

### III. Fast / Ultra Fast / Super Fast Recovery Rectifier

#### 1.0A Ultra Fast Recovery Rectifier UF4001~UF4007

(Package: DO-41)

<p><b>FEATURES</b></p> <ul style="list-style-type: none"> <li>• The plastic package carries Underwriters Laboratory Flammability Classification 94V-0</li> <li>• Ultra fast switching for high efficiency</li> <li>• Low reverse leakage</li> <li>• High forward surge current capability</li> <li>• High temperature soldering guaranteed : 250 /10 seconds, 0.375" (9.5mm) lead length, 5 lbs. (2.3 kg) tension</li> </ul> <p><b>MECHANICAL DATA</b></p> <ul style="list-style-type: none"> <li>• Case : JEDEC DO-41 molded plastic body</li> <li>• Terminals : Plated axial leads, solderable per MIL-STD-750, Method 2026</li> <li>• Polarity : Color band denotes cathode end</li> <li>• Mounting Position : Any</li> <li>• Weight : 0.012 ounce, 0.33 grams</li> </ul>	<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 $T_a = 25$ $T_a = 100$	$I_R$	5.0		100.0				$\mu A$	
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

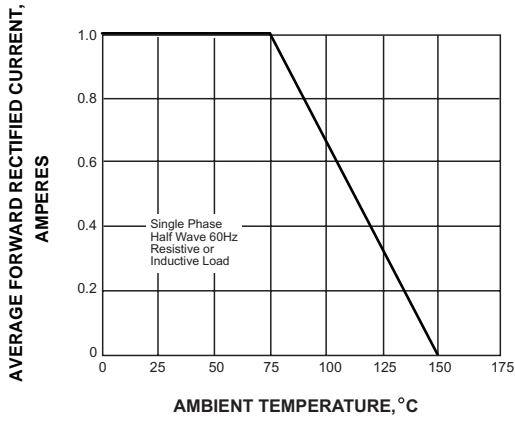


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

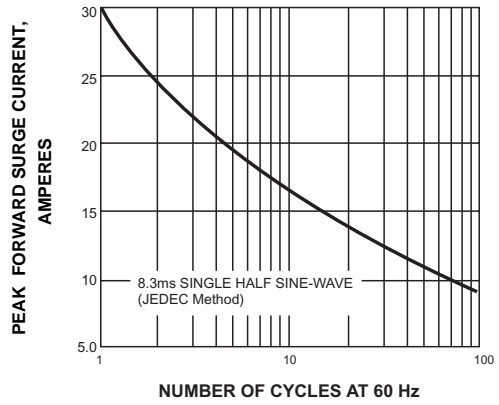


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

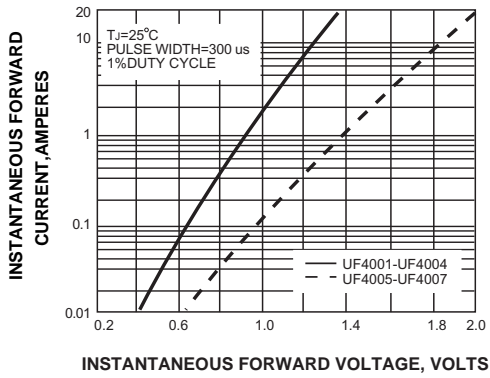


FIG. 4-TYPICAL REVERSE CHARACTERISTICS

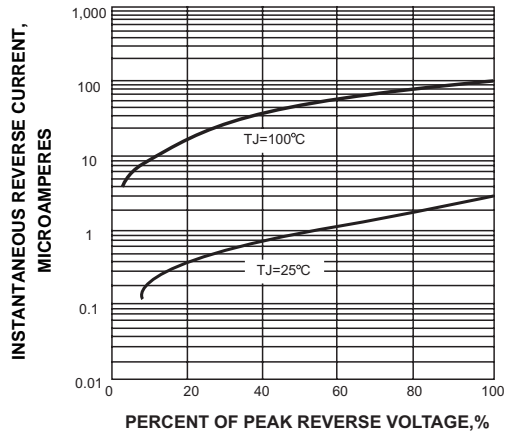


FIG. 5-TYPICAL JUNCTION CAPACITANCE

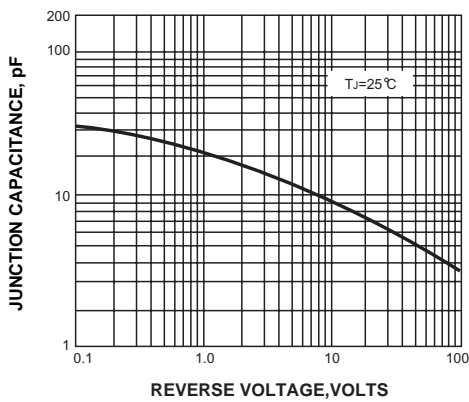


FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE

