

Glass Passivated Ultra Fast Recovery Rectifiers
Reverse Voltage 50 to 1000 Volts Forward Current 1.0 Ampere

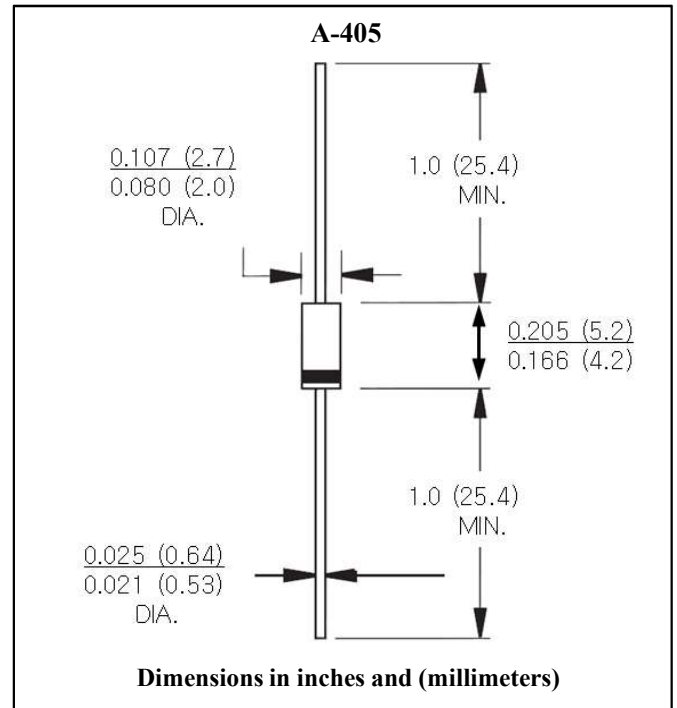
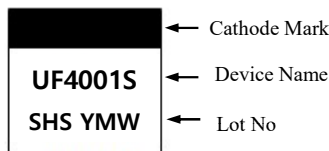
Features

- 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

Mechanical Data

- Case : A-405 Molded plastic
- Epoxy : UL 94V-0 rate flame retardant
- Lead : Axial leads, solderable per MIL-STD-750, method 2026 guaranteed
- Polarity : Color band denotes cathode end
- High temperature soldering guaranteed : 260°C/10 seconds /0.375",(9.5mm) lead lengths at 5lbs.,(2.3kg) tension
- Weight : 0.22 gram

Marking



Maximum Ratings & Electrical 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	Symbol	UF 4001S	UF 4002S	UF 4003S	UF 4004S	UF 4005S	UF 4006S	UF 4007S	Unit	Remark
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	$I_F(AV)$	1.0							A	
Peak Forward Surge Current 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC Method)	I_{FSM}	30							A	
Maximum Instantaneous Forward Voltage @ 1.0A	V_F	1.0			1.7			V	Note 1	
Maximum DC Reverse Current at Rated DC Blocking Voltage	I_R	10							uA	Ta=25°C
		50							uA	Ta=125°C
Maximum Reverse Recovery Time ($I_F = 0.5A, I_R = 1.0A, I_{tr} = 0.25A$)	t_{rr}	50			75			nS		
Typical Junction Capacitance	C_J	17							pF	Note 2
Typical Thermal Resistance	$R_{th(j-a)}$	65							°C /W	Note 3
	$R_{th(j-l)}$	15								
Operation Junction Temperature Range	T_J	-55 to +150							°C	
Storage Temperature Range	T_{STG}	-55 to +150							°C	

Note 1. Pulse test: 300us pulse width, 1% duty cycle
 Note 2. Measured at 1MHz and Applied Reverse Voltage of 4.0Volts D.C.
 Note 3. Thermal resistance from junction to ambient at 0.375"(9.5mm) lead length

Ratings and Characteristics Curves ($T_a=25^\circ\text{C}$ unless otherwise noted)

Fig.1 Forward Current Derating Curve

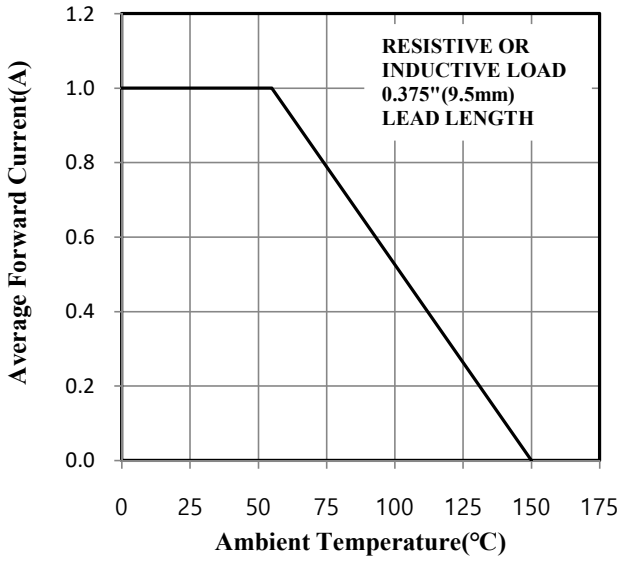


Fig.2 Maximum Non-Repetitive Peak Forward Surge Current

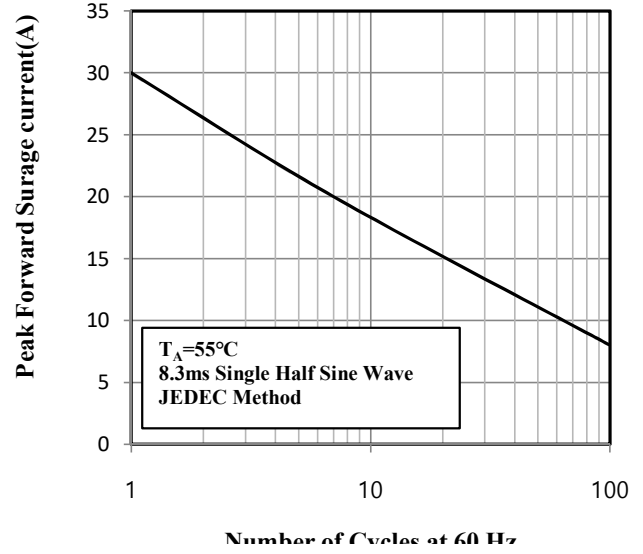


Fig.3 Typical Instantaneous Forward Characteristics

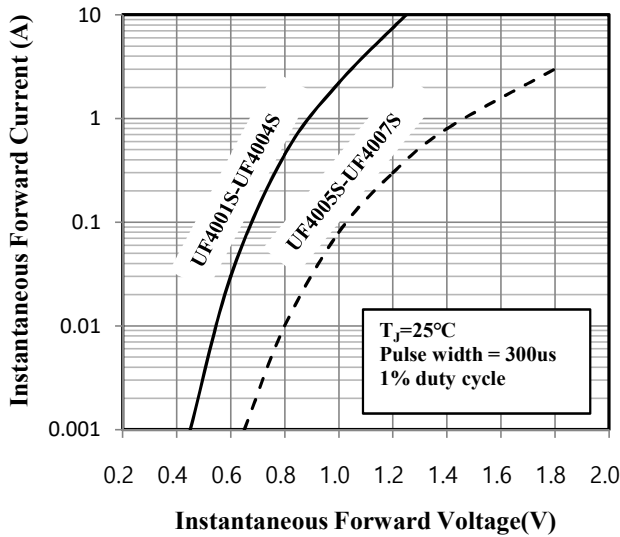


Fig.4 Typical Junction Capacitance

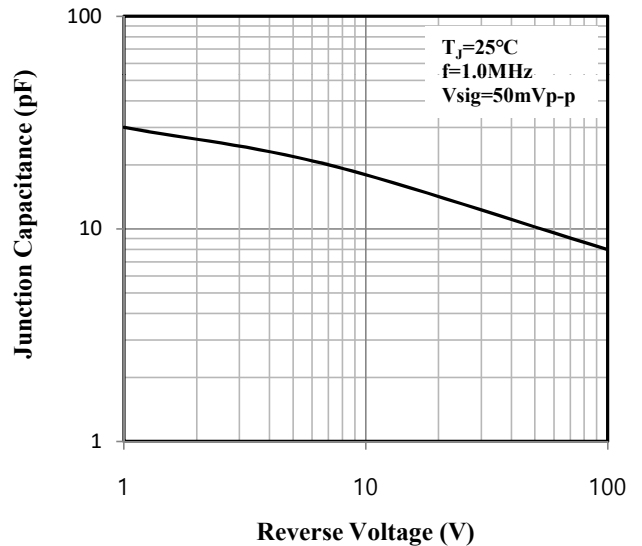


Fig.5 Typical Reverse Characteristics

