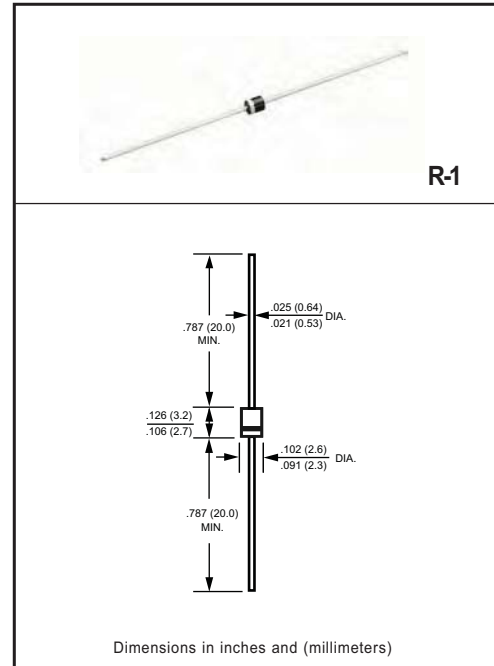
- * Low power loss, high efficiency
- * Low leakage
- * Low forward voltage
- * High current capability
- * High speed switching
- * High surge capability
- * High reliability

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.
resistive or inductive load.



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

| RATINGS | SYMBOL | 1S20 | 1S30 | 1S40 | 1S50 | 1S60 | 1S80 | 1S100 | UNITS |
|--|------------------|--------------|------|------|------|------|------|-------|------------------|
| Maximum Recurrent Peak Reverse Voltage | V _{RRM} | 20 | 30 | 40 | 50 | 60 | 80 | 100 | Volts |
| Maximum RMS Voltage | V _{RMS} | 14 | 21 | 28 | 35 | 42 | 56 | 70 | Volts |
| Maximum DC Blocking Voltage | V _{DC} | 20 | 30 | 40 | 50 | 60 | 80 | 100 | Volts |
| Maximum Average Forward Rectified Current .375" (9.5mm) lead length | I _O | 1.0 | | | | | | | Amps |
| Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC method) | I _{FSM} | 20 | | | | | | | Amps |
| Typical Current Squared Time | I ² T | 1.6 | | | | | | | A ² S |
| Typical Thermal Resistance (Note 3) | R _{θJA} | 60 | | | | | | | °C/W |
| | R _{θJL} | 20 | | | | | | | |
| Typical Junction Capacitance (Note 1) | C _J | 110 | | | | | | | pF |
| Operating Temperature Range | T _J | 150 | | | | | | | °C |
| Storage Temperature Range | T _{STG} | -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 _F | .55 | | | .70 | | .85 | | Volts |
| Maximum Average Reverse Current at Rated DC Blocking Voltage | @ T _A = 25°C | 0.2 | | | | | | | mAmps |
| | @ T _A = 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.

2009-10
REV:A

RATING AND CHARACTERISTICS CURVES (1S20 THRU 1S100)

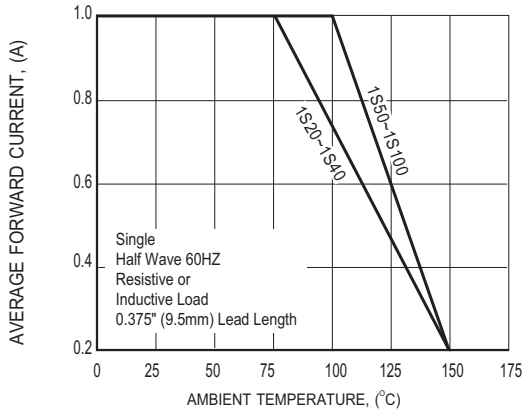


FIG.1 TYPICAL FORWARD CURRENT DERATING CURVE

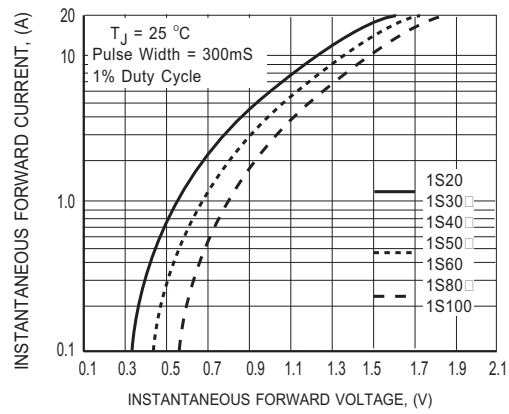


FIG.2 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

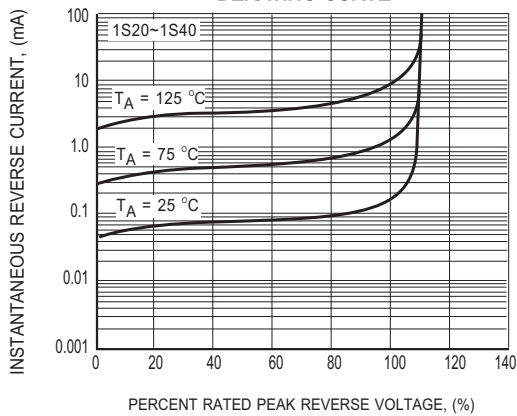


FIG.3 TYPICAL REVERSE CHARACTERISTICS

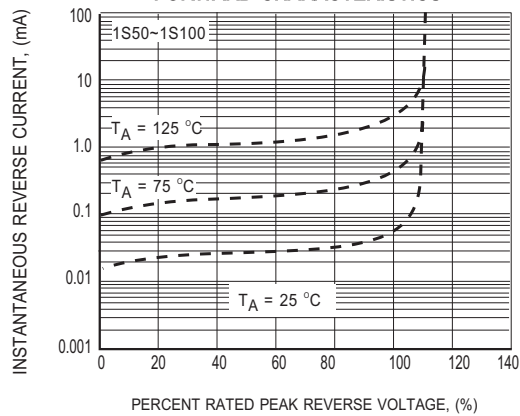


FIG.3 TYPICAL REVERSE CHARACTERISTICS

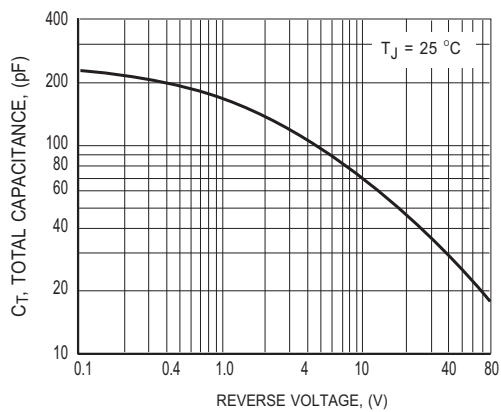


FIG.4 TYPICAL JUNCTION CAPACITANCE

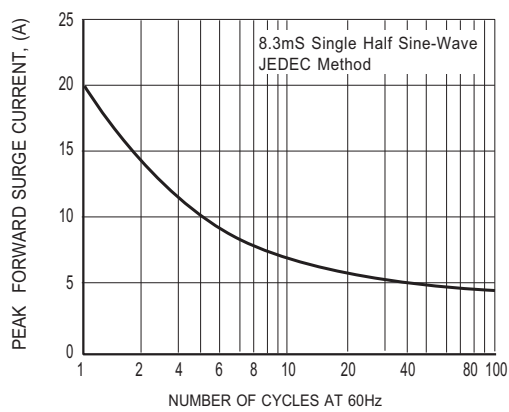
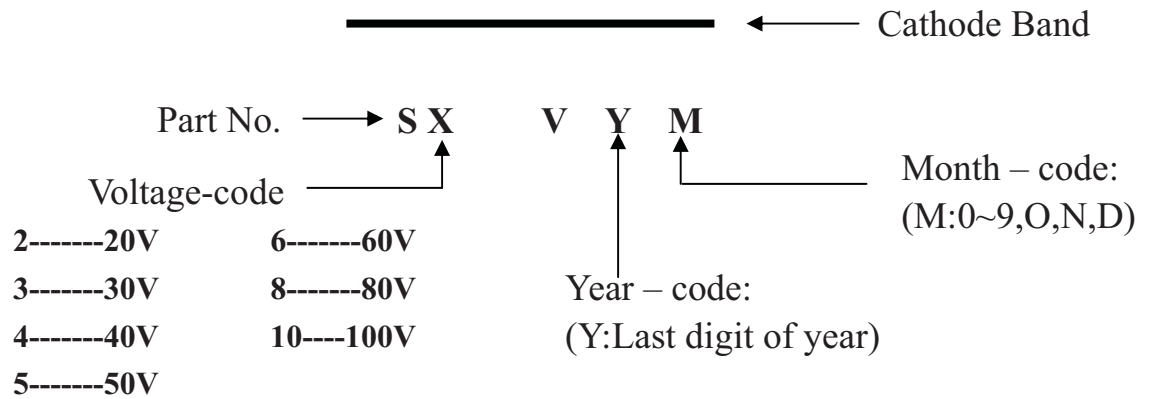


FIG.5 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT



Marking Description



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PACKAGING OF DIODE AND BRIDGE RECTIFIERS

REEL PACK

| PACKAGE | PACKING CODE | EA PER REEL | EA PER INNER BOX | COMPONENT SPACE (mm) | TAPE SPACE (mm) | REEL DIA (mm) | CARTON SIZE (mm) | EA PER CARTON | GROSS WEIGHT(Kg) |
|---------|--------------|-------------|------------------|----------------------|-----------------|---------------|------------------|---------------|------------------|
| R-1 | -T | 5,000 | 5,000 | 5.0 | 52 | 330 | 355*350*335 | 20,000 | 7.37 |

AMMO PACK

| PACKAGE | PACKING CODE | REEL (EA) | COMPONENT SPACE(mm) | TAPE SPACE (mm) | BOX SIZE (mm) | CARTON SIZE(mm) | CARTON (EA) | GROSS WEIGHT (Kg) |
|---------|--------------|-------------|---------------------|-----------------|---------------|-----------------|---------------|-------------------|
| R-1 | -F | 3,000 | 5.0 | 52 | 255*73*100 | 400*268*225 | 30,000 | 8.5 |
| R-1 | -E | 3,000 | 5.0 | 26 | 256*48*94 | 365*270*217 | 42,000 | 8.35 |
| R-1 | -J | 3,000 | 12.7 | --- | 325*170*40 | 355*350*335 | 42,000 | 13.93 |
| R-1 | -I | 2,000 | 12.7 | --- | 325*170*40 | 355*350*335 | 28,000 | 9.69 |

BULK PACK

| PACKAGE | PACKING CODE | EA PER BOX | INNER BOX SIZE (mm) | CARTON SIZE (mm) | EA PER CARTON | GROSS WEIGHT(Kg) |
|---------|--------------|------------|---------------------|------------------|---------------|------------------|
| R-1 | -B | 1000 | 192*75*21 | 415*220*255 | 50,000 | 11.74 |

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