

GF1A, GF1B, GF1D, GF1G, GF1J, GF1K, GF1M

Vishay General Semiconductor

Surface-Mount Glass Passivated Rectifier

Superectifier®

www.vishay.com



GF1 (DO-214BA)

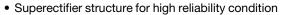


LINKS TO ADDITIONAL RESOURCES



PRIMARY CHARACTERISTICS							
I _{F(AV)} 1.0 A							
V _{RRM}	50 V, 100 V, 200 V, 400 V, 600 V, 800 V, 1000 V						
I _{FSM}	30 A						
V _F	1.1 V, 1.2 V						
I _R	5.0 μA						
T _J max.	175 °C						
Package	GF1 (DO-214BA)						
Circuit configuration	Single						

FEATURES





RoHS

- Low forward voltage drop
- Low leakage current
- High forward surge capability
- Meets MSL level 1, per J-STD-020, LF maximum peak of 250 °C
- AEC-Q101 qualified
- Material categorization: for definitions of compliance please see <u>www.vishay.com/doc?99912</u>

TYPICAL APPLICATIONS

For use in general purpose rectification of power supplies, inverters, converters and freewheeling diodes for consumer, automotive and telecommunication.

MECHANICAL DATA

Case: GF1 (DO-214BA), molded epoxy over glass body Molding compound meets UL 94 V-0 flammability rating Base P/NHE3_X - RoHS-compliant and AEC-Q101 qualified ("X" denotes revision code e.g. A, B)

Terminals: matte tin plated leads, solderable per J-STD-002 and JESD 22-B102

HE3 suffix meet JESD 201 class 2 whisker test

Polarity: color band denotes cathode end

MAXIMUM RATINGS (T _A = 25 °C unless otherwise noted)									
PARAMETER	SYMBOL	GF1A	GF1B	GF1D	GF1G	GF1J	GF1K	GF1M	UNIT
Device marking code		GA	GB	GD	GG	GJ	GK	GM	
Max. repetitive peak reverse voltage	V_{RRM}	50	100	200	400	600	800	1000	V
Max. RMS voltage	V _{RMS}	35	70	140	280	420	560	700	V
Max. DC blocking voltage	V_{DC}	50	100	200	400	600	800	1000	V
Max. average forward rectified current at T _L = 125 °C	I _{F(AV)}	1.0						Α	
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I _{FSM}	30						Α	
Operating junction and storage temperature range	T _J , T _{STG}	-65 to +175							°C



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ELECTRICAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)											
PARAMETER	TEST CONDITIONS		SYMBOL	GF1A	GF1B	GF1D	GF1G	GF1J	GF1K	GF1M	UNIT
Max. instantaneous forward voltage	1.0 A		V _F	1.1				1	1.2 V		
Max. DC reverse current at		T _A = 25 °C	I_					μA			
rated DC blocking voltage		T _A = 125 °C	I _R	50							
Typical reverse recovery time	I _F = 0.5 I _{rr} = 0.2	A, I _R = 1.0 A, 5 A	t _{rr}	2.0					μs		
Typical junction capacitance	4.0 V, 1	MHz	CJ	15					pF		

THERMAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)									
PARAMETER	SYMBOL GF1A GF1B GF1D GF1G GF1J GF1K GF1M UN							UNIT	
Typical thermal resistance (1)	$R_{\theta JA}$	80							°C/W
Typical thermal resistance (*)	$R_{\theta JL}$	26							C/VV

Note

⁽¹⁾ Thermal resistance from junction to ambient and from junction to lead, PCB mounted on 0.2" x 0.2" (5.0 mm x 5.0 mm) copper pad areas

ORDERING INFORMATION (Example)								
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE				
GF1JHE3_A/H (1)	0.104	Н	1500	7" diameter plastic tape and reel				
GF1JHE3_A/I (1)	0.104	I	6500	13" diameter plastic tape and reel				

Note

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

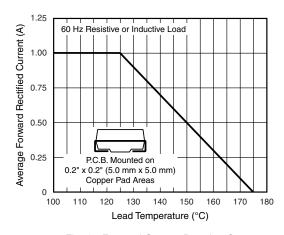


Fig. 1 - Forward Current Derating Curve

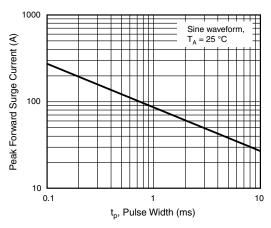


Fig. 2 - Non-Repetitive Peak Forward Surge Current

⁽¹⁾ AEC-Q101 qualified



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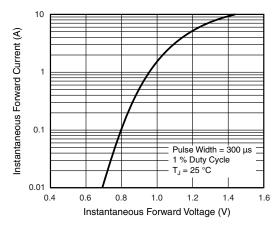


Fig. 3 - Typical Instantaneous Forward Characteristics

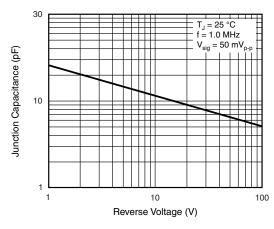


Fig. 5 - Typical Junction Capacitance

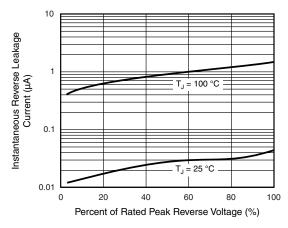


Fig. 4 - Typical Reverse Characteristics

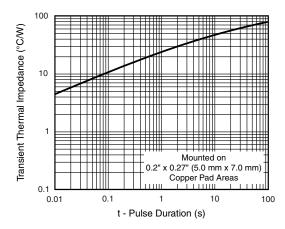
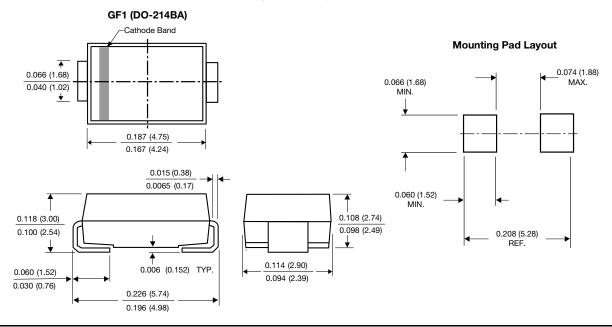


Fig. 6 - Typical Transient Thermal Impedance

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





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