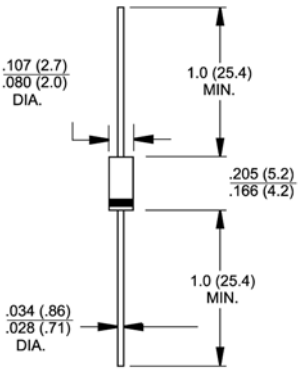
UF4001 thru UF4007

Glass Passivated High Efficient Rectifiers
Reverse Voltage 50 to 1000 Volts Forward Current 1.0 Ampere

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

DO-204AL (DO-41)



Dimensions in inches and (millimeters)

Mechanical Data

- Case: JEDEC DO-204AL(DO-41) 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 and Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbols	UF4001	UF4002	UF4003	UF4004	UF4005	UF4006	UF4007	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	$I_{F(AV)}$	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 (Note 2)	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							uA
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
Typical thermal resistance (Note 1)	$R_{\theta JA}$ $R_{\theta JL}$	60 15							°C/W
Operating junction temperature range	T_J	-55 to +150							°C
Storage temperature range	T_{STG}	-55 to +150							°C

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

RATINGS AND CHARACTERISTIC CURVES

(T_A = 25°C unless otherwise noted)

FIG. 1 - MAXIMUM FORWARD CURRENT DERATING CURVE

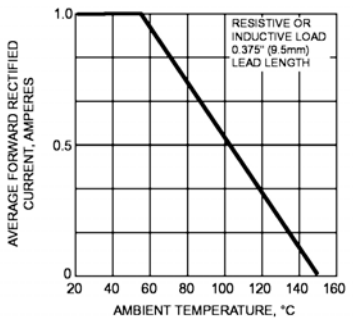


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

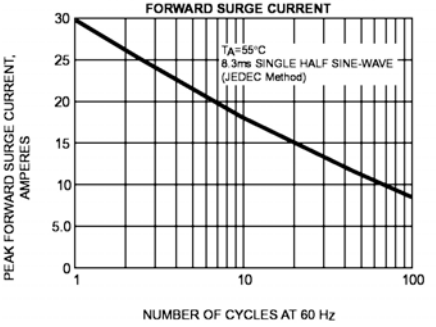


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

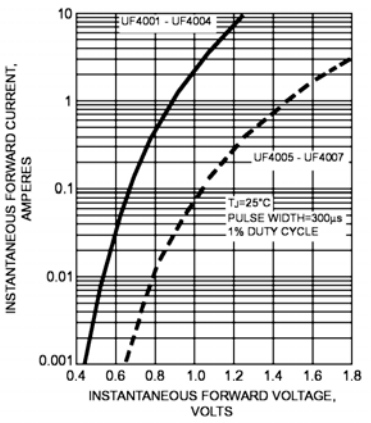


FIG. 4 - TYPICAL REVERSE LEAKAGE CHARACTERISTICS

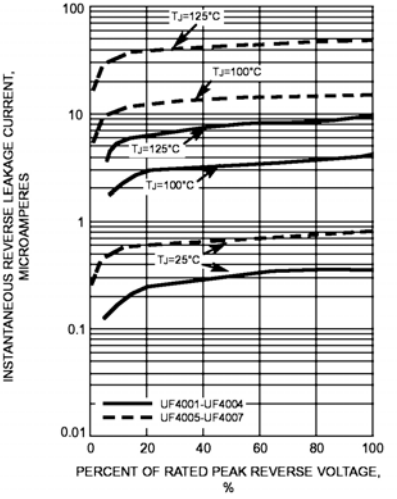


FIG. 5 - TYPICAL JUNCTION CAPACITANCE