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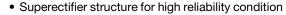
Vishay General Semiconductor

Glass Passivated Ultrafast Plastic Rectifier



PRIMARY CHARACTERISTICS						
I _{F(AV)}	2.0 A					
V_{RRM}	50 V, 100 V, 150 V, 200 V, 300 V, 400 V					
I _{FSM}	75 A					
t _{rr}	50 ns					
V_{F}	0.95 V, 1.25 V					
T _J max.	150 °C					
Package	DO-204AC (DO-15)					
Diode variations	Single die					

FEATURES





COMPLIANT

- Cavity-free glass-passivated junction
- Ultrafast reverse recovery time
- Low forward voltage drop
- Low forward voltage v
- Low leakage current
- · Low switching losses, high efficiency
- High forward surge capability
- Solder dip 275 °C max. 10 s, per JESD 22-B106
- Material categorization: for definitions of compliance please see <u>www.vishay.com/doc?99912</u>

TYPICAL APPLICATIONS

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

MECHANICAL DATA

Case: DO-204AC, molded epoxy over glass body Molding compound meets UL 94 V-0 flammability rating Base P/N-E3 - RoHS-compliant, commercial grade

Terminals: Matte tin plated leads, solderable per

J-STD-002 and JESD 22-B102

E3 suffix meets JESD 201 class 1A whisker test

Polarity: Color band denotes cathode end

MAXIMUM RATINGS (T _A = 25 °C unless otherwise noted)								
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)}	(AV) 2.0						А
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I _{FSM}	м 75					Α	
Operating and storage temperature range	T _J , T _{STG}	J, T _{STG} -65 to +150						°C



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ELECTRICAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)										
PARAMETER	TEST CONDITIONS		SYMBOL	EGP20A	EGP20B	EGP20C	EGP20D	EGP20F	EGP20G	UNIT
Maximum instantaneous forward voltage	2.0 A		V _F	0.95 1.25				25	V	
Maximum DC reverse current at rated DC	-A 20 0		5.0							
		T _A = 125 °C	I _R	100						μA
Maximum reverse recovery time	$I_F = 0.5 \text{ A}, I_R = 1.0 \text{ A},$ $I_{rr} = 0.25 \text{ A}$		t _{rr}	50					ns	
Typical junction capacitance	4.0 V, 1	MHz	CJ	70 45				pF		

THERMAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)								
PARAMETER SYMBOL EGP20A EGP20B EGP20C EGP20D EGP20F EGP20G					EGP20G	UNIT		
Typical thormal registance	R _{0JA} (1)	40						°C/W
Typical thermal resistance	R ₀ JL (1)	15					•	C/VV

Note

⁽¹⁾ Thermal resistance from junction to ambient, and from junction to lead at 0.375" (9.5 mm) lead length, PCB mounted

ORDERING INFORMATION (Example)								
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE				
EGP20D-E3/54	0.452	54	4000	13" Diameter paper tape and reel				
EGP20D-E3/73	0.452	73	2000	Ammo pack packaging				

RATINGS AND CHARACTERISTICS CURVES (T_A = 25 °C unless otherwise noted)

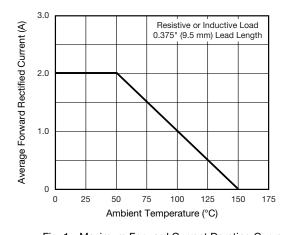


Fig. 1 - Maximum Forward Current Derating Curve

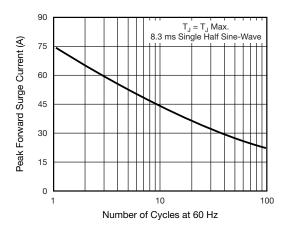


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current



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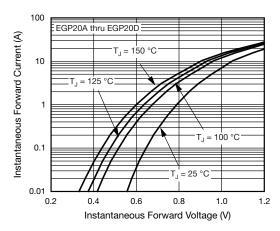


Fig. 3 - Typical Instantaneous Forward Characteristics

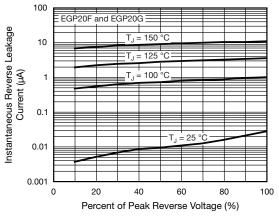


Fig. 6 - Typical Reverse Leakage Characteristics

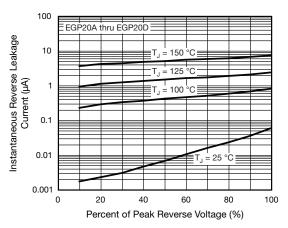


Fig. 4 - Typical Reverse Leakage Characteristics

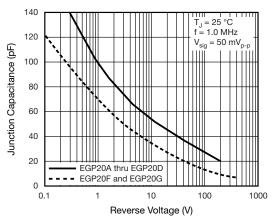


Fig. 7 - Typical Junction Capacitance

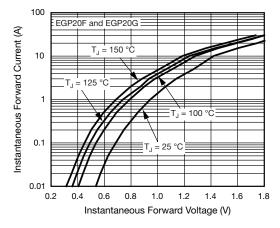


Fig. 5 - Typical Instantaneous Forward Characteristics

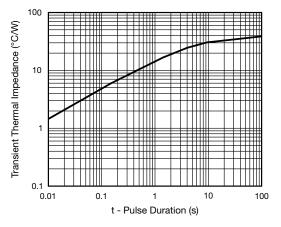


Fig. 8 - Typical Transient Thermal Impedance

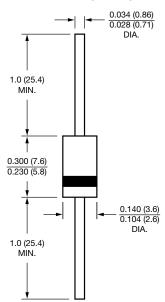


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PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

DO-204AC (DO-15)





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