



1A1 thru 1A7

General Purpose Plastic Rectifiers
Reverse Voltage 50 to 1000 Volts Forward Current 1.0 Ampere

Features

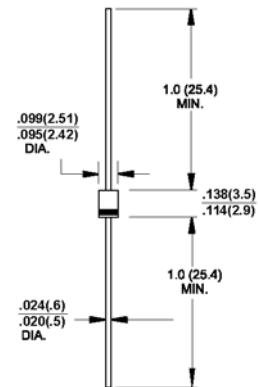
- ◆ Low forward voltage drop
- ◆ High current capability
- ◆ High reliability
- ◆ High surge current capability
- ◆ 3mm miniature body
- ◆ T_J is 150°C (Max.) and T_{STG} is 175°C (Max.) with PI glue



R-1

Mechanical Data

- ◆ Case: Molded plastic R-1
- ◆ Epoxy: UL 94V-O rate flame retardant
- ◆ Lead: Axial leads, solderable per MIL-STD-202, Method 208 guaranteed
- ◆ Polarity: Color band denotes cathode end
- ◆ High temperature soldering guaranteed:
250°C/10 seconds .375" (9.5mm) lead lengths at 5 lbs., (2.3kg) tension
- ◆ Weight: 0.007 ounce, 0.20 gram



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, derate current by 20%

| Parameter | Symbols | 1A1 | 1A2 | 1A3 | 1A4 | 1A5 | 1A6 | 1A7 | Units |
|---|-----------------|-------------|-----|-----|-----|-----|-----|------|--------------------|
| Maximum repetitive peak reverse voltage | V_{RRM} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | Volts |
| Maximum RMS voltage | V_{RMS} | 35 | 70 | 140 | 280 | 420 | 560 | 700 | Volts |
| Maximum DC blocking voltage | V_{DC} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | Volts |
| Maximum average forward rectified current 0.375" (9.5mm) lead length @ $T_A=50^\circ\text{C}$ | $I_{(AV)}$ | 1.0 | | | | | | | Amp |
| Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method) | I_{FSM} | 30.0 | | | | | | | Amps |
| Maximum instantaneous forward voltage @ 1.0A | V_F | 1.1 | | | | | | | Volts |
| Maximum DC reverse current @ $T_A=25^\circ\text{C}$ at rated DC blocking voltage @ $T_A=100^\circ\text{C}$ | I_R | 5.0 50 | | | | | | | μA |
| Maximum full load reverse current full cycle average, .375" (9.5mm) lead length @ $T_A=50^\circ\text{C}$ | $I_{R(AV)}$ | 30 | | | | | | | μA |
| Typical junction capacitance (Note 1) | C_J | 15 | | | | | | | pF |
| Typical thermal resistance (Note 2) | $R_{\theta JA}$ | 50 | | | | | | | $^\circ\text{C/W}$ |
| Operating junction temperature range | T_J | -55 to +125 | | | | | | | $^\circ\text{C}$ |
| Storage temperature range | T_{STG} | -55 to +150 | | | | | | | $^\circ\text{C}$ |

- Notes:**
1. Measured at 1 MHz and Applied Reverse Voltage of 4.0 Volts D.C.
 2. Thermal Resistance from Junction to Ambient .375" (9.5mm) Lead Length

RATINGS AND CHARACTERISTIC CURVES

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

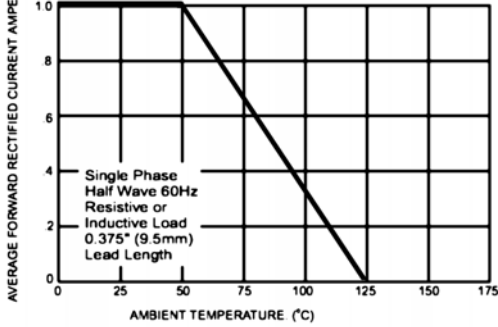


FIG.2- TYPICAL FORWARD CHARACTERISTICS

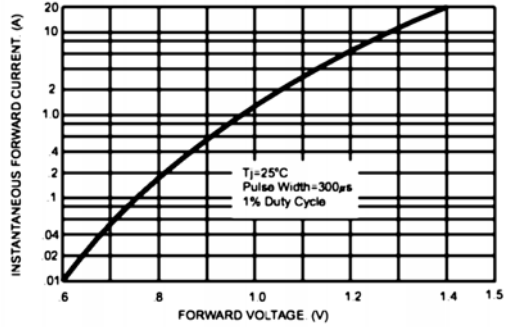


FIG.3- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

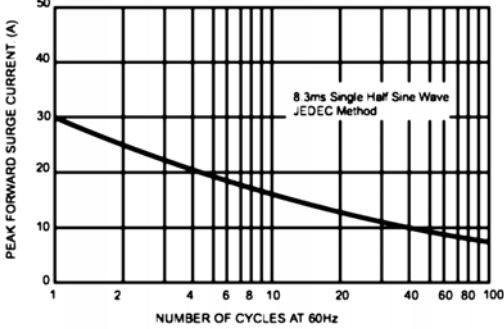


FIG.4- TYPICAL JUNCTION CAPACITANCE

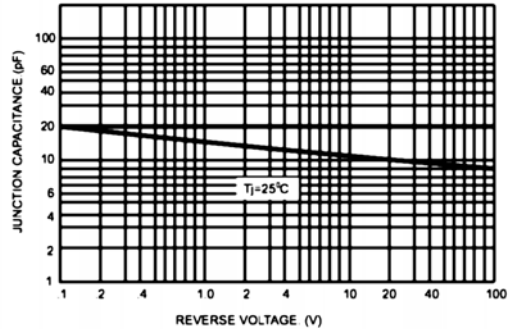


FIG.5- TYPICAL REVERSE CHARACTERISTICS

