TOP ONE SEMI CONDUCTOR

HIGH EFFICIENCY RECTIFIERS

UF5400 THRU UF5408

50V-1000V

3.0A

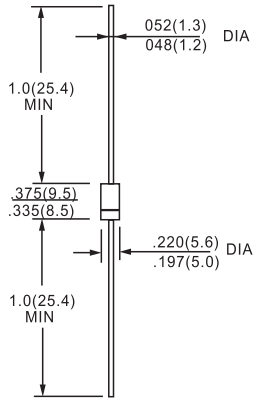
Features

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Low forward voltage drop
- High current capability
- High reliability
- Low power loss, high effciency
- High surge current capability
- High speed switching
- Low leakage

Mechanical Data

Case : JEDEC DO-201AD molded plastic body
Epoxy : UL94V-0 rate flame retardant
Lead : Plated axial lead solderable per MIL-STD-750, method 2026
Polarity : Color band denotes cathode end
Mounting Position : Any
Weight : 0.042 ounce, 1.19 gram

DO-27



Dimensions in inches and (millimeters)

Maximum Ratings and Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	UF 5400	UF 5401	UF 5402	UF 5403	UF 5404	UF 5405	UF 5406	UF 5407	UF 5408	Units
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	200	300	400	500	600	800	1000	Volts
Maximum RMS voltage	V_{RMS}	35	70	140	210	280	350	420	560	700	Volts
Maximum DC blocking voltage	V_{DC}	50	100	200	300	400	500	600	800	1000	Volts
Maximum average forward rectified current, 0.375" (9.5mm) lead length at T_A=55°C	$I_{F(AV)}$	3.0									Amps
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) at T_A=55°C	I_{FSM}	150.0									Amps
Maximum instantaneous forward voltage at 3.0A (Note 2)	V_F	1.0					1.7				Volts
Maximum DC reverse current @ T_A=25°C	I_R	10									uA
at rated DC blocking voltage @ T_A=100°C		75					200				
Maximum reverse recovery time T_J=25°C at 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	45					36				pF
Typical thermal resistance (Note 1)	$R_{\theta JA}$ $R_{\theta JL}$	20 8.5									°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 lead and from junction to ambient with 0.375" (9.5mm) lead length, P.C.B. mounted
2. Pulse test: 300μs pulse width, 1% duty cycle

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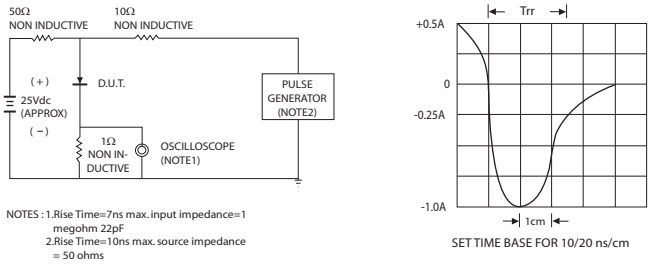
FIG.1-TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



NOTES : 1.Rise Time=7ns max. input impedance=1 megohm 22pF
2.Rise Time=10ns max. source impedance = 50 ohms

SET TIME BASE FOR 10/20 ns/cm

FIG.2-TYPICAL FORWARD CURRENT DERATING CURVE

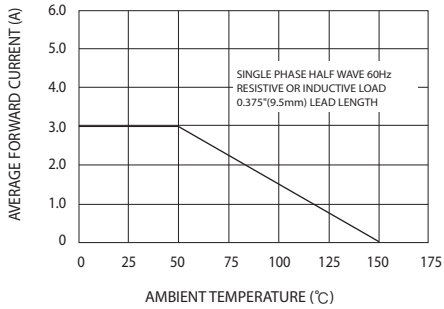


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

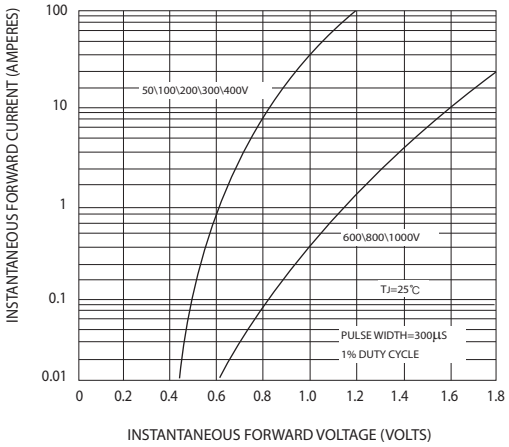


FIG.4-TYPICAL REVERSE CHARACTERISTICS

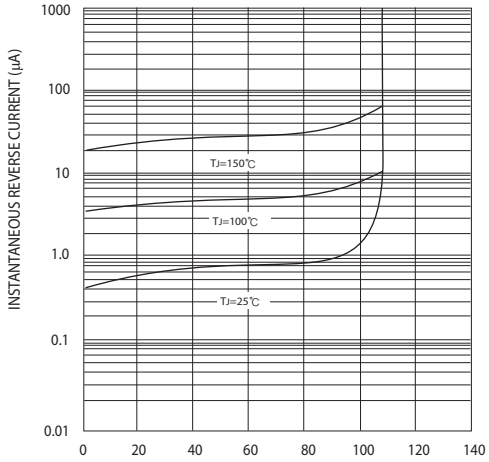


FIG.5-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

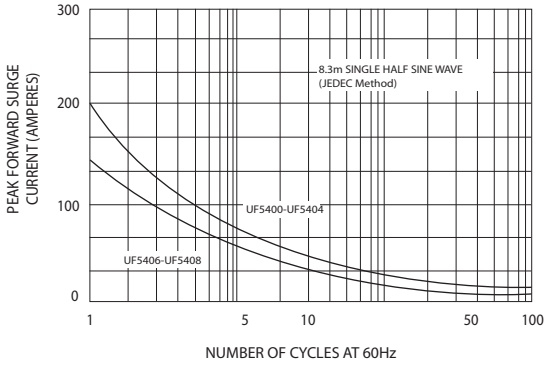


FIG6-TYPICAL JUNCTION CAPACITANCE