



UF4001 THRU UF4007

Reverse Voltage - 50 to 1000 Volts Forward Current - 1.0 Ampere

ULTRA FAST RECTIFIERS

Features

- ◆ 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°C/10 seconds, 0.375" (9.5mm) lead length, 5 lbs. (2.3kg) tension

Mechanical Data

Case : JEDEC DO-41 Molded plastic body

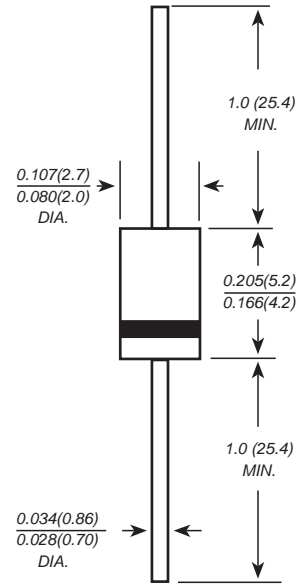
Terminals : Solder plated, solderable per MIL-STD-750, Method 2026

Polarity : Polarity symbol marking on body

Mounting Position : Any

Weight : 0.012 ounce, 0.33 grams

DO-41



Dimensions in inches and (millimeters)

Maximum Ratings And Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

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

parameter	SYMBOLS	UF4001	UF4002	UF4003	UF4005	UF4006	UF4007	UNITS
		MDD UF4001	MDD UF4002	MDD UF4003	MDD UF4005	MDD UF4006	MDD UF4007	
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	200	600	800	1000	V
Maximum RMS voltage	V_{RMS}	35	70	140	420	560	700	V
Maximum DC blocking voltage	V_{DC}	50	100	200	600	800	1000	V
Maximum average forward rectified current 0.375" (9.5mm) lead length at $T_A=55^\circ\text{C}$	$I_{(AV)}$	1.0						A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	30.0						A
Maximum instantaneous forward voltage at 1.0A	V_F	1.0			1.7			V
Maximum DC reverse current $T_A=25^\circ\text{C}$ at rated DC blocking voltage $T_A=100^\circ\text{C}$	I_R	5.0 50.0						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)	$R_{\theta JA}$	50.0						$^\circ\text{C}/\text{W}$
Operating junction and storage temperature range	T_J, T_{STG}	-50 to +150						$^\circ\text{C}$

Note: 1. Reverse recovery condition $I_F=0.5\text{A}, I_R=1.0\text{A}, I_{rr}=0.25\text{A}$

2. Measured at 1MHz and applied reverse voltage of 4.0V D.C.

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



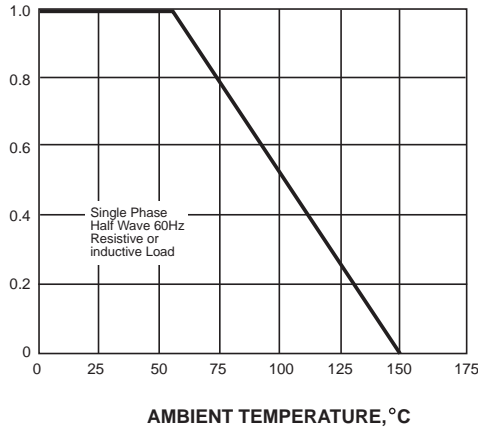
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Ratings And Characteristic Curves

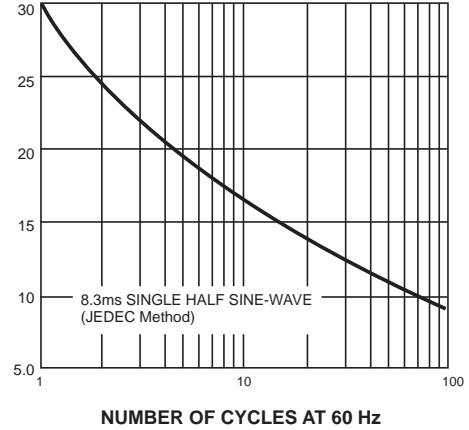
AVERAGE FORWARD RECTIFIED CURRENT, AMPERES

FIG. 1- FORWARD CURRENT DERATING CURVE



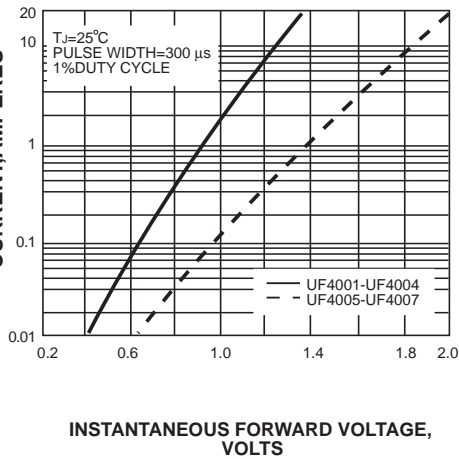
PEAK FORWARD SURGE CURRENT, AMPERES

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



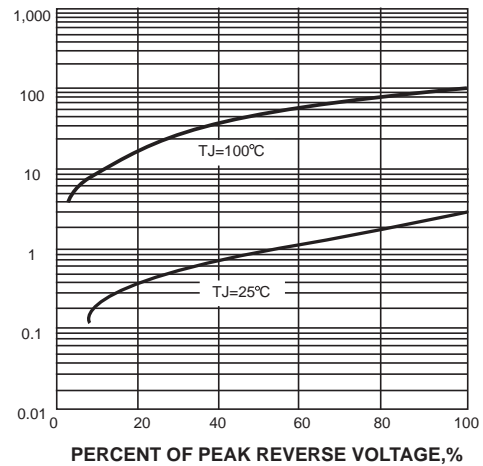
INSTANTANEOUS FORWARD CURRENT, AMPERES

FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



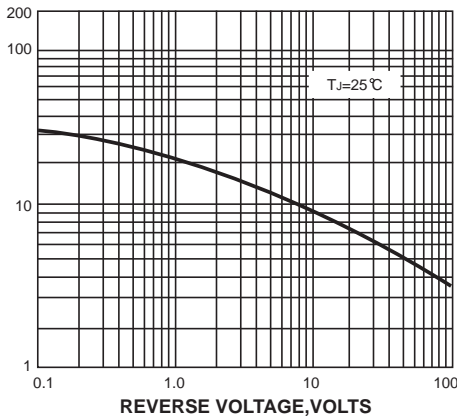
INSTANTANEOUS REVERSE CURRENT, MICROAMPERES

FIG. 4-TYPICAL REVERSE CHARACTERISTICS



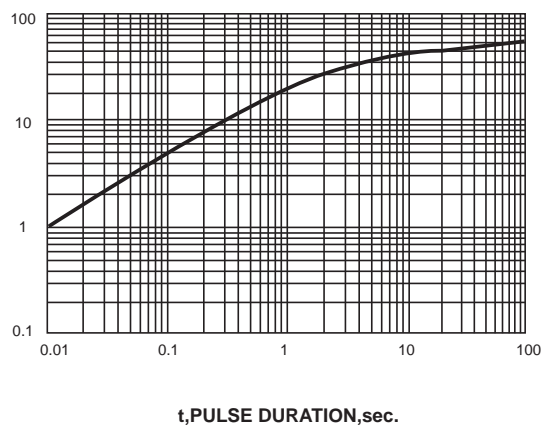
JUNCTION CAPACITANCE, pF

FIG. 5-TYPICAL JUNCTION CAPACITANCE



TRANSIENT THERMAL IMPEDANCE, °C/W

FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE



The curve above is for reference only.