



# UF150 THRU UF1510

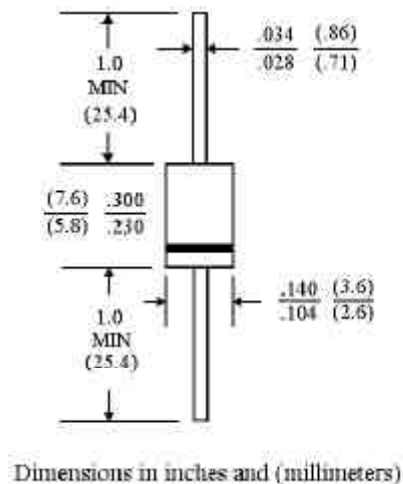
ULTRAFAST SWITCHING RECTIFIER

VOLTAGE - 50 to 1000 Volts CURRENT - 1.5 Amperes

## FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0 utilizing Flame Retardant Epoxy Molding Compound
- Void-free Plastic in DO-15 package
- 1.5 ampere operation at  $T_A=55^\circ\text{C}$  with no thermal runaway
- Exceeds environmental standards of MIL-S-19500/228
- Ultra fast switching for high efficiency

## DO-15



## MECHANICAL DATA

Case: Molded plastic, DO-15

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

Polarity: Band denotes cathode

Mounting Position: Any

Weight: 0.015 ounce, 0.4 gram

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

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

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

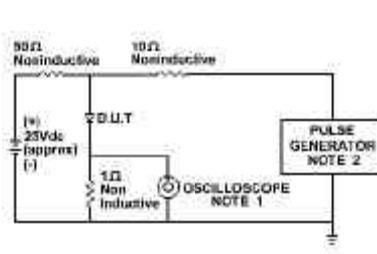
	UF150	UF151	UF152	UF154	UF156	UF158	UF1510	UNITS
Peak Reverse Voltage, Repetitive ; $V_{RM}$	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	35	70	140	280	420	560	700	V
DC Blocking Voltage; VR	50	100	200	400	600	800	1000	V
Average Forward Current, $I_o$ @ $T_A=55^\circ\text{C}$ 3.8" lead length, 60Hz, resistive or inductive load	1.5							A
Peak Forward Surge Current $I_{FM}$ (surge) 8.3msec. single half sine-wave superimposed on rated load (JEDEC method)	50							A
Maximum Forward Voltage $V_F$ @ 1.5A, $25^\circ\text{C}$	1.00		1.10		1.70			V
Maximum Reverse Current, @ Rated $T_J=25^\circ\text{C}$	10.0							$\mu\text{gA}$
Reverse Voltage $T_J=100^\circ\text{C}$	500							$\mu\text{gA}$
Typical Junction capacitance (Note 1) $C_J$	25							pF
Typical Junction Resistance (Note 2) R $\theta_{JKJA}$	50							$^\circ\text{C/W}$
Reverse Recovery Time $I_F=.5A$ , $I_R=1A$ , $I_{rr}=.25A$	50	50	50	50	75	75	75	ns
Operating and Storage Temperature Range	-55 TO +150							$^\circ\text{C}$

## NOTES:

- Measured at 1 MHz and applied reverse voltage of 4.0 VDC
- 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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NOTE: 1. Rise Time = 7ns max.  
 Input Impedance = 1 megohm. 22pF  
 2. Rise Time = 10ns max.  
 Source Impedance = 50 Ohms

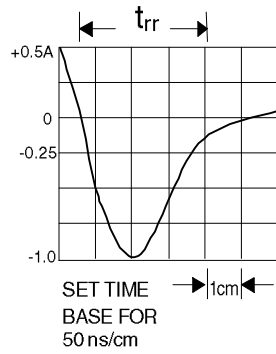


Fig. 1-REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

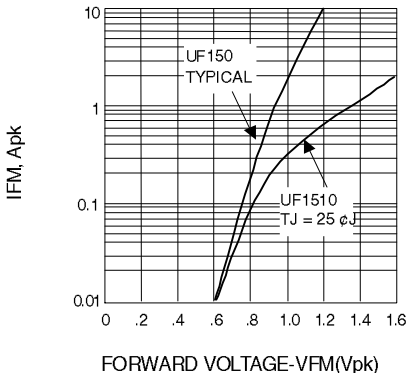


Fig. 2-FORWARD CHARACTERISTICS

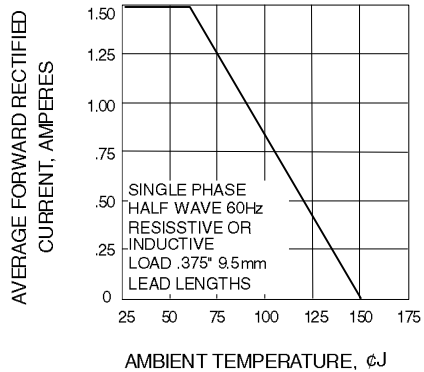


Fig. 3-FORWARD CURRENT DERATING CURVE

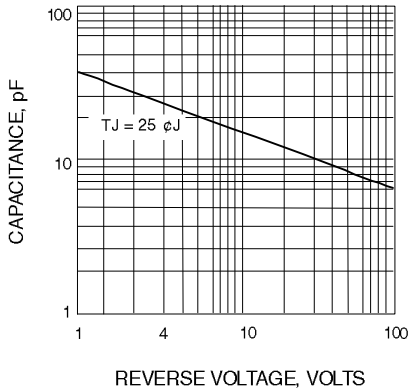


Fig. 4-TYPICAL JUNCTION CAPACITANCE

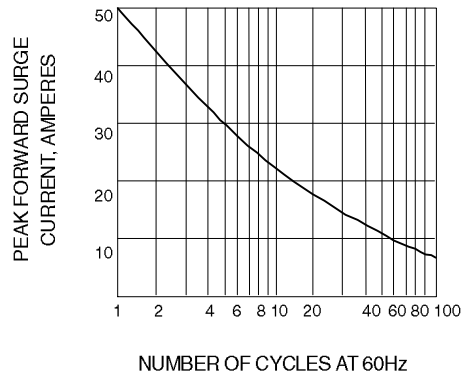


Fig. 5-PEAK FORWARD SURGE CURRENT