UF4001S THRU UF4007S

ULTRA FAST RECTIFIERS

Voltage Range - 50 to 1000 V

Forward Current - 1 A

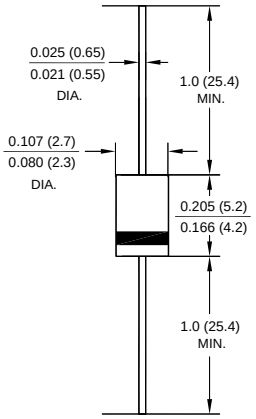
Features

- Ultra fast switching for high efficiency
- Low reverse leakage
- High forward surge current capability

Mechanical data

- **Case:** A-405 molded plastic body
- **Terminals:** Plated axial leads, solderable per MIL-STD-750 Method 2026
- **Polarity:** Color band denotes cathode end
- **Mounting position:** any

A-405



Dimensions in inches and (millimeters)

Absolute Maximum Ratings and Electrical characteristics (T_a = 25 °C)

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	UF4001S	UF4002S	UF4003S	UF4004S	UF4005S	UF4006S	UF4007S	Units
Maximum Repetitive 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	V_F	1				1.7			V
Maximum DC Reverse Current T_A = 25 °C at Rated DC Blocking Voltage T_A = 100 °C	I_R	5 50							μA
Maximum Reverse Recovery Time [1]	t_{rr}	50				75			ns
Typical Junction Capacitance [2]	C_J	15							pF
Typical Thermal Resistance [3]	$R_{\theta JA}$	50							°C/W
Operating and Storage Temperature Range	T_J, T_{Stg}	- 65 to + 150							°C

[1] Reverse recovery condition I_F = 0.5 A, I_R = 1 A, I_{rr} = 0.25 A.

[2] Measured at 1 MHz and applied reverse voltage of 4 V D.C.

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

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FIG. 1- FORWARD CURRENT DERATING CURVE

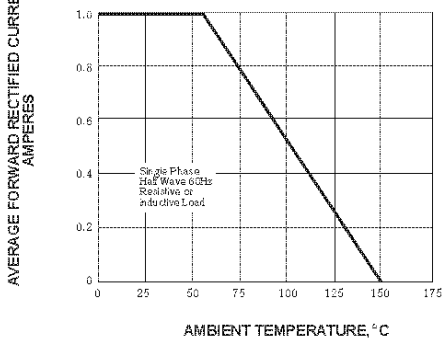

FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

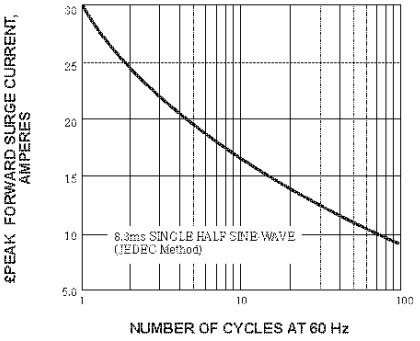

FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

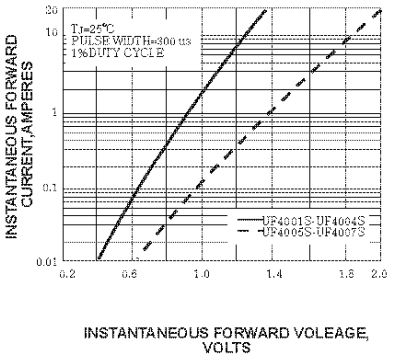

FIG. 4-TYPICAL REVERSE CHARACTERISTICS

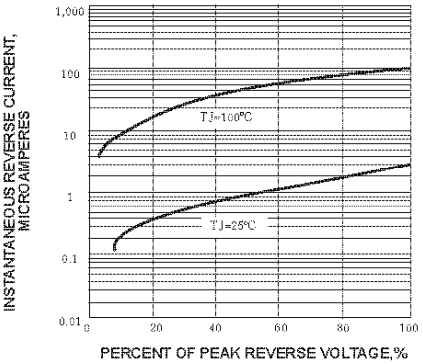

FIG. 5-TYPICAL JUNCTION CAPACITANCE

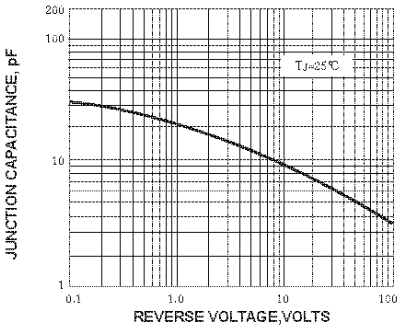

FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE