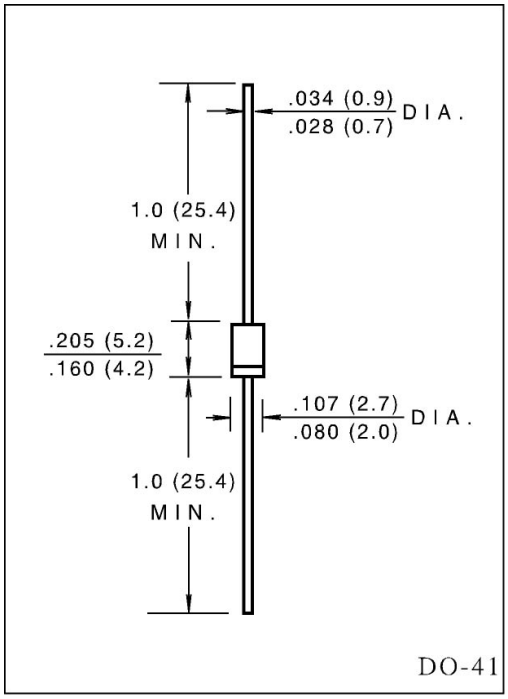
ULTRA FAST RECTIFIER

UF4001 THRU UF4004

VOLTAGE RANGE 50 **to** 1000 **Volts**
CURRENT 1.0 **Ampere**

FEATURES

- Low cost construction
- Fast switching for high efficiency
- Low reverse leakage
- High forward surge current capability
- High temperature soldering guaranteed: 260℃/10 seconds, 0.375" (9.5mm)lead length at 5 lbs. (2.3kg) tension



MECHANICAL DATA

- Case: transfer molded plastic
- Epoxy: UL94V - 0 rate flame retardant.
- Polarity: Color band denotes cathode end.
- Lead: Plated axial lead, solderable per MIL - STD - 202E method 208C
- Mounting position: Any
- Weight: 0.012 ounce, 0.33gram

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

- Ratings at 25℃ ambient temperature unless otherwise specified
- Single phase, half wave, 60Hz, resistive or inductive load.
- For capacitive load derate current by 20%

	SYMBOLS	UF 4001	UF 4002	UF 4003	UF 4004	UF 4005	UF 4006	UF 4007	UNIT
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	50	100	200	400	600	800	1000	Volts
Maximum RMS Voltage	V_{RMS}	35	70	140	280	420	850	700	Volts
Maximum DC Blocking Voltage	V_{DC}	50	100	200	400	600	800	1000	Volts
Maximum Average Forward Rectified Current, 0.375" (9.5mm) Lead length at T_A = 55℃	$I_{(AV)}$	1.0							Amp
Peak Forward Surge Current 8.3ms single half sine - wave superimposed on rated load (JEDEC method)	I_{FSM}	30							Amps
Maximum Instantaneous Forward Voltage at 1.0 A	V_F	1.0				1.7			Volts
Maximum DC Reverse Current at rated DC blocking voltage T_A = 25℃	I_R	10							μA
Maximum DC Reverse Current at rated DC blocking voltage T_A = 125℃	I_R	50							μA
Maximum Reverse Recovery Time T_j = 25℃ (Note 1	t_{rr}	50					75		nS
Typical Junction Capacitance (Note 2)	C_J	15							pF
Typical Thermal Resistance(Note 3)	$R_{\theta JA}$	60							℃/W
Operating and Storage Temperature Range	T_J, T_{STG}	(-65 TO +150)							℃

NOTES:

1.Test condition: I_F = 0.5A, I_R = 1.0A, I_{RR}=0.25A

2.Measured at 1 MHz and applied reverse of 4.0 volts.

3.Thermal resistance from junction to ambient with 0.375" (9.5mm) lead length, P.C.B. mounted.

RATINGS AND CHARACTERISTIC CURVES UF4001 THRU UF4007

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

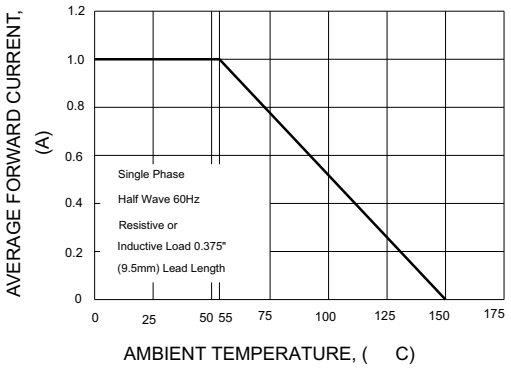


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

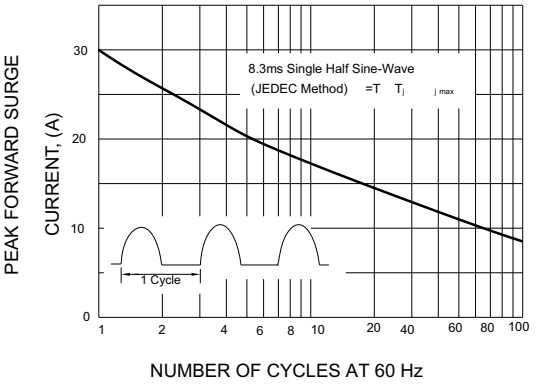


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

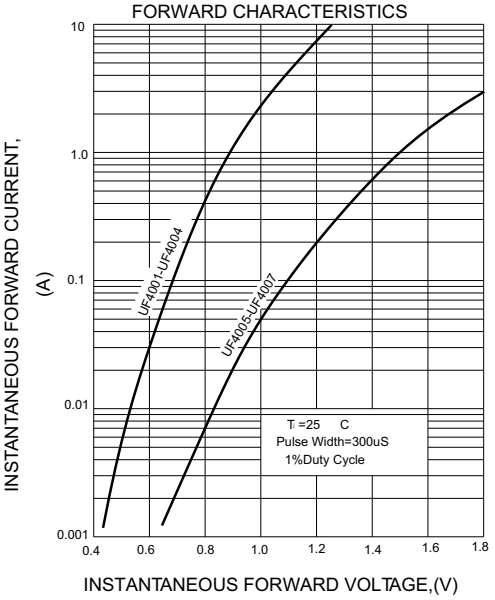


FIG.4-TYPICAL REVERSE CHARACTERISTICS

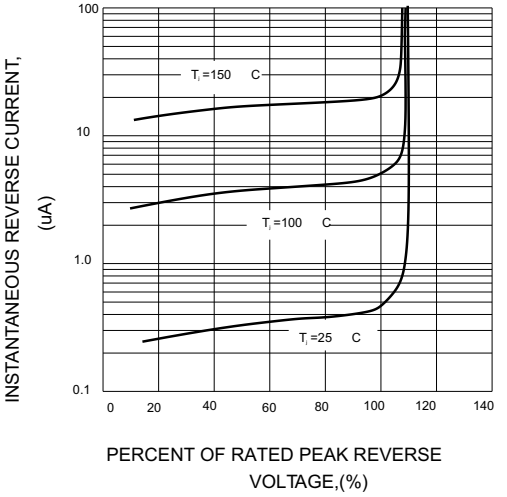


FIG.5-TYPICAL JUNCTION CAPACITANCE

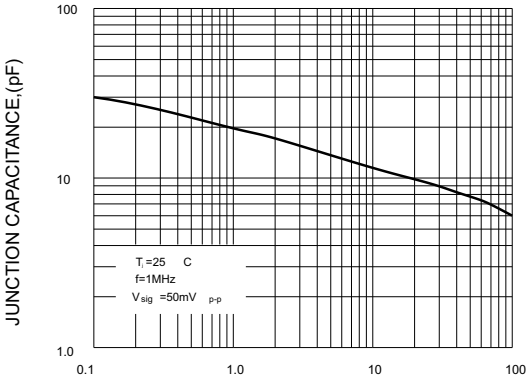
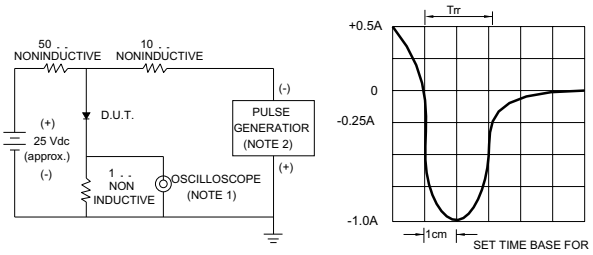


FIG.6-TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



NOTES: 1.Rise Time =7ns max. Input Impedance= 1 megohm. 22pF

2.Rise time=10ns max. Source Impedance= 50 ohms