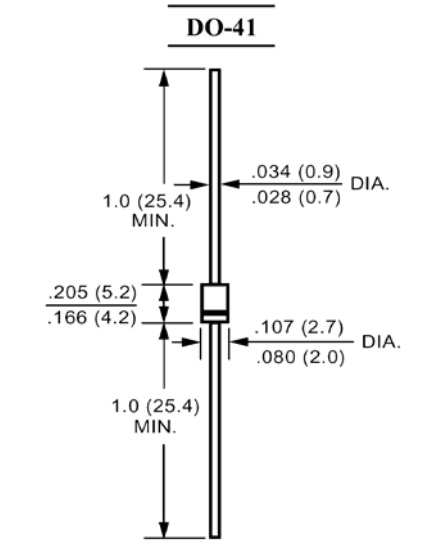
UF4001 THRU UF4007

ULTRAFAST RECOVERY RECTIFIERS
Reverse Voltage – 50 to 1000 V
Forward Current – 1 A

Features

- Plastic package has Underwriters Laboratories Flammability Classification 94V-0
- Ideally suited for use in very high frequency switching power supplies, inverters and as free wheeling diodes
- Ultrafast recovery time for high efficiency
- Excellent high temperature switching
- Soft recovery characteristics



Dimensions in inchs and (millimeters)

Mechanical Data

- Case: molded plastic, DO-41
- Epoxy: UL 94V-0 rate flame retardant
- Lead: Axial leads, solderable per MIL-STD-202, Method 208 guaranteed
- Polarity: Color band denotes cathode end
- Mounting Position: Any

Absolute Maximum Ratings and Characteristics

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

Parameter	Symbols	UF4001	UF4002	UF4003	UF4004	UF4005	UF4006	UF4007	Units
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	V_{RMS}	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	V_{DC}	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Current 0.375"(9.5mm) Lead Length at T_A = 55 °C	$I_{(AV)}$	1							A
Peak Forward Surge Current, 8.3 ms Single Half-sine -wave Superimposed on Rated Load (JEDEC Method)	I_{FSM}	30							A
Maximum Forward Voltage at 1 A DC	V_F	1				1.7			V
Maximum Reverse Current T_A = 25 °C at Rated DC Blocking Voltage T_A = 100 °C	I_R	5 500							μA
Typical Junction Capacitance [1]	C_J	17							pF
Typical Thermal Resistance [2]	$R_{\theta JA}$	60							°C/W
Maximum Reverse Recovery Time [3]	t_{rr}	50				75			ns
Operating and Storage Temperature Range	T_J , T_{Stg}	-55 to +150							°C

[1] Measured at 1 MHz and applied reverse voltage of 4 V DC.

[2] Thermal resistance junction to ambient and from juntcion to lead at 0.375"(9.5mm) lead length P.C.B mounted.

[3] Reverse recovery test conditions: I_F = 0.5 A, I_R = 1 A, I_{rr} = 0.25 A.

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FIG. 1 - MAXIMUM FORWARD CURRENT DERATING CURVE

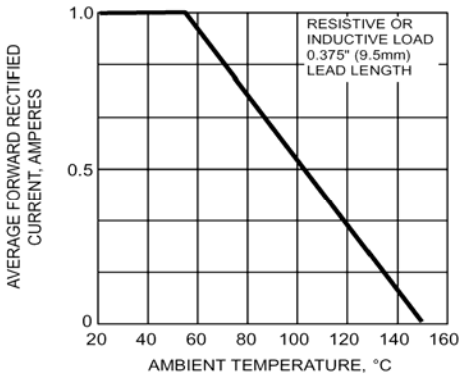

FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

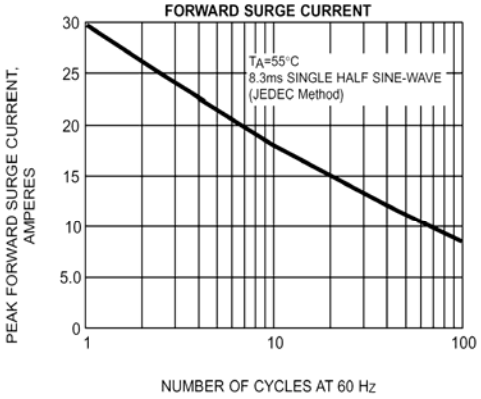

FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

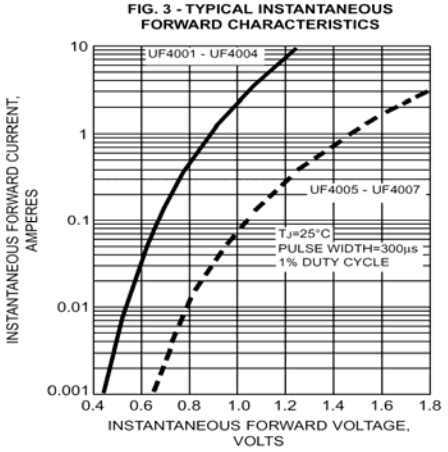

FIG. 4 - TYPICAL REVERSE LEAKAGE CHARACTERISTICS

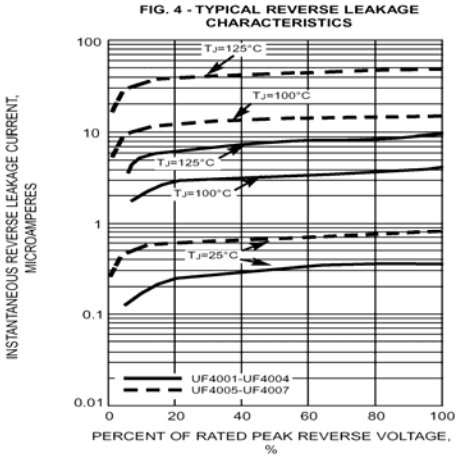

FIG. 5 - TYPICAL JUNCTION CAPACITANCE