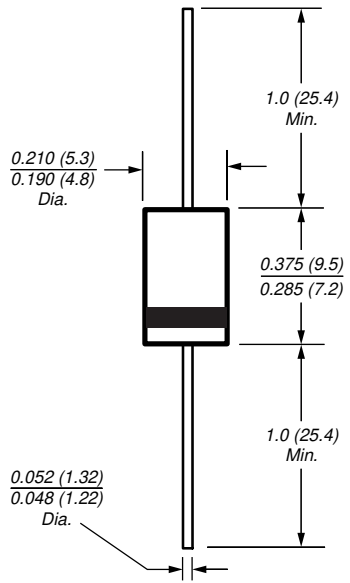




## Ultrafast Plastic Rectifier

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<br>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 <sup>(1)</sup>   | $R_{\theta JA}$<br>$R_{\theta JL}$ | 20<br>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 <sup>(2)</sup>  | $V_F$    | 1.0     |         |         |         | 1.7     |         |         |         | V             |       |
| Maximum DC reverse current<br>at rated DC blocking voltage<br>$T_A = 25^\circ\text{C}$<br>$T_A = 100^\circ\text{C}$                 | $I_R$    | 10      |         |         |         | 200     |         |         |         | $\mu\text{A}$ |       |
| Maximum reverse recovery time<br>at $I_F = 0.5\text{A}$ , $I_R = 1.0\text{A}$ , $I_{rr} = 0.25\text{A}$<br>$T_J = 25^\circ\text{C}$ | $t_{rr}$ | 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 $\mu\text{s}$  pulse width, 1% duty cycle

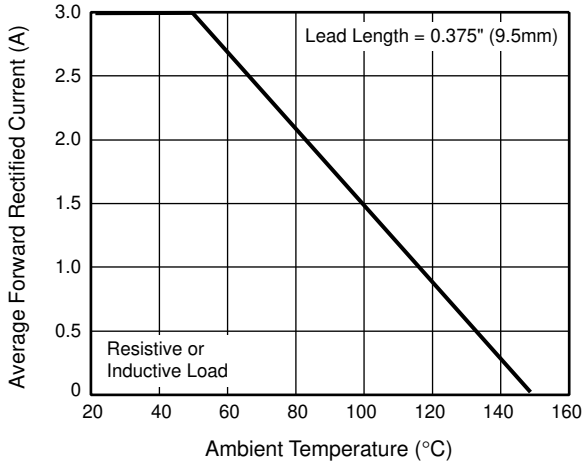
# UF5400 thru UF5408

Vishay Semiconductors  
formerly General Semiconductor

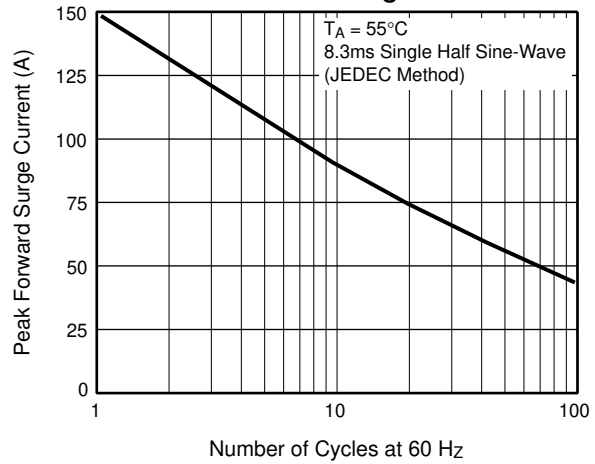


## Ratings and Characteristic Curves (T<sub>A</sub> = 25°C unless otherwise noted)

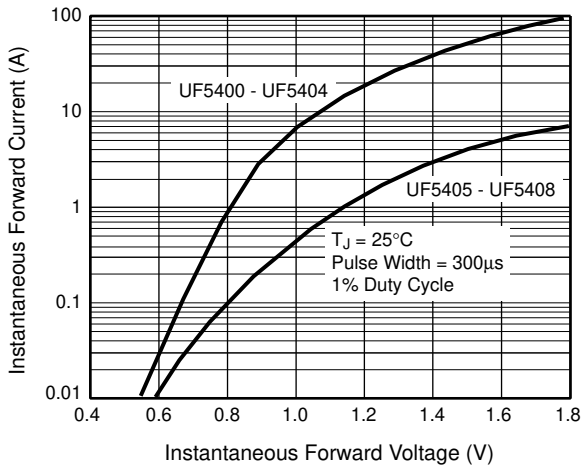
**Fig. 1 – Maximum Forward Current Derating Curve**



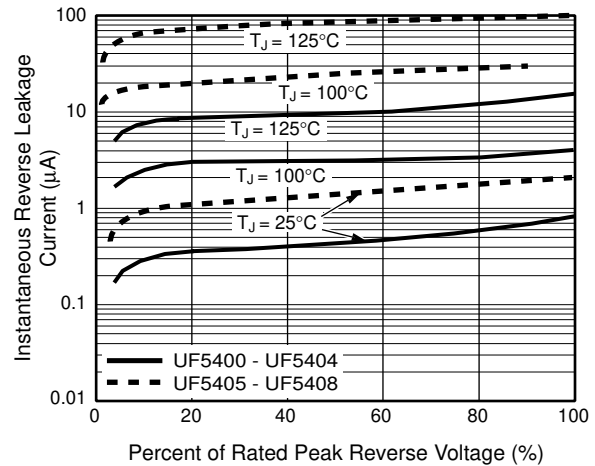
**Fig. 2 – Maximum Non-Repetitive Peak Forward Surge Current**



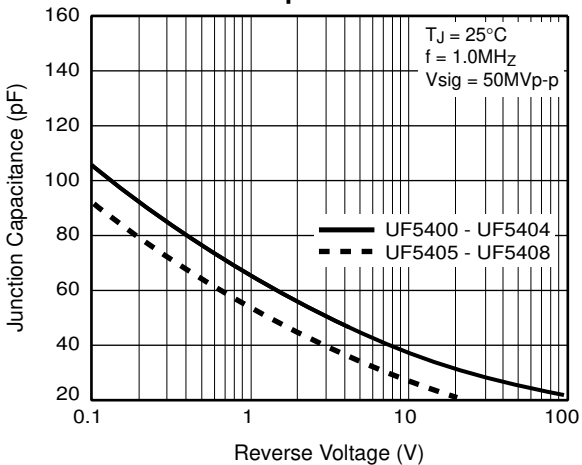
**Fig. 3 – Typical Instantaneous Forward Characteristics**



**Fig. 4 – Typical Reverse Leakage Characteristics**



**Fig. 5 – Typical Junction Capacitance**



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