

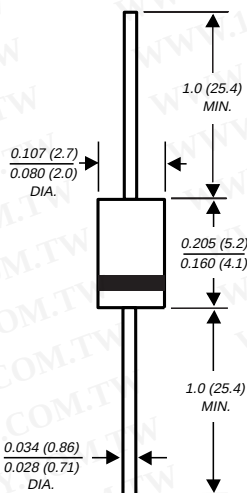
UF4001 THRU UF4007

ULTRAFAST EFFICIENT PLASTIC RECTIFIER

Reverse Voltage - 50 to 1000 Volts

Forward Current - 1.0 Ampere

DO-204AL



Dimensions in inches and (millimeters)

FEATURES

- ◆ Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- ◆ 1.0 ampere operation at $T_A=55^{\circ}\text{C}$ with no thermal runaway
- ◆ Glass passivated chip junction
- ◆ Low cost
- ◆ Ultrafast recovery time for high efficiency
- ◆ Low forward voltage
- ◆ Low leakage current
- ◆ High surge current capability
- ◆ High temperature soldering guaranteed: $250^{\circ}\text{C}/10$ seconds, 0.375" (9.5mm) lead length, 5 lbs. (2.3kg) tension



MECHANICAL DATA

Case: JEDEC DO-204AL molded plastic body over passivated chip

Terminals: Plated axial leads, solderable per MIL-STD-750, Method 2026

Polarity: Color band denotes cathode end

Mounting Position: Any

Weight: 0.012 ounce, 0.3 gram

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

	SYMBOLS	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 =55°C	I _(AV)	1.0							Amp
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	1.0				1.7			Volts
Maximum DC reverse current T _A =25°C at rated DC blocking voltage T _A =100°C	I _R	10.0 50.0							μA
Maximum reverse recovery time (NOTE 1)	t _{rr}	50.0				75.0			ns
Typical junction capacitance (NOTE 2)	C _J	17.0							pF
Typical thermal resistance (NOTE 3)	R _{θJA} R _{θJL}	60.0 15.0							°C/W
Operating junction and storage temperature range	T _J , T _{STG}	-55 to +150							°C

NOTES:

(1) Reverse recovery test conditions: $I_F=0.5\text{A}$, $I_R=1.0\text{A}$, $t_{rr}=0.25\text{A}$

(2) Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts

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

RATINGS AND CHARACTERISTIC CURVES UF4001 THRU UF4007

FIG. 1 - MAXIMUM FORWARD CURRENT DERATING CURVE

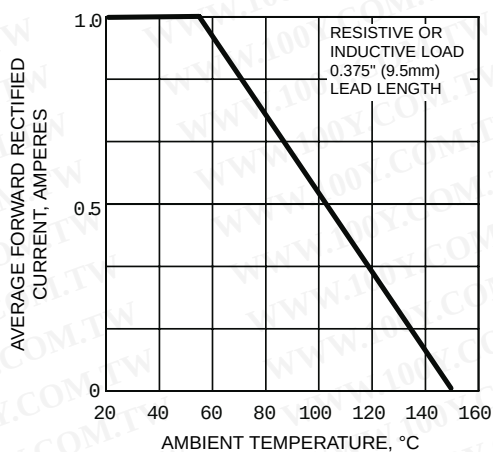


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

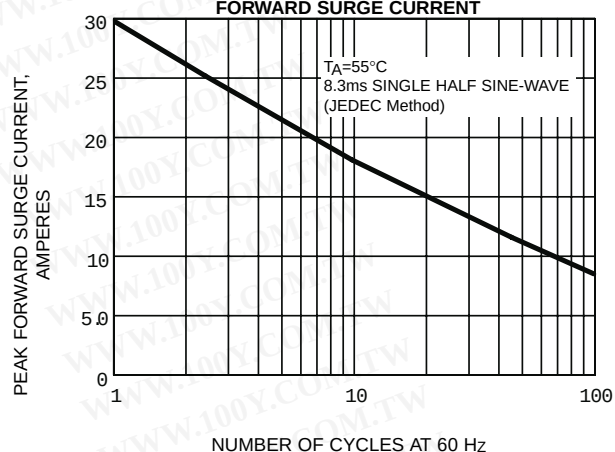


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

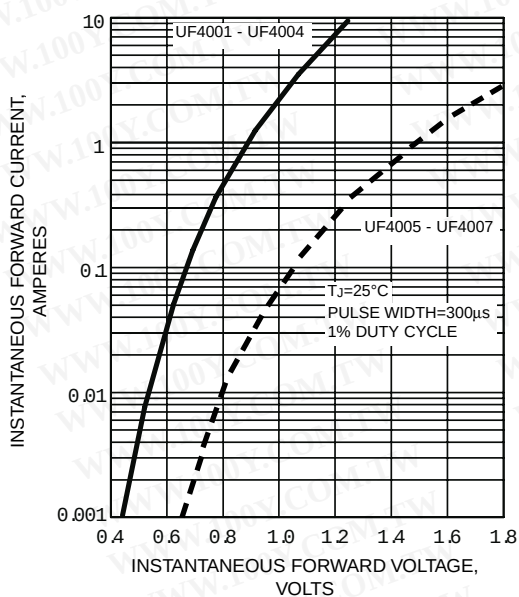


FIG. 4 - TYPICAL REVERSE LEAKAGE CHARACTERISTICS

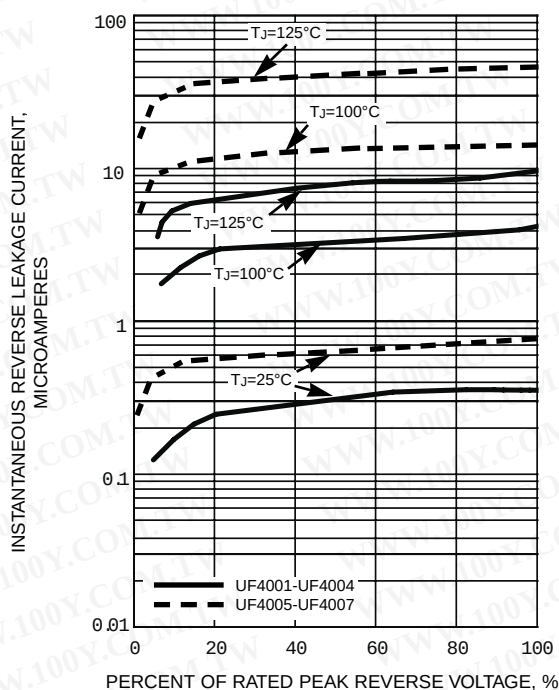
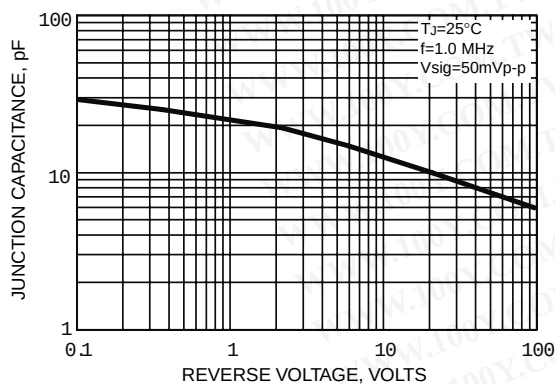


FIG. 5 - TYPICAL JUNCTION CAPACITANCE



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