

III. Fast / Ultra Fast / Super Fast Recovery Rectifier

1.0A Ultra Fast Recovery Rectifier UF4001~UF4007

(Package: DO-41)

<p>FEATURES</p> <ul style="list-style-type: none"> • The plastic package carries Underwriters Laboratory Flammability Classification 94V-0 • Ultra fast switching for high efficiency • Low reverse leakage • High forward surge current capability • High temperature soldering guaranteed : 250 /10 seconds, 0.375" (9.5mm) lead length, 5 lbs. (2.3 kg) tension <p>MECHANICAL DATA</p> <ul style="list-style-type: none"> • Case : JEDEC DO-41 molded plastic body • Terminals : Plated axial leads, solderable per MIL-STD-750, Method 2026 • Polarity : Color band denotes cathode end • Mounting Position : Any • Weight : 0.012 ounce, 0.33 grams 	<p>Case: DO-41 Dimensions in inches and (millimeters)</p>
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Ratings & Electrical Characteristics

Ratings at 25 ambient temperature unless otherwise specified.

Single phase half-wave 60 Hz, resistive or inductive load, for capacitive load current derate by 20%.

Characteristic	Symbol	UF 4001	UF 4002	UF 4003	UF 4004	UF 4005	UF 4006	UF 4007	Units
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	560	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 $T_a = 75$	I_o	1.0							Amps
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	30.0							Amps
Maximum instantaneous forward voltage at 1.0A	V_F	1.00		1.30		1.70		Volts	
Maximum DC reverse current at rated DC blocking voltage	I_R	$T_a = 25$		5.0		$T_a = 100$		100.0	μA
Maximum reverse recovery time (Note 1)	T_{rr}	50				75		ns	
Typical junction capacitance (Note 2)	C_j	15.0							PF
Typical thermal resistance (Note 3)	R_{th-JA}	50.0							/ W
Operating junction and storage temperature range	T_j, T_{stg}	-65 to +150							

Note :

1. Reverse recovery condition $I_F = 0.5A$, $I_R = 1.0A$, $I_{RR} = 0.25A$

2. Measured at 1.0 MHz and applied reverse voltage of 4.0 volts D.C.

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

Ratings and Characteristic Curves of UF4001~UF4007

FIG. 1- FORWARD CURRENT DERATING CURVE

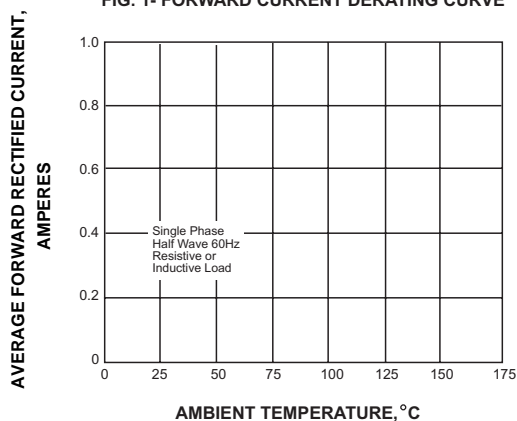


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

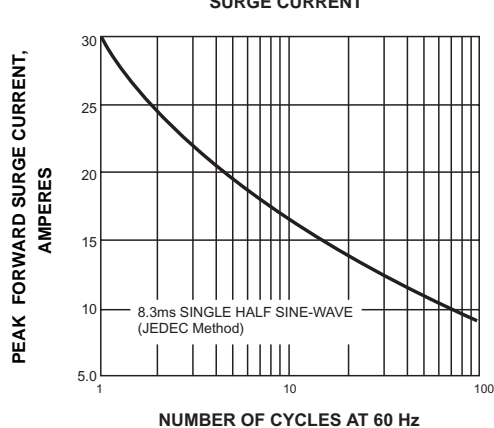


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

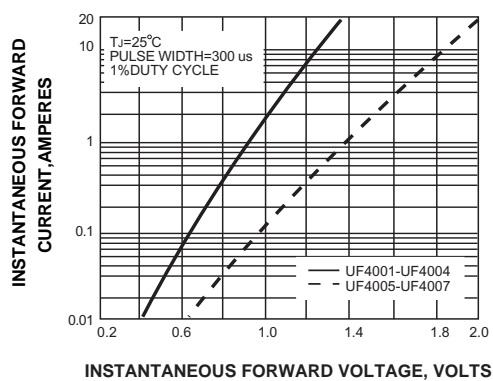


FIG. 4-TYPICAL REVERSE CHARACTERISTICS

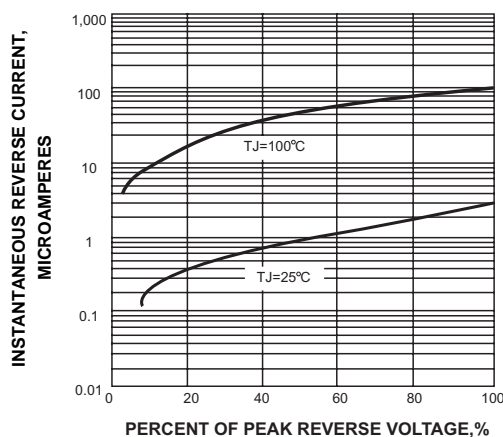


FIG. 5-TYPICAL JUNCTION CAPACITANCE

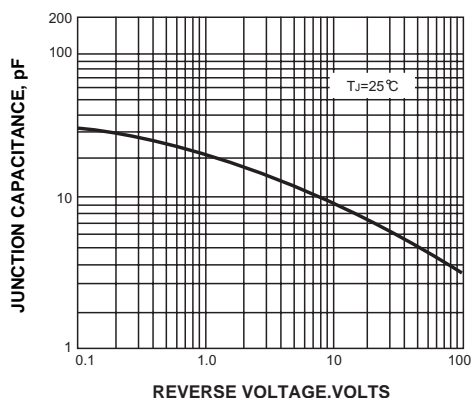


FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE

