



SEMICONDUCTOR

# DATA SHEET

## UF300~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 TA=55 °C with no thermal runaway
- Exceeds environmental standards of MIL-S-19500/228
- Ultra fast switching for high efficiency
- High temperature soldering : 260°C / 10 seconds at terminals
- Pb free product at available : 99% Sn above meet RoHS environment substance directive request

#### MECHANICAL DATA

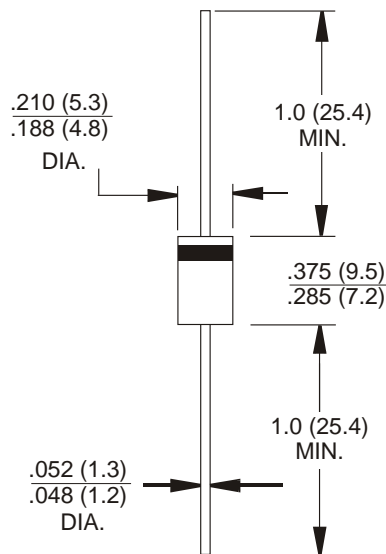
- Case: Molded plastic, DO-201AD
- Terminals: Axial leads, solderable per MIL-STD-202, Method 208
- Polarity: Band denotes cathode
- Mounting Position: Any
- Weight: 0.04 ounce, 1.1 gram

#### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified.

Resistive or inductive load, 60 Hz

DO-201AD Unit:inch(mm)



	SYMBOL	UF300	UF301	UF302	UF304	UF306	UF308	UF3010	UNITS	
Peak Reverse Voltage, Repetitive ; V <sub>RM</sub>		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 <sub>o</sub> @TA=55°C 3.8" lead length, 60Hz, resistive or inductive load		3.0							A	
Peak Forward Surge Current IFM (surge) 8.3msec. single half sine-wave superimposed on rated load(JEDEC method)		150							A	
Maximum Forward Voltage V <sub>F</sub> @3.0A, 25°C	VF	1.00		1.30		1.7			V	
Maximum Reverse Current, @ Rated TA=25°C	IR	10.0							µA	
Reverse Voltage TA=100°C		500							µA	
Typical Junction capacitance (Note 1) CJ	CJ	75.0				50.0				pF
Typical Junction Resistance (Note 2) R <sub>θJA</sub>	R <sub>θJA</sub>	20.0							°C/W	
Reverse Recovery Time IF=.5A, IR=1A, Itr=.25A	TRR	50				75				ns
Operating and Storage Temperature Range	TSTG	-55 to +150							°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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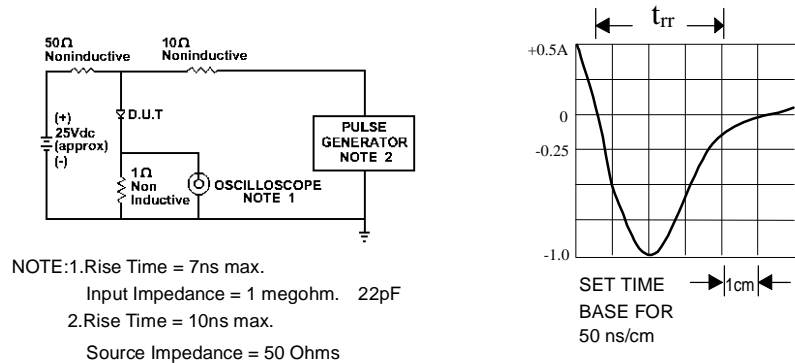


Fig. 1-REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

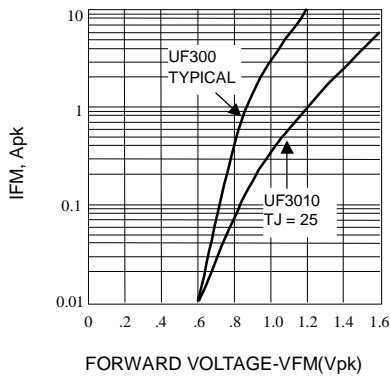


Fig. 2-FORWARD CHARACTERISTICS

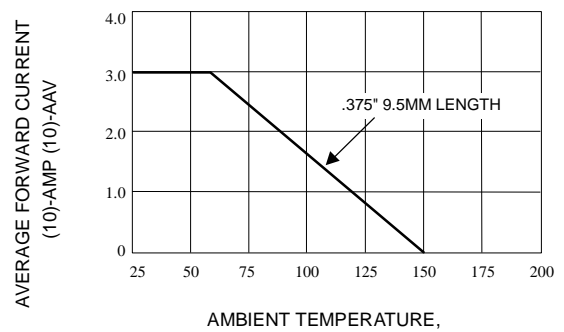


Fig. 3-FORWARD CURRENT DERATING CURVE

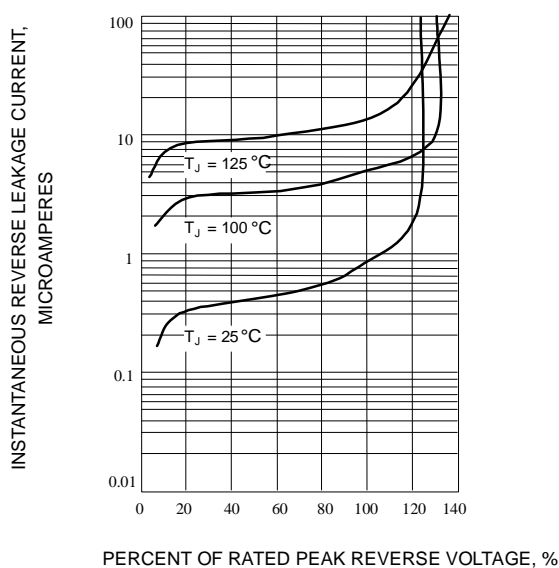


Fig. 4-TYPICAL REVERSE LEAKAGE CHARACTERISTICS

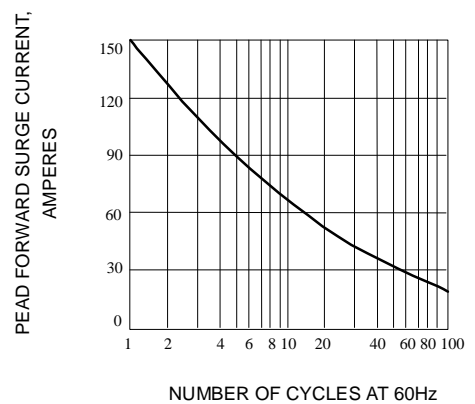


Fig. 5-PEAK FORWARD SURGE CURRENT