1N4942 THRU 1N4948

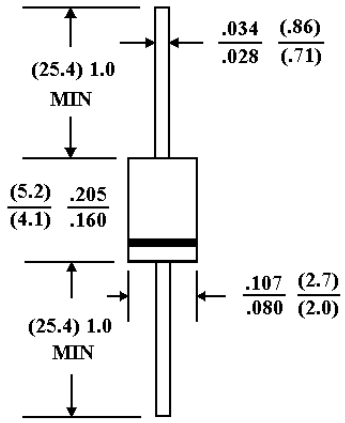
FAST SWITCHING PLASTIC RECTIFIER

VOLTAGE - 200 to 1000 Volts CURRENT - 1.0 Ampere

FEATURES

- High surge current capability
- Plastic package has Underwriters Laboratory Flammability Classification 94V-O Utilizing Flame Retardant Epoxy Molding Compound
- Void-free Plastic in a DO-41 package
- 1.0 ampere operation at T_A=55 ¢J with no thermal runaway
- Fast switching for high efficiency
- Exceeds environmental standards of MIL-S-19500/228

DO-41



Dimensions in inches and (millimeters)

MECHANICAL DATA

Case: Molded plastic, DO-41

Terminals: Axial leads, solderable per MIL-STD-202, Method 208

Polarity: Band denotes cathode

Mounting Position: Any

Weight: 0.012 ounce, 0.3 gram

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25 ¢J ambient temperature unless otherwise specified.

Single phase, half wave, 60Hz, resistive or inductive load.

For capacitive load, derate current by 20%.

	1N4942	1N4944	1N4946	1N4947	1N4948	UNITS
Maximum Recurrent Peak Reverse Voltage	200	400	600	800	1000	V
Maximum RMS Voltage	140	280	420	560	700	V
Maximum DC Blocking Voltage	200	400	600	800	1000	V
Maximum Average Forward Rectified Current .375"(9.5mm) lead length at T_A=55 ¢J	1.0					A
Peak Forward Surge Current 8.3ms single half sine wave superimposed on rated load(JECEC method)	30					A
Maximum Forward Voltage at 1.0A	1.3					V
Maximum Reverse Current T_J=25 ¢J	5.0					£g A
at Rated DC Blocking Voltage T_J=100 ¢J	500					£g A
Typical Junction capacitance (Note 1)	12					pF
Maximum Reverse Recovery Time(Note 2)	150	150	250	250	250	ns
Typical Thermal Resistance (Note 3) R £KJA	41					¢J/W
Operating and Storage Temperature Range	-55 to +150					¢J

NOTES:

1. Measured at 1 MHz and applied reverse voltage of 4.0 VDC
2. Reverse Recovery Test Conditions: I_F=.5A, I_R=1A, I_{rr}=.25A
3. Thermal resistance from junction to ambient and from junction to lead at 0.375"(9.5mm) lead length P.C.B. mounted

RATING AND CHARACTERISTIC CURVES

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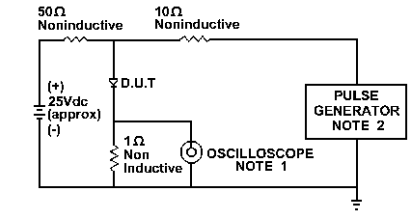

NOTE:1.Rise Time = 7ns max.
Input Impedance = 1 megohm. 22pF
2.Rise Time = 10ns max.
Source Impedance = 50 Ohms

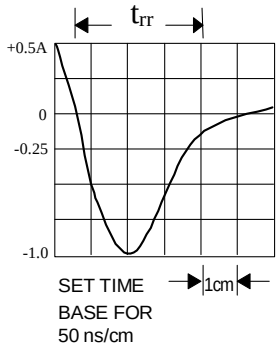

Fig. 1-REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

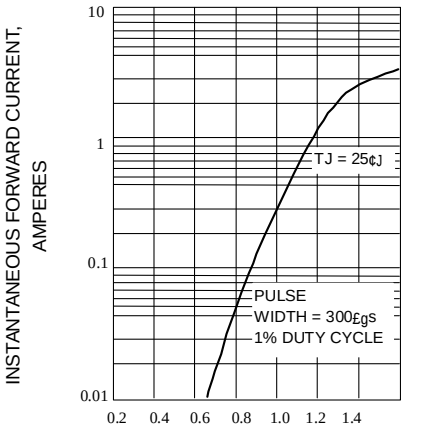

Fig. 2-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

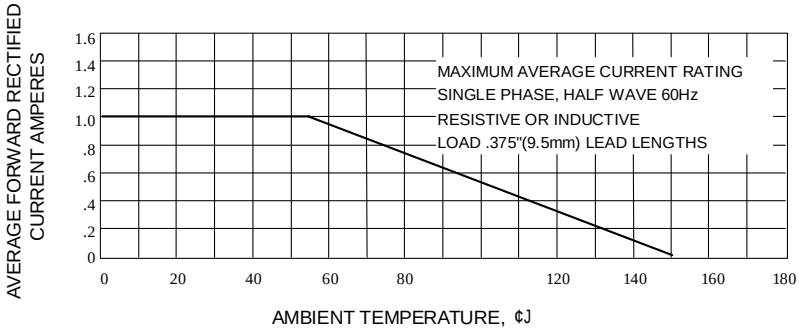

Fig. 3-FORWARD CURRENT DERATING CURVE

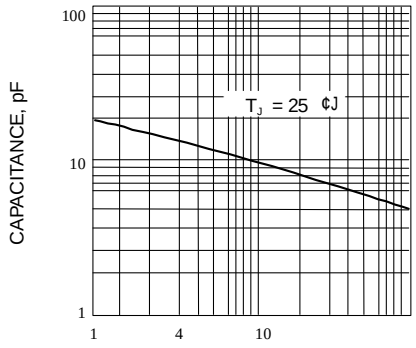

Fig. 4-TYPICAL JUNCTION CAPACITANCE

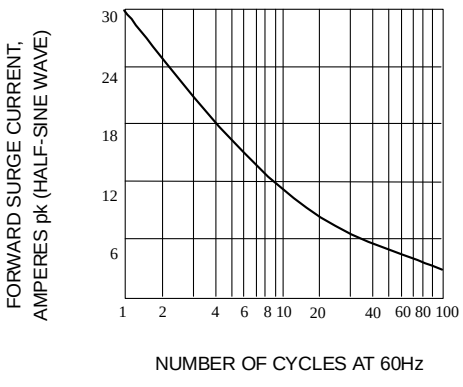

Fig. 5-PEAK FORWARD SURGE CURRENT