

1N17 ~ 1N19

SCHOTTKY BARRIER RECTIFIERS

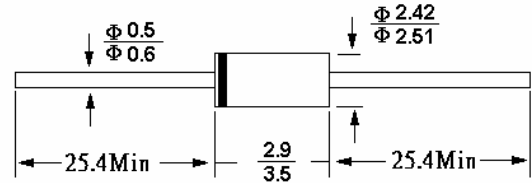
Reverse Voltage – 20 to 40 Volts

Forward current – 1.0 Amperes

R-1

Features

- Metal silicon junction, majority carrier conduction
- Low power loss, high efficiency
- High current capability low forward voltage drop
- High surge capability
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications



Dimensions in mm

Mechanical data

- **Case:** R-1 molded plastic body
- **Terminals:** Plated axial leads, solderable per MIL-STD-750, method 2026
- **Polarity:** color band denotes cathode end
- **Mounting Position:** Any

Absolute Maximum Ratings and Characteristics

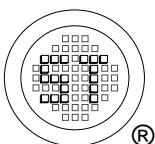
Ratings at 25°C ambient temperature unless otherwise specified.

| | Symbols | 1N17 | 1N18 | 1N19 | Units |
|--|-----------------|---------------------------------|-------|------|--------------------|
| Maximum Repetitive Peak Reverse Voltage | V_{RRM} | 20 | 30 | 40 | Volts |
| Maximum RMS voltage | V_{RMS} | 14 | 21 | 28 | Volts |
| Maximum DC Blocking Voltage | V_{DC} | 20 | 30 | 40 | Volts |
| Maximum Non-repetitive Peak Reverse Voltage | V_{RSM} | 24 | 36 | 48 | Volts |
| Maximum Average Forward Rectified Current 0.375" (9.5mm) Lead Length At $T_L = 90^\circ\text{C}$ | $I_{(AV)}$ | 1 | | | Amps |
| Peak Forward Surge Current, 8.3ms Single half sine-wave Superimposed On Rated Load (JEDEC method) At $T_L = 70^\circ\text{C}$ | I_{FSM} | 25 | | | Amps |
| Maximum Instantaneous Forward Voltage At 1 A | V_F | 0.45 | 0.550 | 0.60 | Volts |
| Maximum Instantaneous Forward Voltage At 3.1 A | V_F | 0.75 | 0.875 | 0.90 | Volts |
| Maximum Instantaneous Reverse Current at Rated DC Blocking Voltage | I_R | $T_A = 25^\circ\text{C}$ 0.5 | | | mAmps |
| | | $T_A = 100^\circ\text{C}$ 10 | | | mAmps |
| Typical Thermal Resistance | $R_{\theta JA}$ | 50 | | | $^\circ\text{C/W}$ |
| | $R_{\theta JL}$ | 15 | | | |
| Typical Junction Capacitance | C_J | 110 | | | pF |
| Storage and Operating Junction Temperature Range | T_J, T_S | -65 to +125 | | | $^\circ\text{C}$ |

Notes: 1. Pulse test: 300 μs pulse width, 1% duty cycle

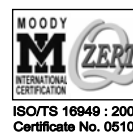
2. Thermal resistance (from junction to ambient) Vertical P.B.C. MOUNTED, 0.5" (12.7 mm) lead length

3. Measured at 1.0MHz and reverse voltage of 4.0 volts



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ISO/TS 16949 : 2002 Certificate No. 05103
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Dated : 23/12/2002

FIG.1-FORWARD CURRENT DERATING CURVE

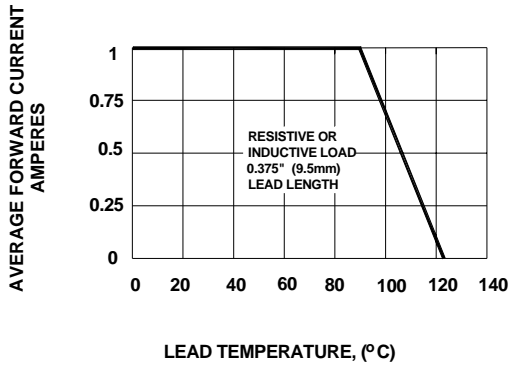


Fig.2- MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

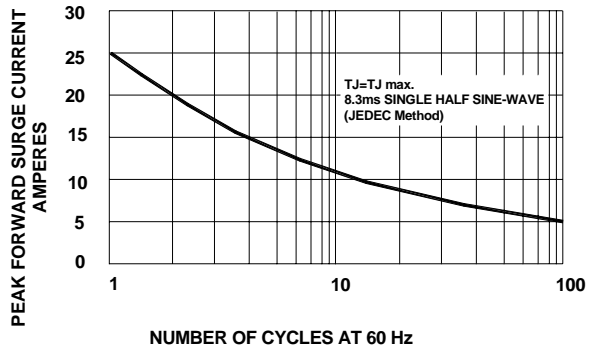


Fig.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

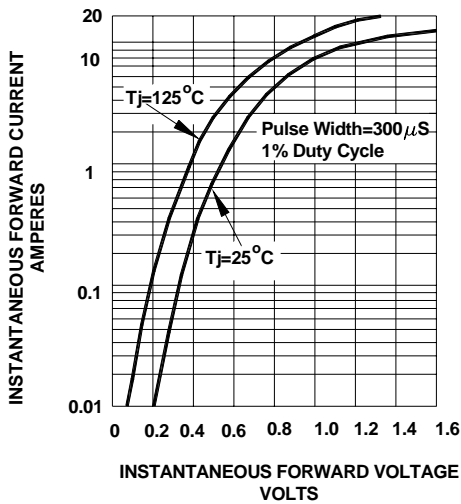


Fig.4- TYPICAL REVERSE CHARACTERISTICS

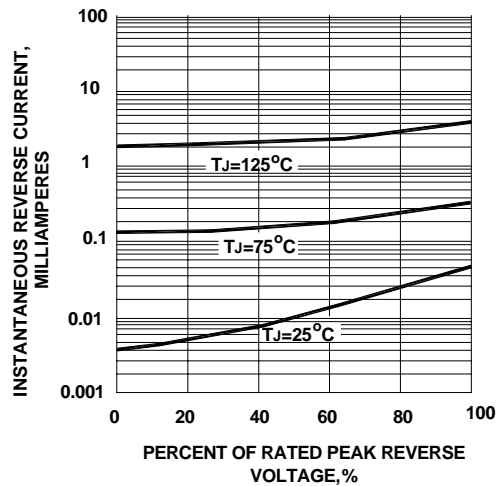


Fig.5- TYPICAL JUNCTION CAPACITANCE

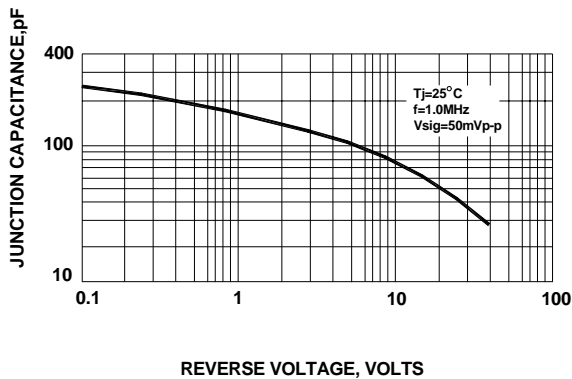
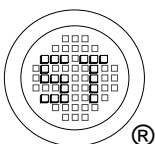
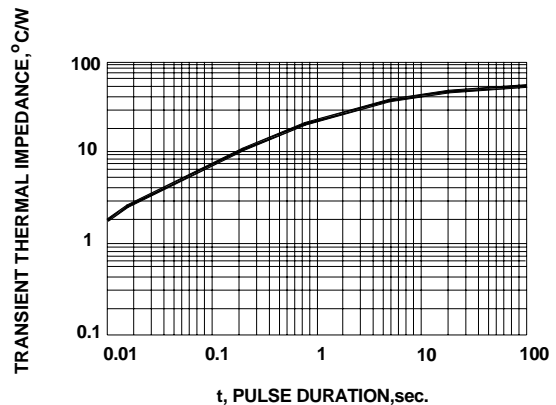


Fig.6- TYPICAL TRANSIENT THERMAL IMPEDANCE



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