



1A1 thru 1A7

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

Features

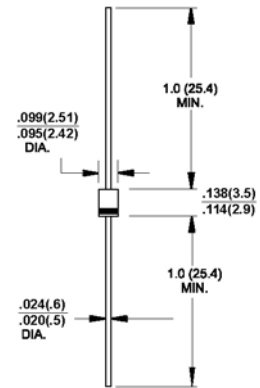
- ◆ Low forward voltage drop
- ◆ High current capability
- ◆ High reliability
- ◆ High surge current capability
- ◆ 3mm miniature body
- ◆ T_J is 150°C (Max.) and T_{STG} is 175°C (Max.) with PI glue



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

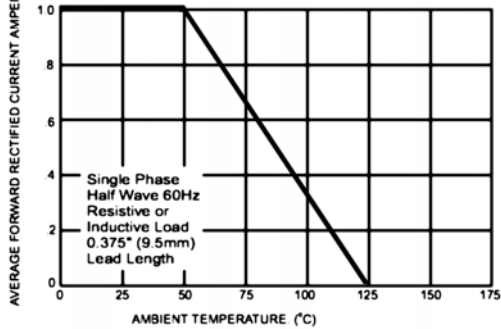


FIG.2- TYPICAL FORWARD CHARACTERISTICS

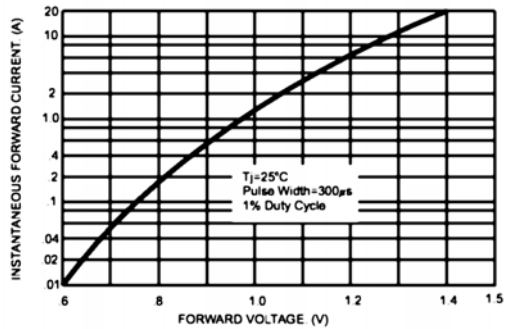


FIG.3- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

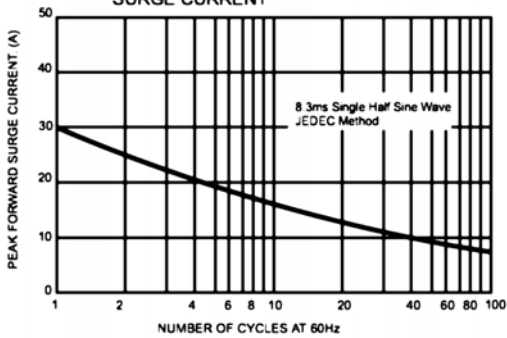


FIG.4- TYPICAL JUNCTION CAPACITANCE

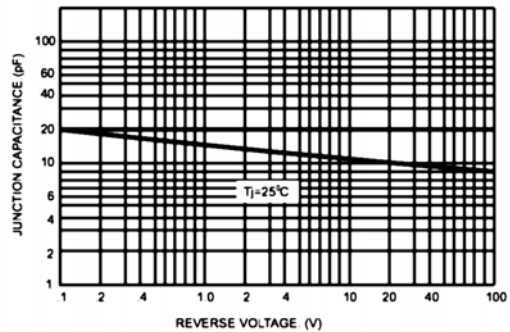


FIG.5- TYPICAL REVERSE CHARACTERISTICS

