

## 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



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

DO-204AC (DO-15)

### 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

$T_A = 25^\circ\text{C}$  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 $T_A = 55^\circ\text{C}$	$I_{F(AV)}$	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 Semiconductors



## Electrical Characteristics

$T_A = 25^\circ\text{C}$  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	$T_A = 25^\circ\text{C}$ $T_A = 125^\circ\text{C}$	$I_R$			5.0	100			$\mu\text{A}$
Maximum reverse recovery time	at $I_F = 0.5 \text{ A}$ , $I_R = 1.0 \text{ A}$ , $I_{rr} = 0.25 \text{ A}$	$t_{rr}$			50				ns
Typical junction capacitance	at 4.0 V, 1 MHz	$C_J$		70			45		pF

## Thermal Characteristics

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

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

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

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

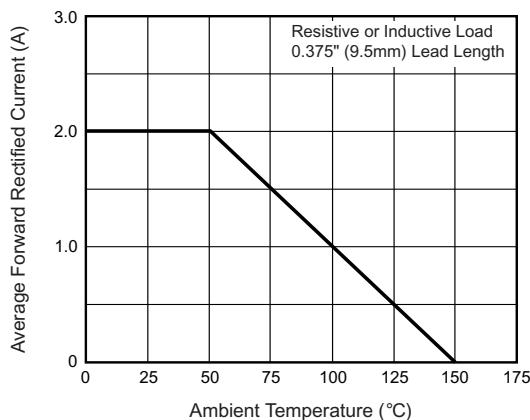


Figure 1. Maximum Forward Current Derating Curve

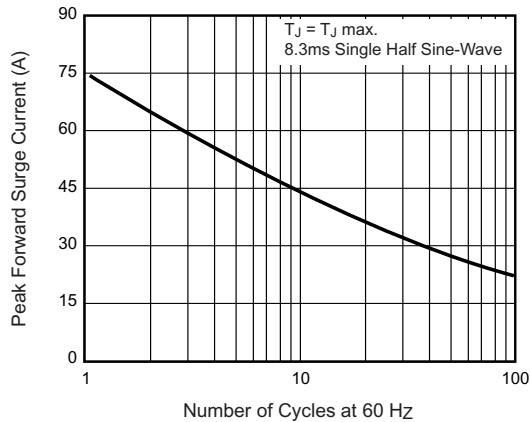


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

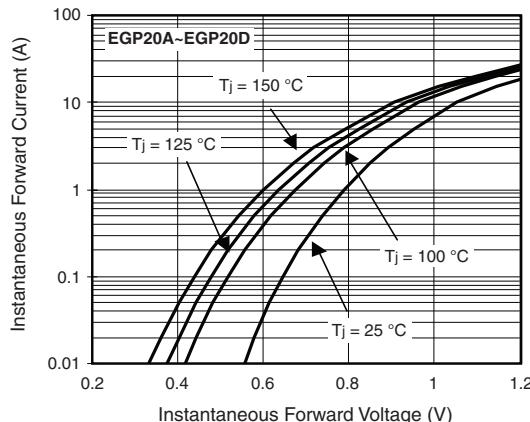


Figure 3. Typical Instantaneous Forward Characteristics

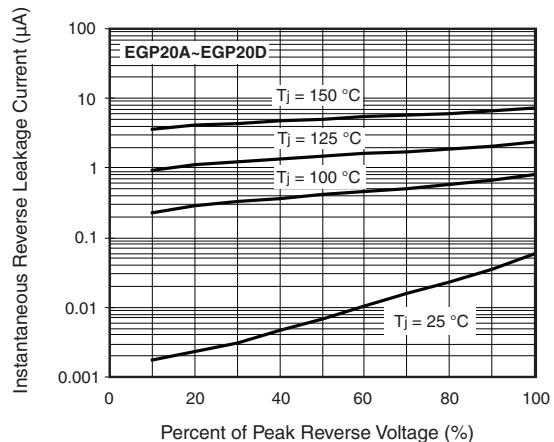


Figure 4. Typical Reverse Leakage Characteristics

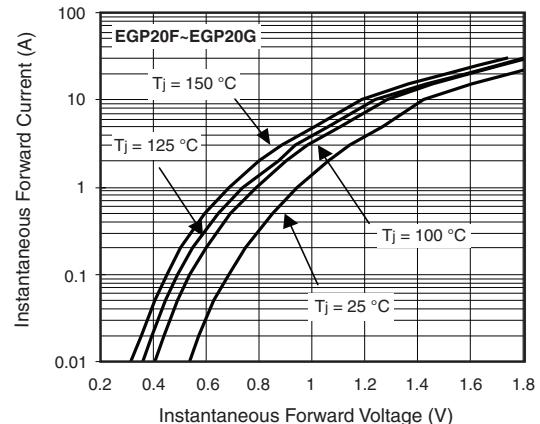


Figure 5. Typical Instantaneous Forward Characteristics

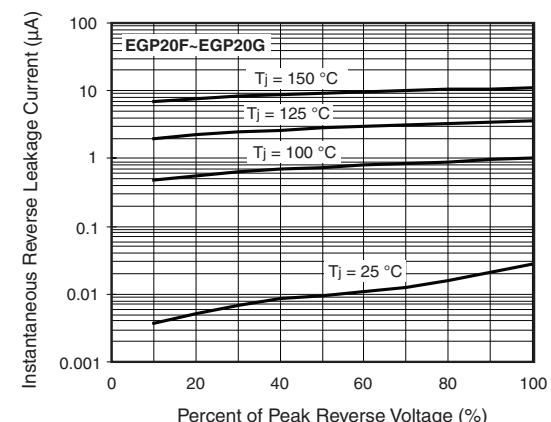


Figure 6. Typical Reverse Leakage Characteristics

# EGP20A thru EGP20G

Vishay Semiconductors

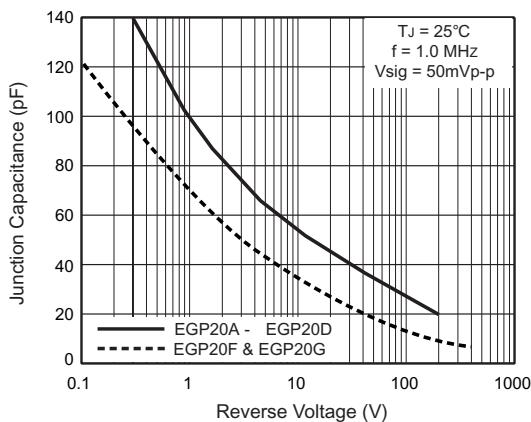


Figure 7. Typical Junction Capacitance

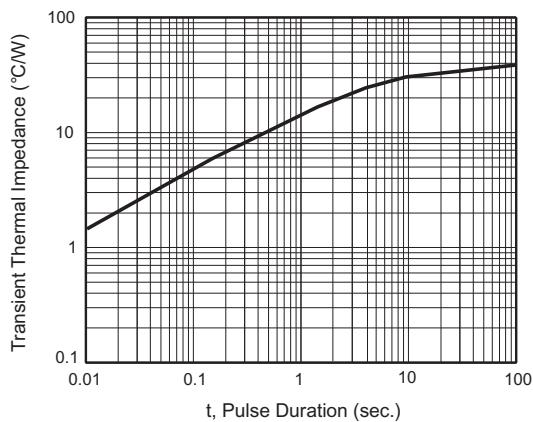


Figure 8. Typical Transient Thermal Impedance

## Package outline dimensions in inches (millimeters)

