

# UF300 THRU UF3010

## ULTRAFAST SWITCHING RECTIFIER

VOLTAGE - 50 to 1000 Volts CURRENT - 3.0 Amperes

### FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-O utilizing Flame Retardant Epoxy Molding Compound
- Void-free Plastic in DO-201AD package
- 3.0 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, DO-201AD

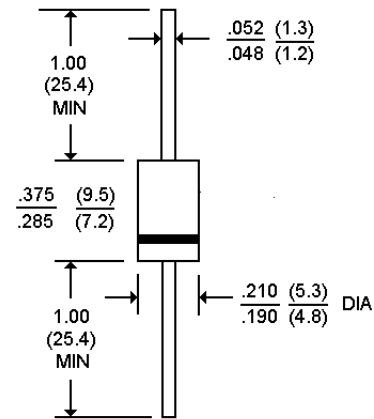
Terminals: Axial leads, solderable per MIL-STD-202, Method 208

Polarity: Band denotes cathode

Mounting Position: Any

Weight: 0.04 ounce, 1.1 gram

### DO-201AD



Dimensions in inches and (millimeters)

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

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

Resistive or inductive load, 60 Hz

	UF300	UF301	UF302	UF304	UF306	UF308	UF3010	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, $I_o$ @ $T_A=55\text{ }^{\circ}\text{C}$ 3.8" lead length, 60Hz, resistive or inductive load	3.0							A
Peak Forward Surge Current $I_{FM}$ (surge) 8.3msec. single half sine-wave superimposed on rated load (JEDEC method)	150							A
Maximum Forward Voltage $V_F$ @3.0A, 25 $^{\circ}\text{C}$	1.00		1.10		1.70			V
Maximum Reverse Current, @ Rated $T_J=25\text{ }^{\circ}\text{C}$	10.0							$\mu\text{g A}$
Reverse Voltage $T_J=100\text{ }^{\circ}\text{C}$	500							$\mu\text{g A}$
Typical Junction capacitance (Note 1) $C_J$	75.0				50.0			$\mu\text{F}$
Typical Junction Resistance (Note 2) $R_{\theta JKJA}$	20.0							$^{\circ}\text{C/W}$
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:

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

## UF300 THRU UF3010

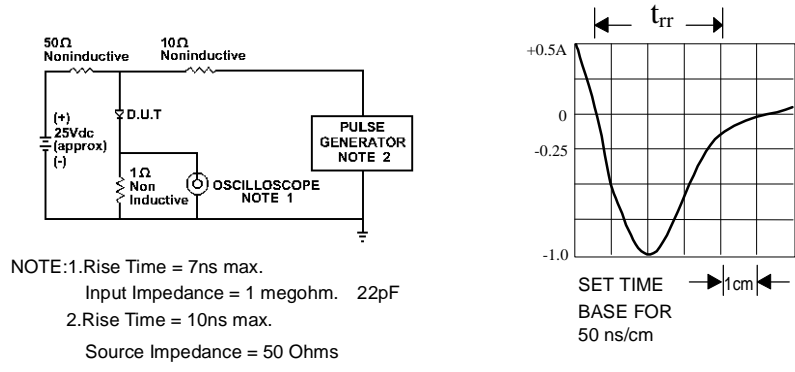


Fig. 1-REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

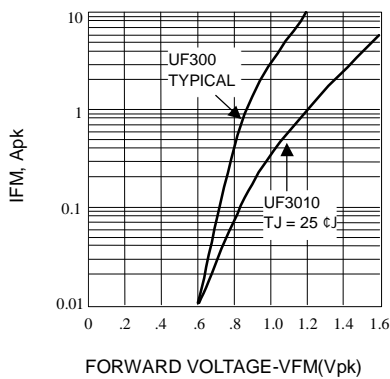


Fig. 2-FORWARD CHARACTERISTICS

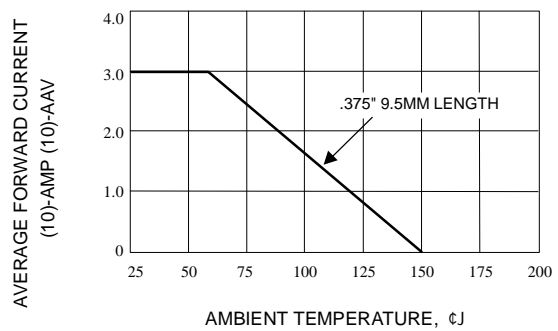


Fig. 3-FORWARD CURRENT DERATING CURVE

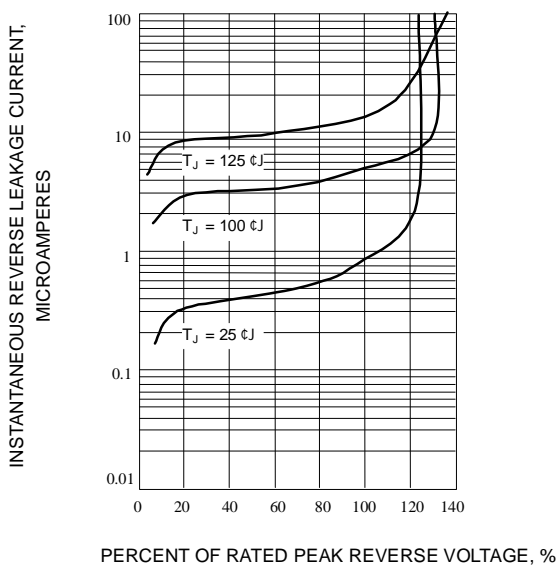


Fig. 4-TYPICAL REVERSE LEAKAGE CHARACTERISTICS

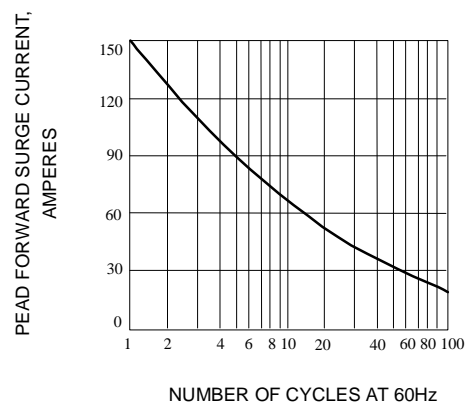


Fig. 5-PEAK FORWARD SURGE CURRENT