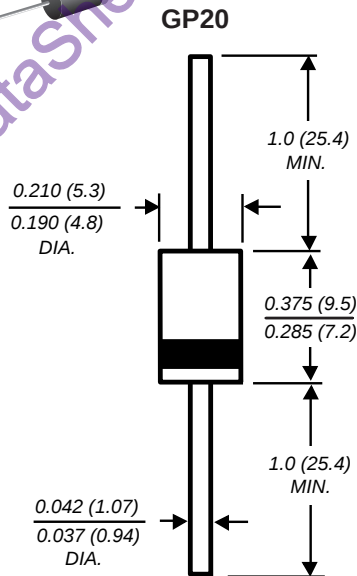


## Ultrafast Plastic Rectifier

**Reverse Voltage** 400 to 600V  
**Forward Current** 1.5A



Dimensions in inches and (millimeters)

### Features

- Plastic package has Underwriters Laboratories Flammability Classification 94V-0
- Glass passivated chip junction
- Superfast recovery time for high efficiency
- High forward surge current capability
- Low leakage current
- Low power loss
- High temperature soldering guaranteed: 260°C/10 seconds, 0.375" (9.5mm) lead length, 5 lbs. (2.3kg) tension

### Mechanical Data

**Case:** Plastic molded 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:** 0.03 oz., 0.8 g

## Maximum Ratings & Thermal Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

| Parameter                                                                                                                        | Symbols                            | SUF15G      | SUF15J | Units |
|----------------------------------------------------------------------------------------------------------------------------------|------------------------------------|-------------|--------|-------|
| Maximum repetitive peak reverse voltage                                                                                          | $V_{RRM}$                          | 400         | 600    | V     |
| Maximum RMS voltage                                                                                                              | $V_{RMS}$                          | 280         | 420    | V     |
| Maximum DC blocking voltage                                                                                                      | $V_{DC}$                           | 400         | 600    | V     |
| Maximum average forward rectified current, 0.375" (9.5mm) lead length at $T_A = 50^\circ\text{C}$                                | $I_{F(AV)}$                        | 1.5         |        | A     |
| Peak forward surge current<br>8.3 ms single half sine-wave superimposed on rated load (JEDEC Method) at $T_A = 50^\circ\text{C}$ | $I_{FSM}$                          | 50          |        | A     |
| Typical thermal resistance <sup>(1)</sup>                                                                                        | $R_{\theta JA}$<br>$R_{\theta JL}$ | 65<br>20    |        | °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  | SUF15G    | SUF15J | Units         |
|------------------------------------------------------------------------------------------------------------------------|----------|-----------|--------|---------------|
| Maximum instantaneous forward voltage at 1.5A <sup>(2)</sup>                                                           | $V_F$    | 1.80      |        | V             |
| Maximum peak reverse current<br>$T_A = 25^\circ\text{C}$<br>at rated peak reverse voltage<br>$T_A = 100^\circ\text{C}$ | $I_R$    | 10<br>100 |        | $\mu\text{A}$ |
| Maximum reverse recovery time<br>at $I_F = 0.5\text{A}$ , $I_R = 1.0\text{A}$ , $I_{rr} = 0.25\text{A}$                | $t_{rr}$ | 35        |        | ns            |
| Typical junction capacitance at 4.0V, 1MHz                                                                             | $C_J$    | 35        |        | pF            |

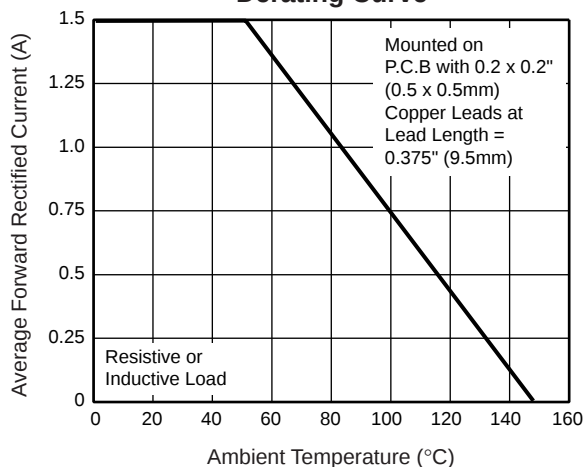
### Notes:

(1) Thermal resistance from junction to ambient at 0.375" (9.5mm) lead length, P.C.B. mounted

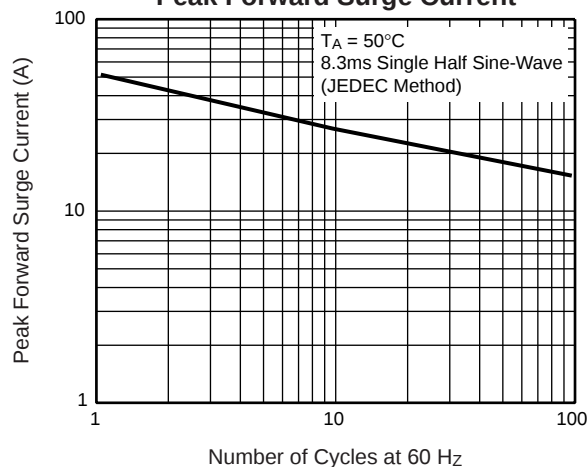
(2) Pulse test: 300 $\mu\text{s}$  pulse width, 1% duty cycle

## Ratings and Characteristic Curves ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

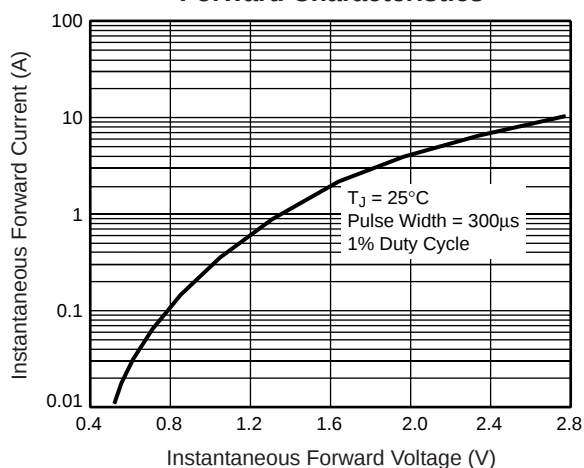
**Fig. 1 – Maximum Forward Current Derating Curve**



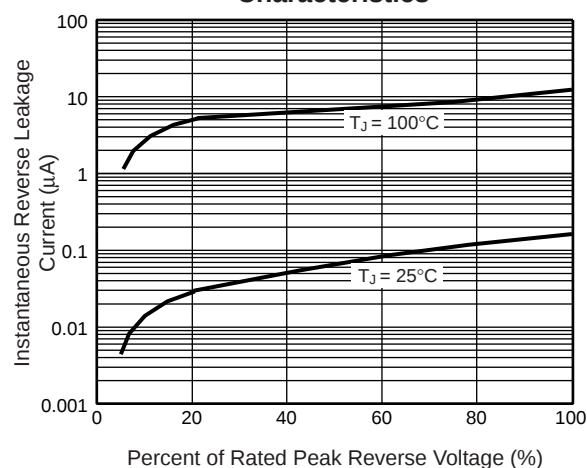
**Fig. 2 – Maximum Non-Repetitive Peak Forward Surge Current**



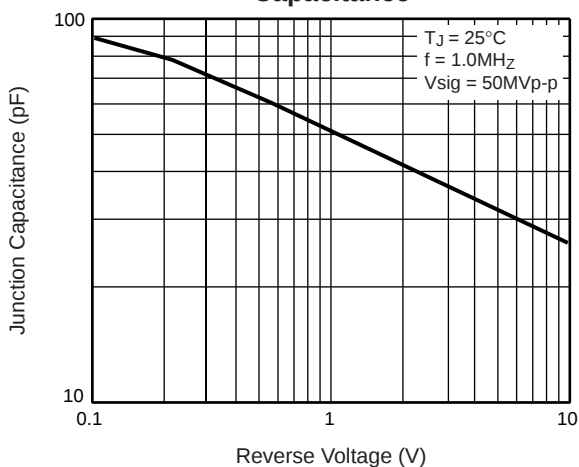
**Fig. 3 – Typical Instantaneous Forward Characteristics**



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



**Fig. 5 – Typical Junction Capacitance**



**Fig. 6 – Typical Transient Thermal Impedance**

