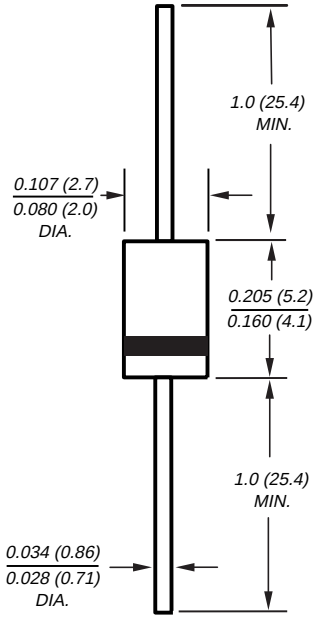
UF4001 thru UF4007

Vishay Semiconductors
formerly General Semiconductor

Ultrafast Plastic Rectifier

Reverse Voltage 50 to 1000V
Forward Current 1.0A

DO-204AL (DO-41)



Dimensions in inches and (millimeters)

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
- Glass passivated junction
- High temperature soldering guaranteed: 250°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: Axial leads, solderable per MIL-STD-750, Method 2026
Polarity: Color band denotes cathode end
Mounting Position: Any
Weight: 0.012 ounce, 0.34 gram

Maximum Ratings & Thermal 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	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	$I_{F(AV)}$	1.0							A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	30							A
Typical thermal resistance (1)	$R_{\Theta JA}$ $R_{\Theta JL}$	60 15							°C/W
Operating junction and storage temperature range	T_J, T_{STG}	-55 to +150°C							°C

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 instantaneous forward voltage at 1.0A (2)	V_F	1.0				1.7			V
Maximum DC reverse current at rated DC blocking voltage T_A= 25°C T_A=100°C	I_R	10 50							µA
Maximum reverse recovery time I_F=0.5A, I_R=1.0A, I_{rr}= 0.25A	t_{rr}	50				75			ns
Typical junction capacitance at 4.0V, 1MHz	C_J	17							pF

Notes:
(1) Thermal resistance from junction to ambient at 0.375" (9.5mm) lead length
(2) Pulse test: 300µs pulse width, 1% duty cycle

Ratings and Characteristic Curves (T_A = 25°C unless otherwise noted)

Fig. 8 - Maximum Forward Current Derating Curve

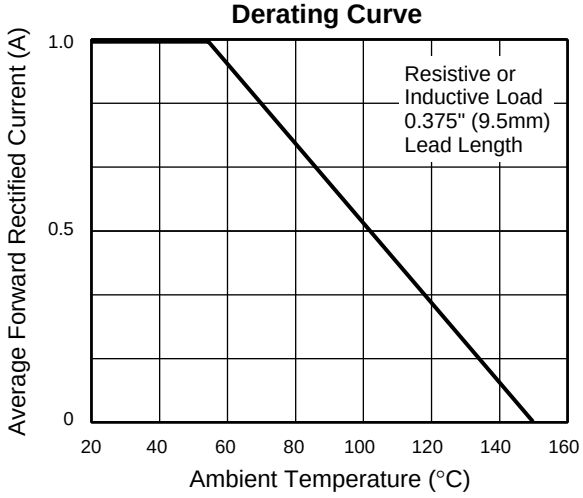


Fig. 9 - Maximum Non-Repetitive Peak Forward Surge Current

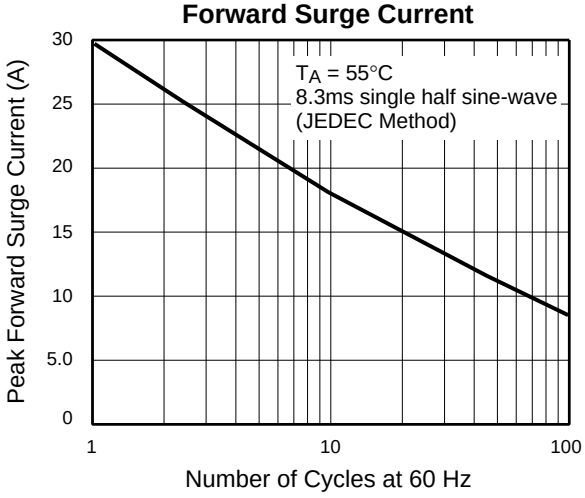


Fig. 10 - Typical Instantaneous Forward Characteristics

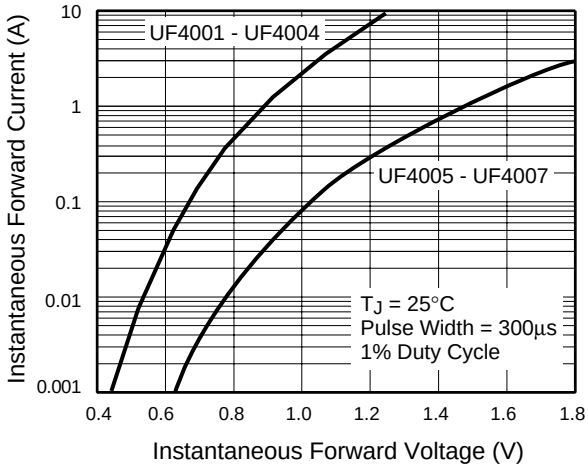


Fig. 11 - Typical Reverse Leakage Characteristics

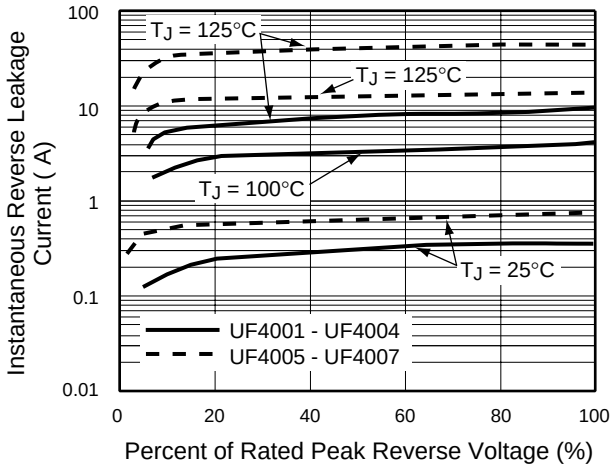


Fig. 12 - Typical Junction Capacitance