



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 max.	150 °C



Patented*

* Glass Encapsulation technique is covered by Patent No. 3,996,602, brazed-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

$T_A = 25$ °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		μA
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

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

Parameter	Symbol	EGP20A	EGP20B	EGP20C	EGP20D	EGP20F	EGP20G	Unit
Typical thermal resistance ⁽¹⁾	$R_{\theta JA}$	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)

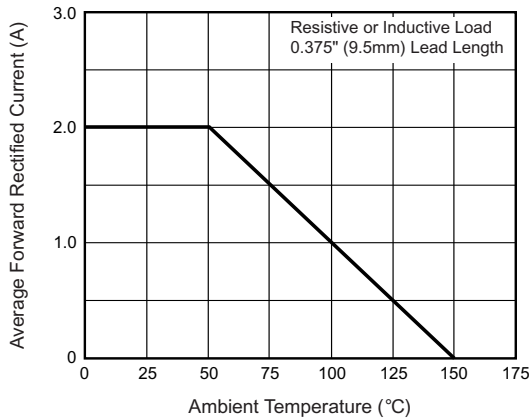


Figure 1. Maximum Forward Current Derating Curve

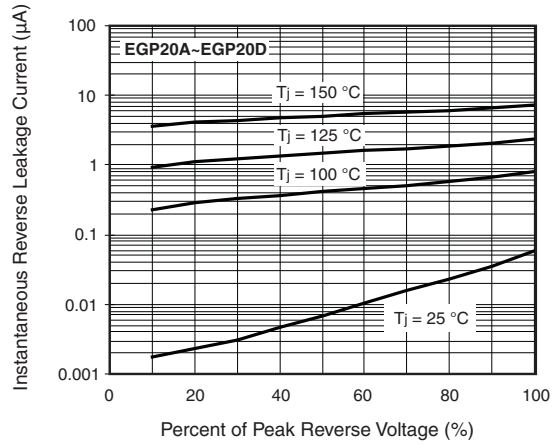


Figure 4. Typical Reverse Leakage Characteristics

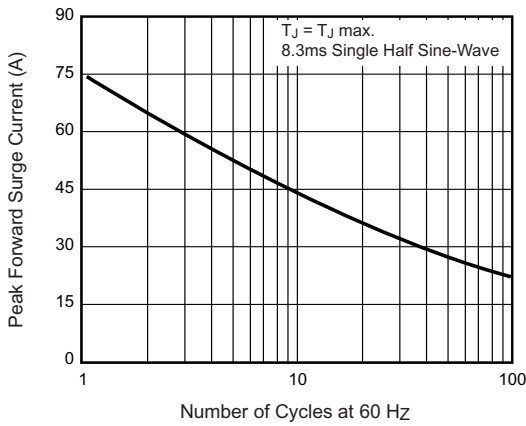


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

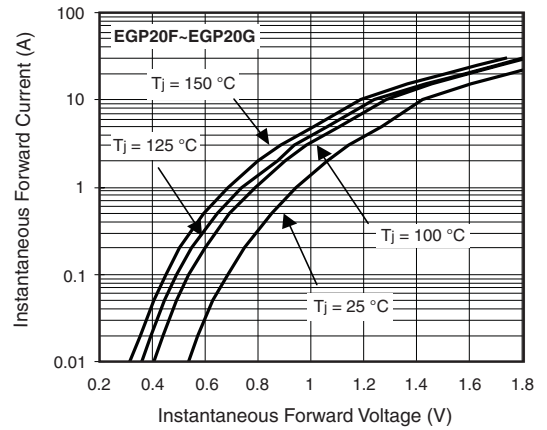


Figure 5. Typical Instantaneous Forward Characteristics

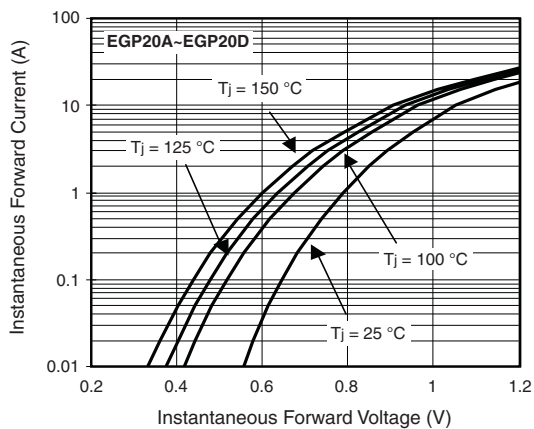


Figure 3. Typical Instantaneous Forward Characteristics

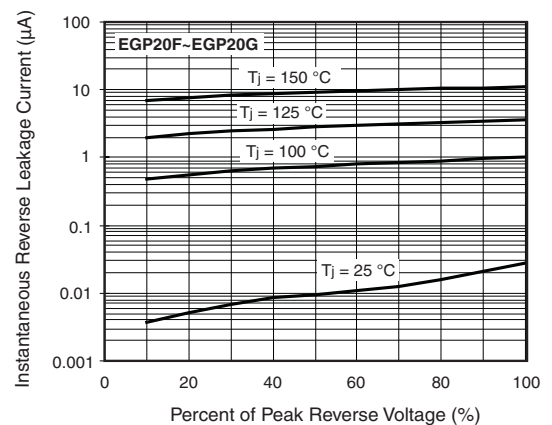


Figure 6. Typical Reverse Leakage Characteristics

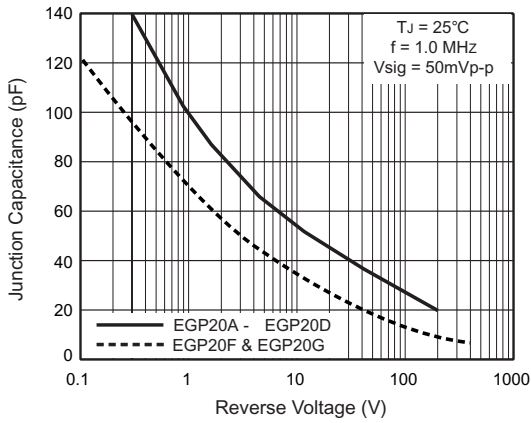


Figure 7. Typical Junction Capacitance

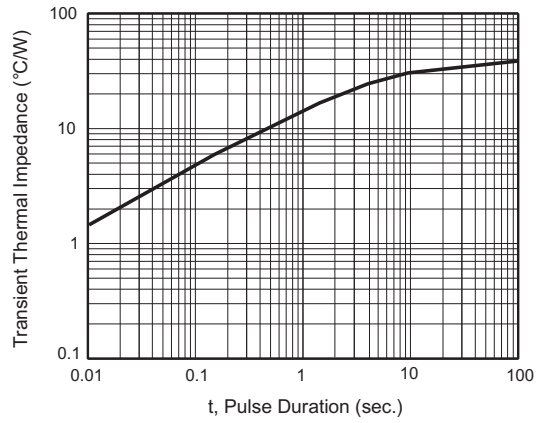
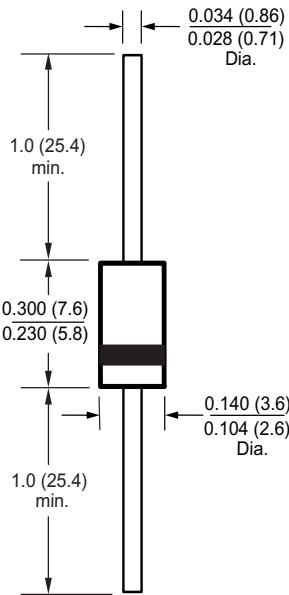


Figure 8. Typical Transient Thermal Impedance

Package outline dimensions in inches (millimeters)

DO-204AC (DO-15)





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