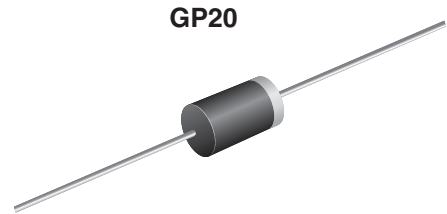


## Ultrafast Plastic Rectifier

### Major Ratings and Characteristics

$I_{F(AV)}$	1.5 A
$V_{RRM}$	400 V, 600 V
$I_{FSM}$	50 A
$t_{rr}$	35 ns
$V_F$	1.8 V
$T_j \text{ max.}$	150 °C



### Features

- Glass passivated chip junction
- Ultrafast reverse recovery time
- Low switching losses, high efficiency
- Low leakage current
- High forward surge capability
- Solder Dip 260 °C, 40 seconds



### Mechanical Data

**Case:** GP20

Epoxy meets UL-94V-0 Flammability rating

**Terminals:** Matte tin plated leads, solderable per J-STD-002B and JESD22-B102D

E3 suffix for commercial grade

**Polarity:** Color band denotes cathode end

### Typical Applications

For use in high frequency rectification and freewheeling application in switching mode converters and inverters for consumer, computer and Telecommunication

### Maximum Ratings

$T_A = 25\text{ °C}$  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" (9.5 mm) lead length at $T_A = 50\text{ °C}$	$I_{F(AV)}$	1.5		A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	$I_{FSM}$	50		A
Operating junction and storage temperature range	$T_J, T_{STG}$	- 55 to + 150		°C

## Electrical Characteristics

$T_A = 25\text{ }^\circ\text{C}$  unless otherwise specified

Parameter	Test condition	Symbols	SUF15G	SUF15J	Units
Maximum instantaneous forward voltage	at 1.5 A <sup>(1)</sup>	$V_F$	1.8		V
Maximum peak reverse current at rated peak reverse voltage	$T_A = 25\text{ }^\circ\text{C}$ $T_A = 100\text{ }^\circ\text{C}$	$I_R$	10 100		$\mu\text{A}$
Maximum reverse recovery time	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 4.0 V, 1 MHz	$C_J$	35		pF

Notes:

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

## Thermal Characteristics

$T_A = 25\text{ }^\circ\text{C}$  unless otherwise specified

Parameter	Symbols	SUF15G	SUF15J	Units
Typical thermal resistance <sup>(1)</sup>	$R_{\theta JA}$ $R_{\theta JL}$	65 20		$^\circ\text{C/W}$

Notes:

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

## Ratings and Characteristics Curves

( $T_A = 25\text{ }^\circ\text{C}$  unless otherwise noted)

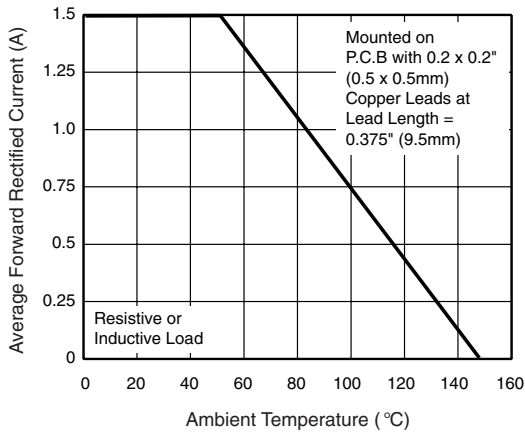


Figure 1. Maximum Forward Current Derating Curve

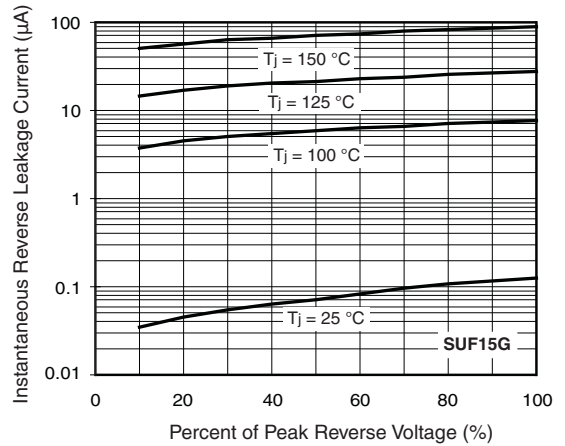


Figure 4. Typical Reverse Leakage Characteristics

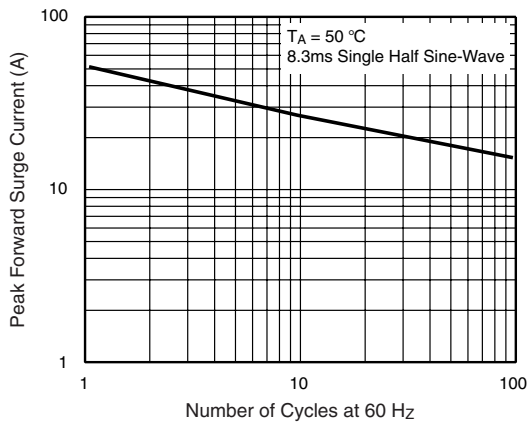


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

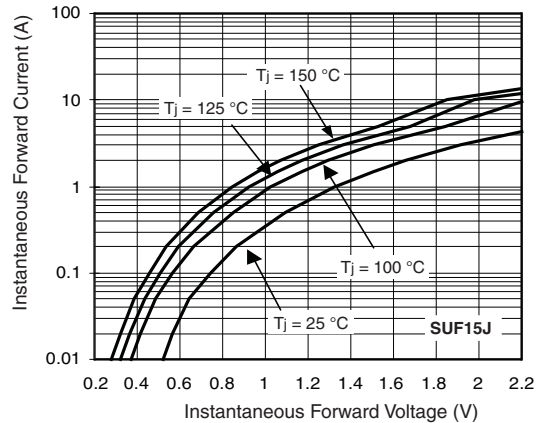


Figure 5. Typical Instantaneous Forward Characteristics

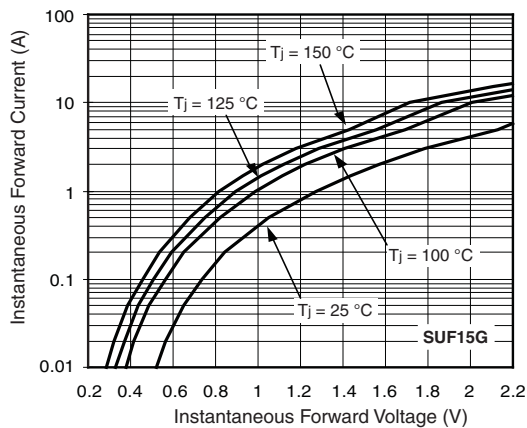


Figure 3. Typical Instantaneous Forward Characteristics

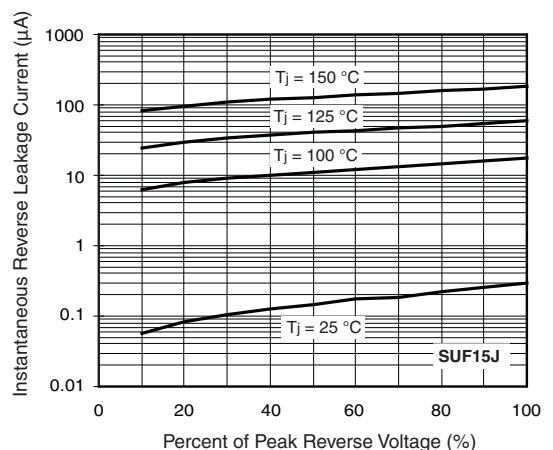


Figure 6. Typical Reverse Leakage Characteristics

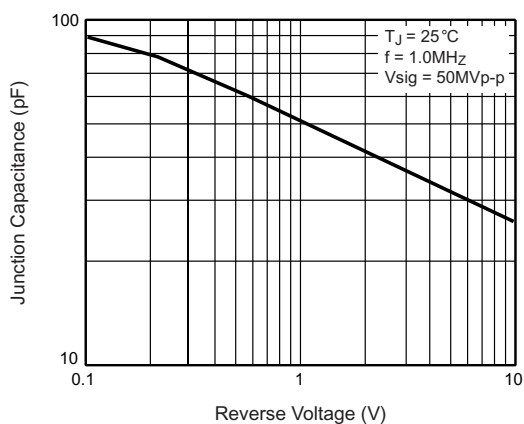


Figure 7. Typical Junction Capacitance

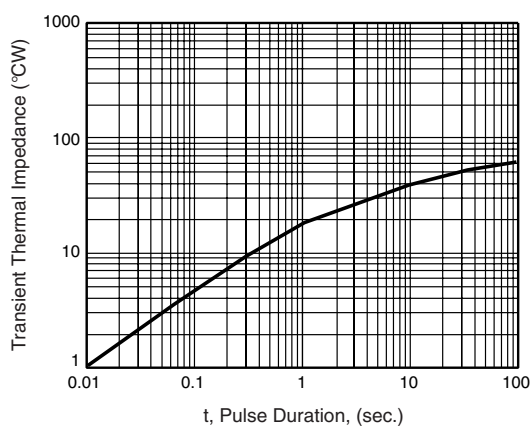
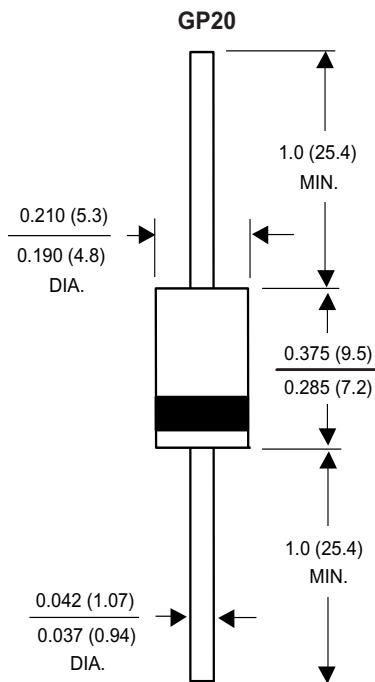


Figure 8. Typical Transient Thermal Impedance

## Package outline dimensions in inches (millimeters)





---

**Notice**

Specifications of the products displayed herein are subject to change without notice. Vishay Intertechnology, Inc., or anyone on its behalf, assumes no responsibility or liability for any errors or inaccuracies.

Information contained herein is intended to provide a product description only. No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document. Except as provided in Vishay's terms and conditions of sale for such products, Vishay assumes no liability whatsoever, and disclaims any express or implied warranty, relating to sale and/or use of Vishay products including liability or warranties relating to fitness for a particular purpose, merchantability, or infringement of any patent, copyright, or other intellectual property right.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify Vishay for any damages resulting from such improper use or sale.