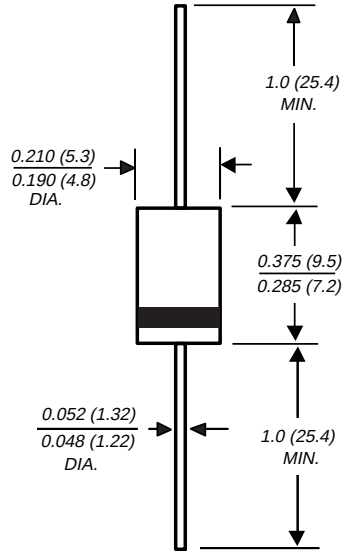
GENERAL SEMICONDUCTOR®

UF5400 THRU UF5408

Ultrafast Plastic Rectifier

Reverse Voltage 50 to 1000 V
Forward Current 3.0 A

DO-201AD



Dimensions in inches and (millimeters)

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

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 & Thermal Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

	SYMBOLS	UF5400	UF5401	UF5402	UF5403	UF5404	UF5405	UF5406	UF5407	UF5408	UNITS
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	200	300	400	500	600	800	1000	V
Maximum RMS voltage	V_{RMS}	35	70	140	210	280	350	420	560	700	V
Maximum DC blocking voltage	V_{DC}	50	100	200	300	400	500	600	800	1000	V
Maximum average forward rectified current, 0.375" (9.5mm) lead length at T_A=55°C	$I_{F(AV)}$	3.0									A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) at T_A=55°C	I_{FSM}	150									A
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

Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

		SYMBOLS	UF5400	UF5401	UF5402	UF5403	UF5404	UF5405	UF5406	UF5407	UF5408	UNITS
Maximum instantaneous forward voltage at 3.0A (NOTE 2)		V_F	1.0					1.7				V
Maximum DC reverse current	T_A = 25°C	I_R	10									μA
at rated DC blocking voltage	T_A =100°C		75					200				
Maximum reverse recovery time at I_F = 0.5A, I_R = 1.0A, I_{rr} = 0.25A	T_J = 25°C	t_{rr}	50					75				ns
Typical junction capacitance at 4.0V, 1MHz		C_J	45					36				pF

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: 300μs pulse width, 1% duty cycle

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

FIG. 1 - MAXIMUM FORWARD CURRENT DERATING CURVE

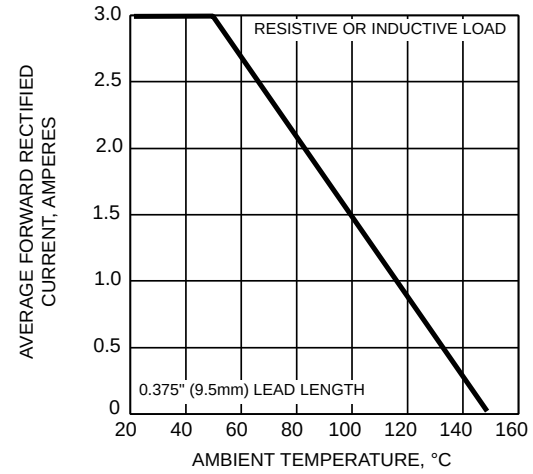


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

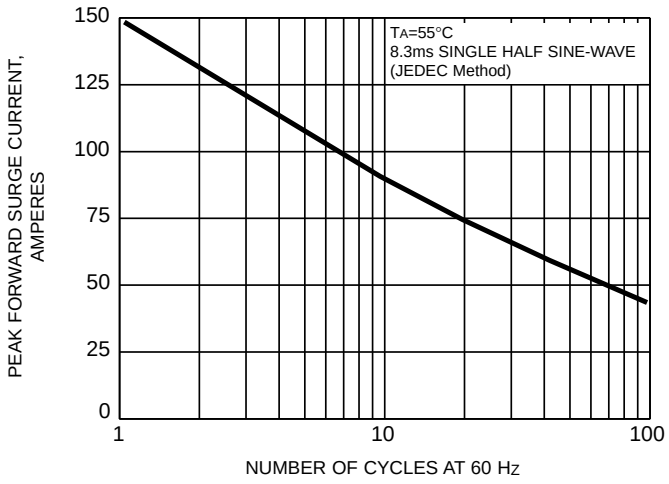


FIG. 3 - TYPICAL FORWARD CHARACTERISTICS

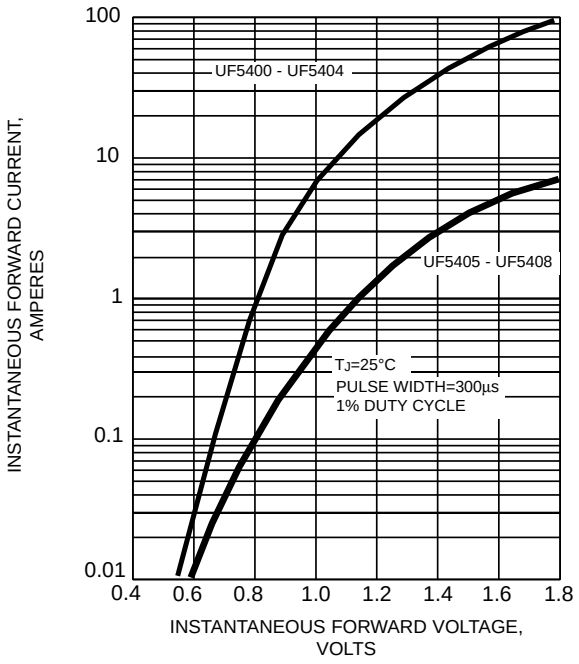


FIG. 4 - TYPICAL REVERSE LEAKAGE CHARACTERISTICS

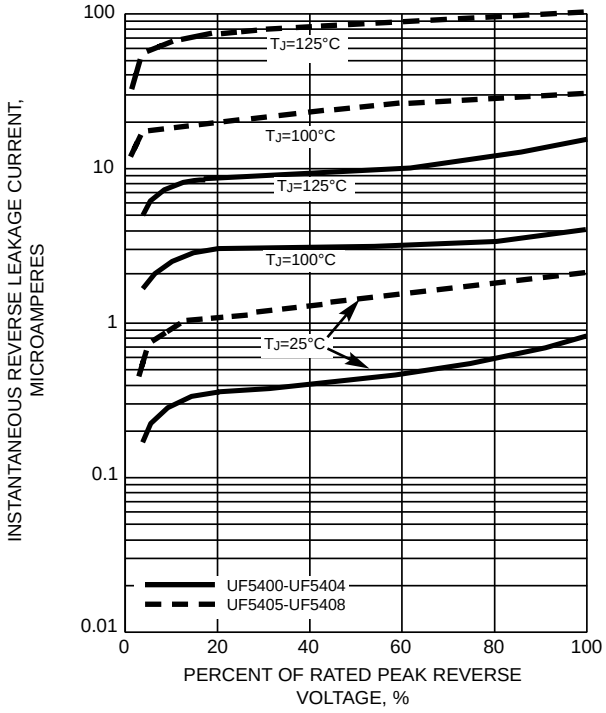
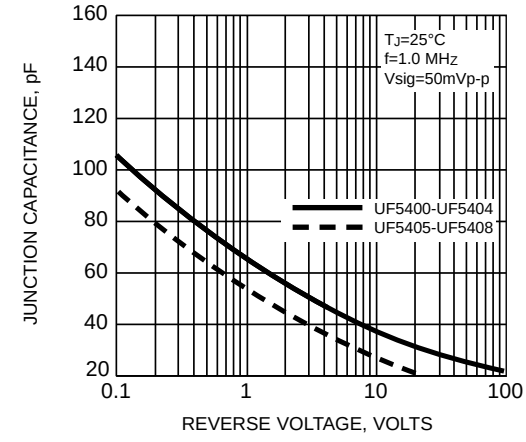



FIG. 5 - TYPICAL JUNCTION CAPACITANCE