

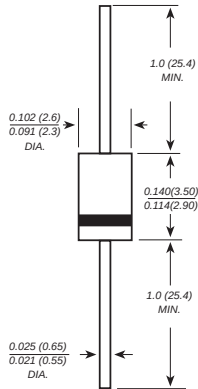


# 1N17 THRU 1N19

## SCHOTTKY BARRIER RECTIFIER

Reverse Voltage - 20 to 40Volts Forward Current - 1.0 Ampere

R-1



Dimensions in inches and (millimeters)

### FEATURES

- ◆ Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- ◆ Metal silicon junction, majority carrier conduction
- ◆ Guardring for overvoltage protection
- ◆ 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
- ◆ High temperature soldering guaranteed:  
250°C/10 seconds, 0.375" (9.5mm) lead length, 5 lbs. (2.3kg) tension

### 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

**Weight:** 0.007 ounce, 0.20 gramS

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

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

| MDD Catalog Number                                                                                        | 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 average forward rectified current<br>0.375" (9.5mm) lead length at $T_L=90^\circ\text{C}$         | $I_{(AV)}$      | 1.0         |       |       | Amp                |
| Peak forward surge current<br>8.3ms single half sine-wave superimposed on<br>rated load (JEDEC Method)    | $I_{FSM}$       | 25.0        |       |       | Amps               |
| Maximum instantaneous forward voltage at 1.0A                                                             | $V_F$           | 0.450       | 0.550 | 0.600 | Volts              |
| Maximum DC reverse current $T_A=25^\circ\text{C}$<br>at rated DC blocking voltage $T_A=100^\circ\text{C}$ | $I_R$           | 0.5<br>10.0 |       |       | mA                 |
| Typical junction capacitance (NOTE 1)                                                                     | $C_J$           | 110.0       |       |       | pF                 |
| Typical thermal resistance (NOTE 2)                                                                       | $R_{\theta JA}$ | 50.0        |       |       | $^\circ\text{C/W}$ |
| Operating junction and storage temperature range                                                          | $T_J, T_{STG}$  | -65 to +125 |       |       | $^\circ\text{C}$   |

**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



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# RATINGS AND CHARACTERISTIC CURVES 1N17 THRU 1N19

FIG. 1- FORWARD CURRENT DERATING CURVE

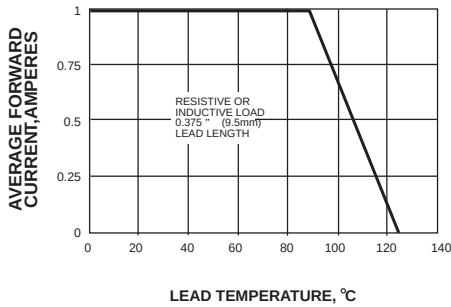


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

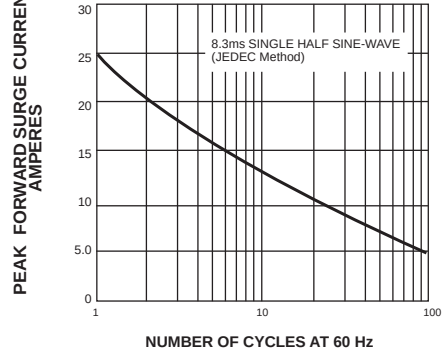


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

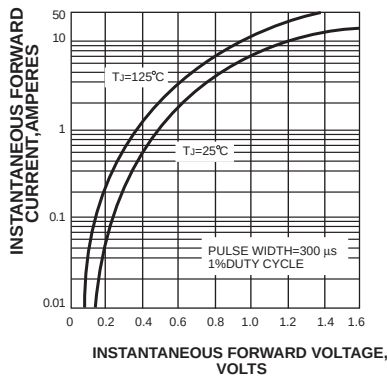


FIG. 4-TYPICAL REVERSE CHARACTERISTICS

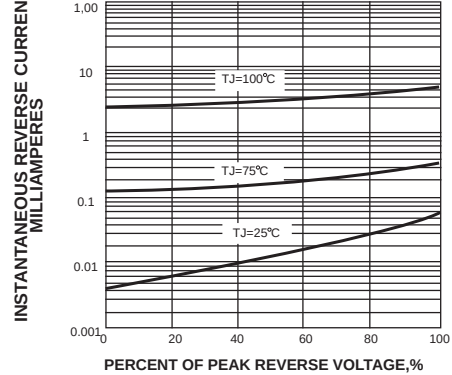


FIG. 5-TYPICAL JUNCTION CAPACITANCE

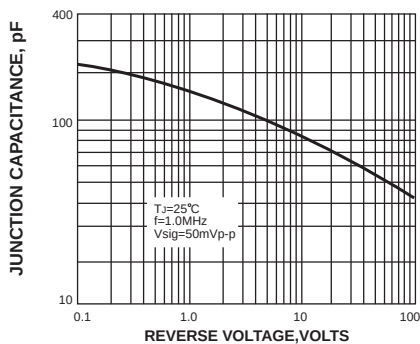
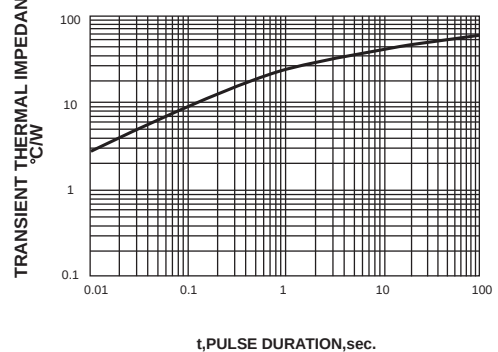


FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE



The cruve graph is for reference only, can't be the basis for judgment(曲线图仅供参考)!

