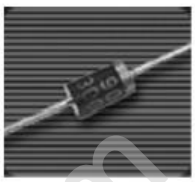
SYNSEMI SEMICONDUCTOR

UF5400 thru UF5408

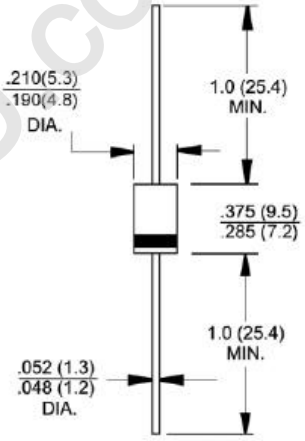
3.0 Amps. Glass Passivated High Efficient Rectifiers
Voltage Range 50 to 1000 Volts Forward Current 3.0 Amperes

Features

- Plastic package has Underwriters Laboratories Flammability Classification 94V-0
- Glass passivated chip junction
- Low cost
- Ultrafast recovery time for high efficiency
- Low forward voltage, high current capability
- Low leakage
- High surge capability
- High temperature soldering guaranteed: 250°C, 0.375" (9.5mm) lead length for 10 seconds, 5 lbs. (2.3kg) tension



DO-201AD



Dimensions in inches and (millimeters)

Mechanical Data

- Case: JEDEC DO-201AD molded plastic body over passivated chip
- Terminals: Plated axial leads, solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes cathode end
- Mounting Position: Any
- Weight: 0.04 ounce, 1.1 grams

Maximum Ratings and Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbols	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 and storage temperature range	T_J, 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, both leads attached to heatsink
2. Pulse test: 300us pulse width, 1% duty cycle

UF5400 thru UF5408

RATINGS AND CHARACTERISTIC CURVES

(T_A = 25°C unless otherwise noted)

FIG. 1 - MAXIMUM FORWARD CURRENT DERATING CURVE

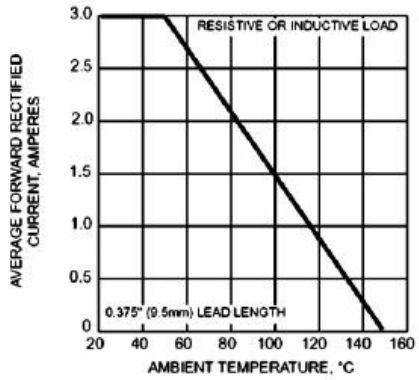


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

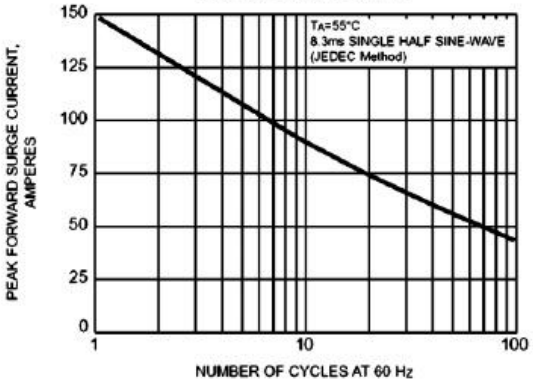


FIG. 3 - TYPICAL FORWARD CHARACTERISTICS

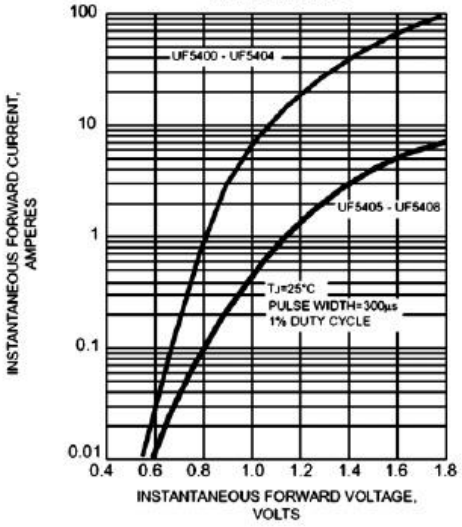


FIG. 4 - TYPICAL REVERSE LEAKAGE CHARACTERISTICS

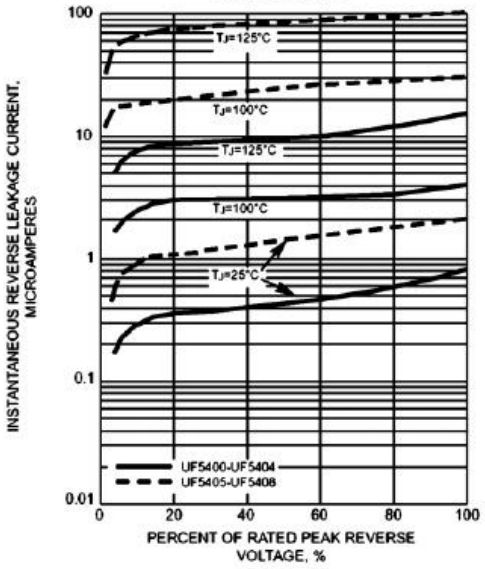


FIG. 5 - TYPICAL JUNCTION CAPACITANCE