

EGP30A, EGP30B, EGP30C, EGP30D, EGP30F, EGP30G

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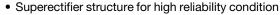
Vishay General Semiconductor

Glass Passivated Ultrafast Plastic Rectifier



PRIMARY CHARACTERISTICS							
I _{F(AV)}	3.0 A						
V_{RRM}	50 V, 100 V, 150 V, 200 V, 300 V, 400 V						
I _{FSM}	125 A						
t _{rr}	50 ns						
V_{F}	0.95 V, 1.25 V						
T _J max.	150 °C						
Package	GP20						
Diode variations	Single die						

FEATURES





Cavity-free glass-passivated junction

(e3)

Ultrafast reverse recovery time

Low forward voltage drop

ROHS COMPLIANT

- 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: GP20, 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	EGP30A	EGP30B	EGP30C	EGP30D	EGP30F	EGP30G	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)} 3.0							Α	
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I _{FSM}	I _{FSM} 125						Α	
Operating and storage temperature range	T _J , T _{STG} -65 to +150							°C	



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ELECTRICAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)										
PARAMETER	TEST CONDITIONS		SYMBOL	EGP30A	EGP30B	EGP30C	EGP30D	EGP30F	EGP30G	UNIT
Maximum instantaneous forward voltage	3.0 A		V _F	0.95 1.25				25	V	
Maximum DC		T _A = 25 °C		5.0					μА	
reverse current at rated DC blocking voltage		T _A = 125 °C	I _R	100						
Maximum reverse recovery time	I _F = 0.5 A, I _R = 1.0 A, I _{rr} = 0.25 A		t _{rr}	50					ns	
Typical junction capacitance	4.0 V, 1 MHz		CJ	85		7	5	pF		

THERMAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)								
PARAMETER SYMBOL EGP30A EGP30B EGP30C EGP30D EGP30F EGP30G					EGP30G	UNIT		
Typical thermal resistance	R _{0JA} (1)	20						°C/W
Typical thermal resistance	R _{0JL} (1)	8.0						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	P/N UNIT WEIGHT (g) PREFERRED PACKAGE CODE BASE QUANTITY DELIVERY MODE							
EGP30G-E3/54	1.01	54	1400	13" diameter paper tape and reel				
EGP30G-E3/73	1.01	73	1000	Ammo pack packaging				

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

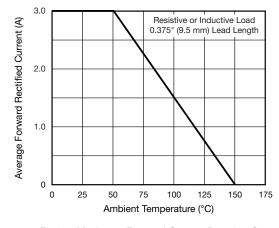


Fig. 1 - Maximum Forward Current Derating Curve

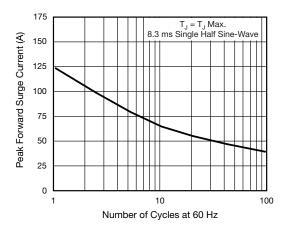


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

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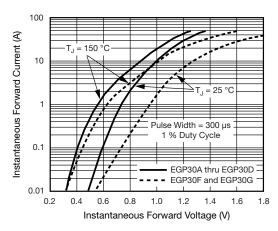
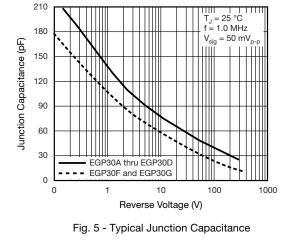


Fig. 3 - Typical Instantaneous Forward Characteristics



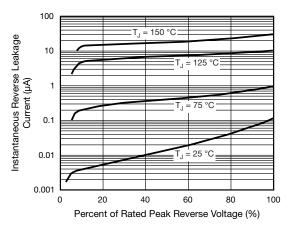


Fig. 4 - Typical Reverse Leakage Characteristics

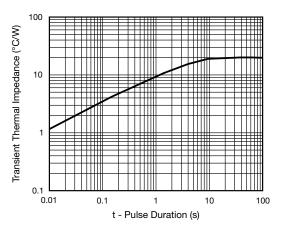
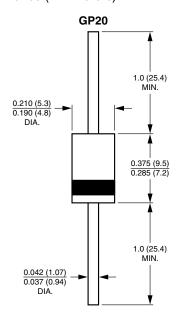


Fig. 6 - Typical Transient Thermal Impedance

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





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