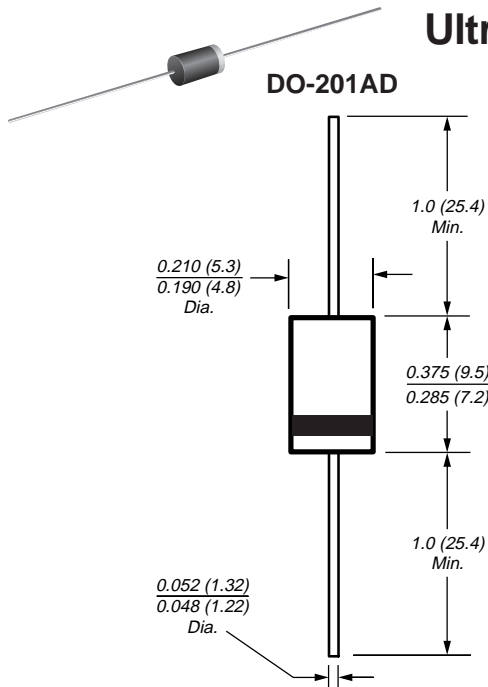


Ultrafast Plastic Rectifier

Reverse Voltage 50 to 1000V
Forward Current 3.0A


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 oz., 1.1 g

Maximum Ratings & Thermal 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	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 $T_A=55^\circ\text{C}$	$I_{F(AV)}$	3.0									A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) at $T_A=55^\circ\text{C}$	I_{FSM}	150									A
Typical thermal resistance ⁽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.

Parameter	Symbols	UF 5400	UF 5401	UF 5402	UF 5403	UF 5404	UF 5405	UF 5406	UF 5407	UF 5408	Units
Maximum instantaneous forward voltage at 3.0A ⁽²⁾	V_F	1.0				1.7				V	
Maximum DC reverse current at rated DC blocking voltage $T_A = 25^\circ\text{C}$ $T_A = 100^\circ\text{C}$	I_R	10									μA
Maximum reverse recovery time at $I_F = 0.5\text{A}$, $I_R = 1.0\text{A}$, $I_{rr} = 0.25\text{A}$ $T_J = 25^\circ\text{C}$	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: 300 μs pulse width, 1% duty cycle

UF5400 thru UF5408

Vishay Semiconductors
formerly General Semiconductor



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

Fig. 1 – Maximum Forward Current Derating Curve

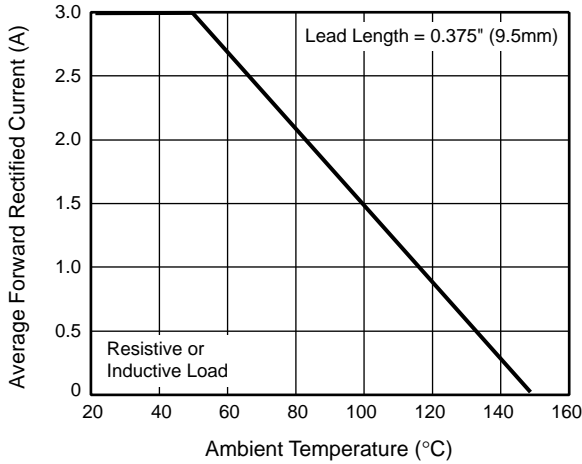


Fig. 2 – Maximum Non-Repetitive Peak Forward Surge Current

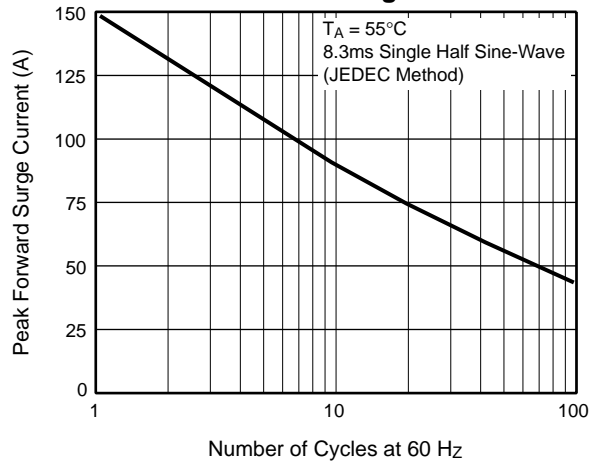


Fig. 3 – Typical Instantaneous Forward Characteristics

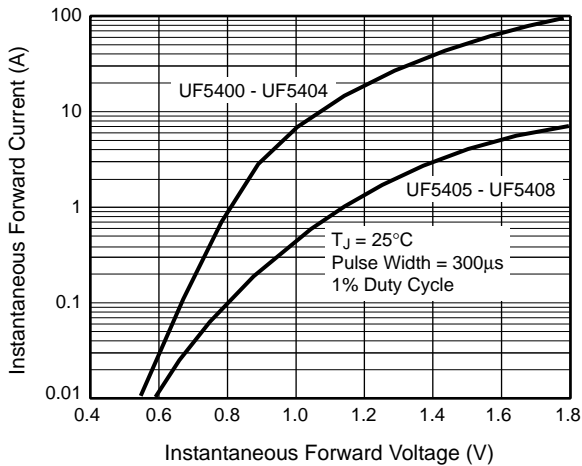


Fig. 4 – Typical Reverse Leakage Characteristics

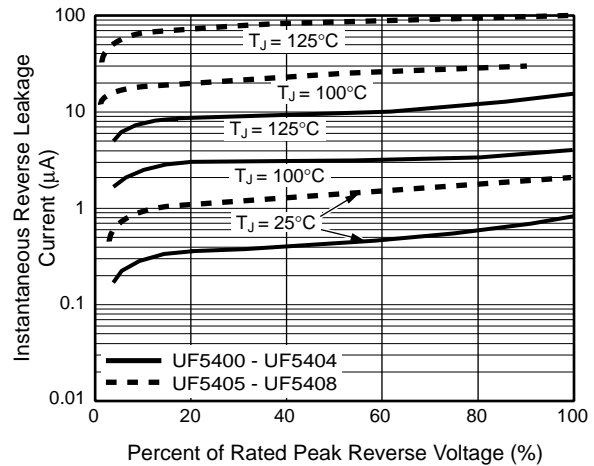


Fig. 5 – Typical Junction Capacitance

