

1U1 THRU 1U7

ULTRAFAST SWITCHING RECTIFIER

VOLTAGE - 50 to 1000 Volts CURRENT - 1.0 Ampere

FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-O utilizing Flame Retardant Epoxy Molding Compound
- 1 ampere operation at $T_A=55\text{ }^{\circ}\text{C}$ with no thermal runaway
- Exceeds environmental standards of MIL-S-19500/228
- Ultra fast switching for high efficiency

MECHANICAL DATA

Case: Molded plastic, R-1

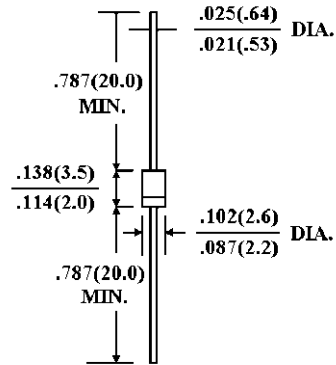
Terminals: Axial leads, solderable per MIL-STD-202, Method 208

Polarity: Band denotes cathode

Mounting Position: Any

Weight: 0.0064 ounce, 0.181 gram

R-1



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at $25\text{ }^{\circ}\text{C}$ ambient temperature unless otherwise specified.

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

	1U1	1U2	1U3	1U4	1U5	1U6	1U7	UNITS
Peak Reverse Voltage, Repetitive ; V_{RM}	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	35	70	140	280	420	560	700	V
DC Blocking Voltage; VR	50	100	200	400	600	800	1000	V
Average Forward Rectified, I_o @ $T_A=55\text{ }^{\circ}\text{C}$ 3/8" lead length, 60Hz, resistive or inductive load	1.0							A
Peak Forward Surge Current I_{FM} (surge) 8.3msec. single half sine-wave superimposed on rated load (JEDEC method)	30.0							A
Maximum Forward Voltage V_F @ 1.0A, $25\text{ }^{\circ}\text{C}$	1.00		1.10		1.70			V
Maximum Reverse Current, @ Rated $T_J=25\text{ }^{\circ}\text{C}$	10.0							ϵ_g A
Reverse Voltage $T_J=100\text{ }^{\circ}\text{C}$	500							ϵ_g A
Typical Junction capacitance (Note 1) C_J	17							pF
Typical Thermal Resistance (Note 2) $R_{\theta JKJA}$	65.0							$^{\circ}\text{C}/\text{W}$
Maximum Reverse Recovery Time $I_F=.5\text{A}$, $I_R=1\text{A}$, $I_{rr}=.25\text{A}$	50	50	50	50	75	75	75	ns
Operating and Storage Temperature Range	-55 TO +150							$^{\circ}\text{C}$

NOTES:

1. Measured at 1 MHz and applied reverse voltage of 4.0 VDC
2. Thermal resistance from junction to ambient and from junction to lead length 0.375"(9.5mm) P.C.B. mounted

RATING AND CHARACTERISTIC CURVES

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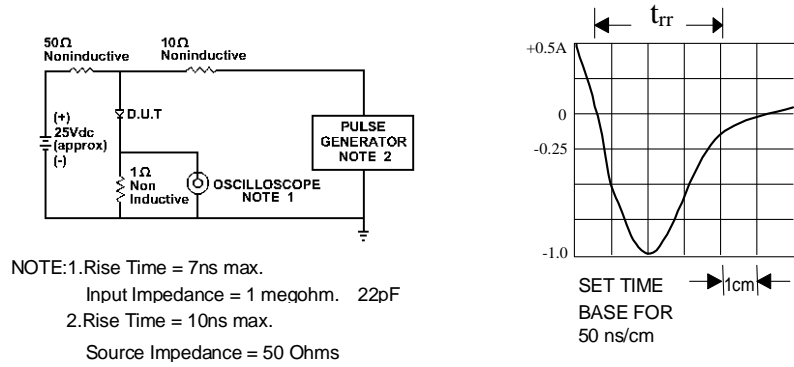


Fig. 1-REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

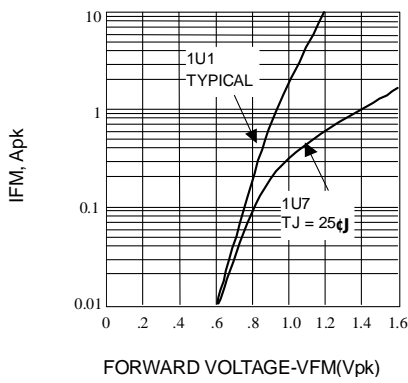


Fig. 2-FORWARD CHARACTERISTICS

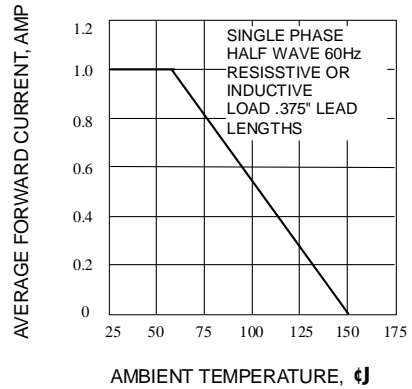


Fig. 3-FORWARD CURRENT DERATING CURVE

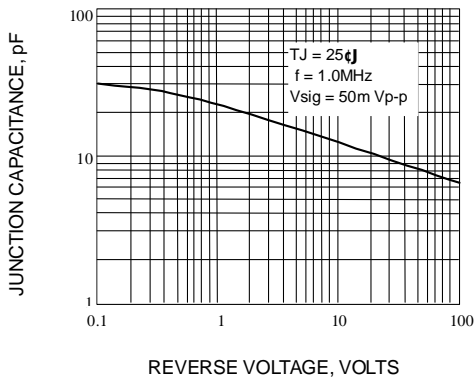


Fig. 4-TYPICAL JUNCTION CAPACITANCE

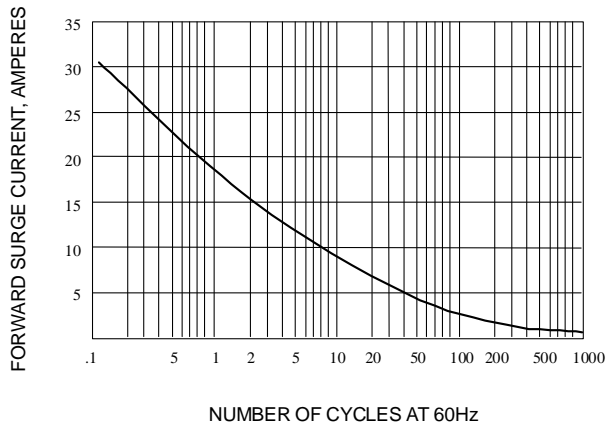


Fig. 5-PEAK FORWARD SURGE CURRENT