

## Glass Passivated Ultrafast Rectifier

### Major Ratings and Characteristics

$I_{F(AV)}$	2.0 A
$V_{RRM}$	50 V to 400 V
$I_{FSM}$	75 A
$t_{rr}$	50 ns
$V_F$	0.95 V, 1.25 V
$T_j \text{ max.}$	150 °C



DO-204AC (DO-15)

Patented\*

\* Glass Encapsulation technique is covered by Patent No. 3,996,602, brazed-lead assembly to Patent No. 3,930,306

### Features

- Cavity-free glass-passivated junction
- Ultrafast reverse recovery time
- Low forward voltage drop
- Low leakage current
- Low switching losses, high efficiency
- High forward surge capability
- Solder Dip 260 °C, 40 seconds



### Mechanical Data

**Case:** DO-204AC, molded epoxy over glass body  
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, HE3 suffix for high reliability grade (AEC Q101 qualified)

**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

$T_A = 25$  °C unless otherwise specified

Parameter	Symbol	EGP20A	EGP20B	EGP20C	EGP20D	EGP20F	EGP20G	Unit
Maximum repetitive peak reverse voltage	$V_{RRM}$	50	100	150	200	300	400	V
Maximum RMS voltage	$V_{RMS}$	35	70	105	140	210	280	V
Maximum DC blocking voltage	$V_{DC}$	50	100	150	200	300	400	V
Maximum average forward rectified current 0.375" (9.5 mm) lead length at $T_A = 55$ °C	$I_{F(AV)}$	2.0						A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	$I_{FSM}$	75						A
Operating and storage temperature range	$T_J, T_{STG}$	- 65 to + 150						°C

# EGP20A thru EGP20G



Vishay General Semiconductor

## Electrical Characteristics

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

Parameter	Test condition	Symbol	EGP20A	EGP20B	EGP20C	EGP20D	EGP20F	EGP20G	Unit
Maximum instantaneous forward voltage	at 2.0 A	$V_F$	0.95				1.25		V
Maximum DC reverse current at rated DC blocking voltage	$T_A = 25\text{ }^\circ\text{C}$ $T_A = 125\text{ }^\circ\text{C}$	$I_R$	5.0				100		$\mu\text{A}$
Maximum reverse recovery time	at $I_F = 0.5\text{ A}$ , $I_R = 1.0\text{ A}$ , $t_{rr} = 0.25\text{ A}$	$t_{rr}$	50						ns
Typical junction capacitance	at 4.0 V, 1 MHz	$C_J$	70				45		pF

## Thermal Characteristics

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

Parameter	Symbol	EGP20A	EGP20B	EGP20C	EGP20D	EGP20F	EGP20G	Unit
Typical thermal resistance <sup>(1)</sup>	$R_{\theta JA}$	40						$^\circ\text{C/W}$
	$R_{\theta JL}$	15						

Notes:

(1) Thermal resistance from junction to ambient, and from junction to lead 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)

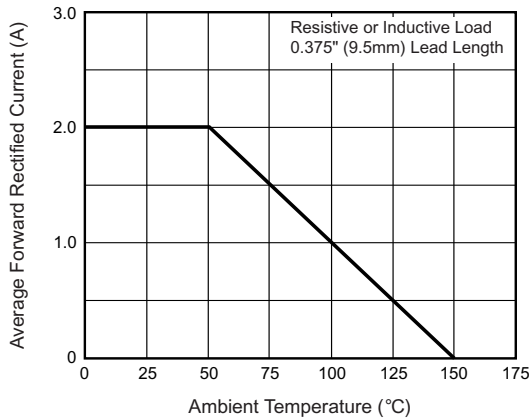


Figure 1. Maximum Forward Current Derating Curve

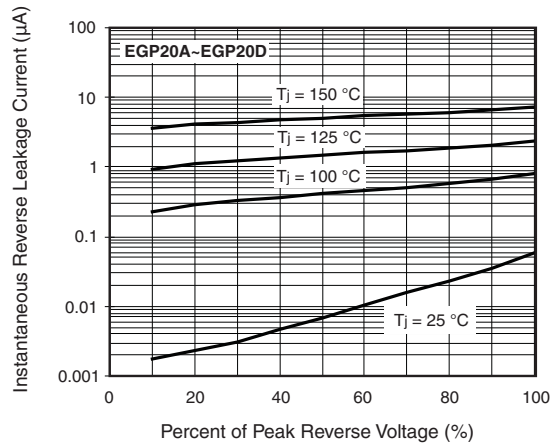


Figure 4. Typical Reverse Leakage Characteristics

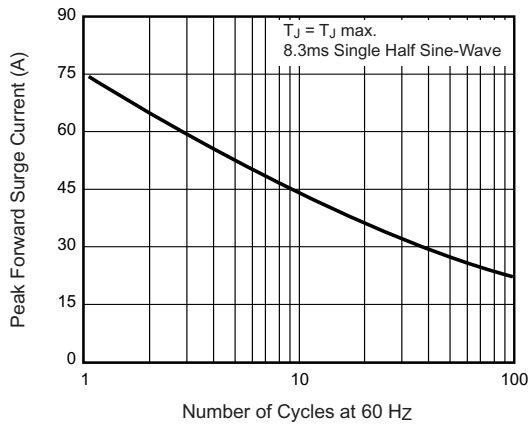


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

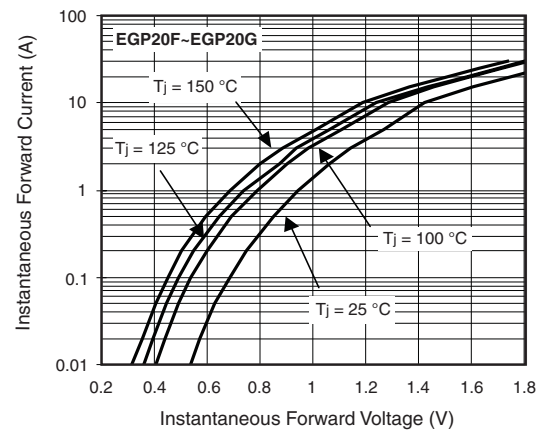


Figure 5. Typical Instantaneous Forward Characteristics

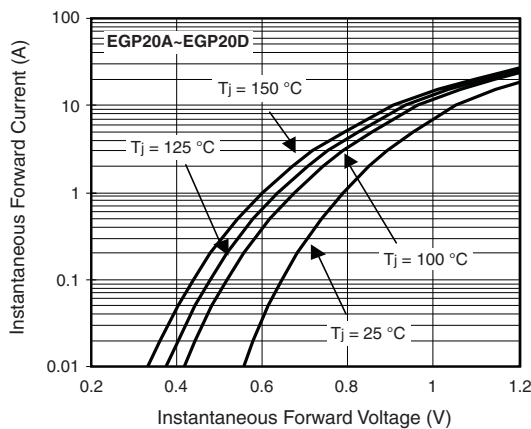


Figure 3. Typical Instantaneous Forward Characteristics

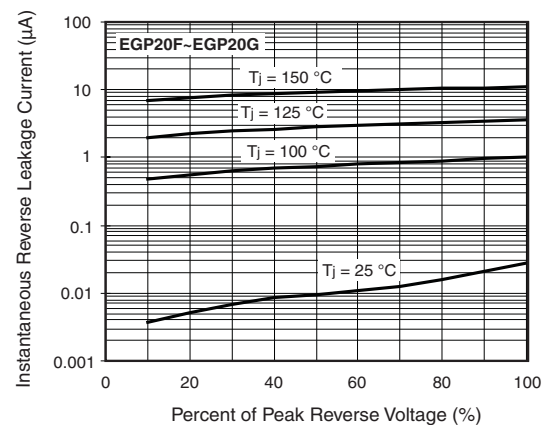


Figure 6. Typical Reverse Leakage Characteristics

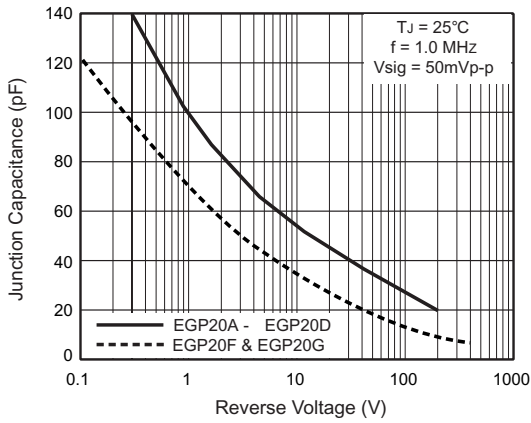


Figure 7. Typical Junction Capacitance

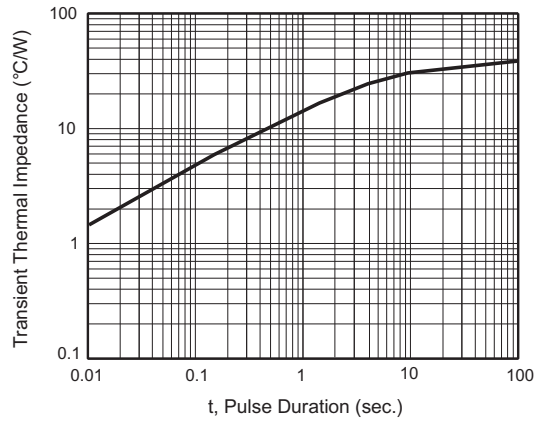


Figure 8. Typical Transient Thermal Impedance

## Package outline dimensions in inches (millimeters)

### DO-204AC (DO-15)

