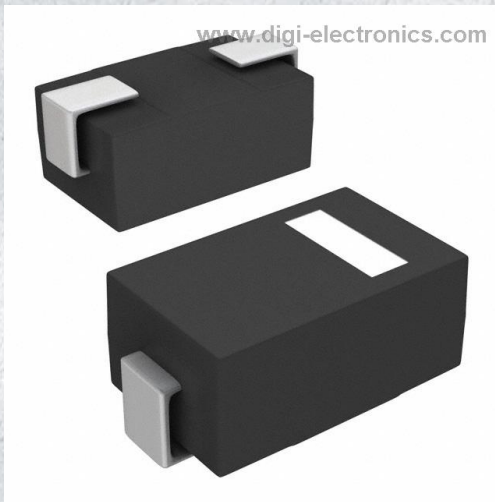


GF1M-E3/5CA Datasheet



<https://www.DiGi-Electronics.com>

DiGi Electronics Part Number	GF1M-E3/5CA-DG
Manufacturer	Vishay General Semiconductor - Diodes Division
Manufacturer Product Number	GF1M-E3/5CA
Description	DIODE GEN PURP 1KV 1A DO214BA
Detailed Description	Diode 1000 V 1A Surface Mount DO-214BA (GF1)

This model GF1M-E3/5CA is available at DiGi Electronics.

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Purchase and inquiry

Manufacturer Product Number:

GF1M-E3/5CA

Series:

SUPERECTIFIER®

Technology:

Standard

Current - Average Rectified (Io):

1A

Speed:

Standard Recovery >500ns, > 200mA (Io)

Current - Reverse Leakage @ Vr:

5 μ A @ 1000 V

Mounting Type:

Surface Mount

Supplier Device Package:

DO-214BA (GF1)

Base Product Number:

GF1

Manufacturer:

Vishay General Semiconductor - Diodes Division

Product Status:

Active

Voltage - DC Reverse (Vr) (Max):

1000 V

Voltage - Forward (Vf) (Max) @ If:

1.2 V @ 1 A

Reverse Recovery Time (trr):

2 μ s

Capacitance @ Vr, F:

-

Package / Case:

DO-214BA

Operating Temperature - Junction:

-65°C ~ 175°C

Environmental & Export classification

RoHS Status:

ROHS3 Compliant

REACH Status:

REACH Unaffected

HTSUS:

8541.10.0080

Moisture Sensitivity Level (MSL):

1 (Unlimited)

ECCN:

EAR99


www.vishay.com

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

Vishay General Semiconductor

Surface-Mount Glass Passivated Rectifier

Superectifier®



GF1 (DO-214BA)

Cathode  Anode

LINKS TO ADDITIONAL RESOURCES



3D Models

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 μ A
T_J max.	175 °C
Package	GF1 (DO-214BA)
Circuit configuration	Single

FEATURES

- Superectifier structure for high reliability condition
- Ideal for automated placement
- 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 www.vishay.com/doc?99912

RoHS
COMPLIANT

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							A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I_{FSM}	30							A
Operating junction and storage temperature range	T_J, T_{STG}	-65 to +175							°C


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

Vishay General Semiconductor

ELECTRICAL CHARACTERISTICS ($T_A = 25\text{ }^\circ\text{C}$ 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				1.2			V
Max. DC reverse current at rated DC blocking voltage	$T_A = 25\text{ }^\circ\text{C}$	I_R	5.0							μA
	$T_A = 125\text{ }^\circ\text{C}$		50							
Typical reverse recovery time	$I_F = 0.5\text{ A}$, $I_R = 1.0\text{ A}$, $I_{rr} = 0.25\text{ A}$	t_{rr}	2.0				μs			
Typical junction capacitance	4.0 V, 1 MHz	C_J	15				pF			

THERMAL CHARACTERISTICS ($T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)										
PARAMETER	SYMBOL	GF1A	GF1B	GF1D	GF1G	GF1J	GF1K	GF1M	UNIT	
Typical thermal resistance ⁽¹⁾	$R_{\theta JA}$	80							$^\circ\text{C/W}$	
	$R_{\theta JL}$	26								

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	H	1500	7" diameter plastic tape and reel
GF1JHE3_A/I ⁽¹⁾	0.104	I	6500	13" diameter plastic tape and reel

Note

⁽¹⁾ AEC-Q101 qualified

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

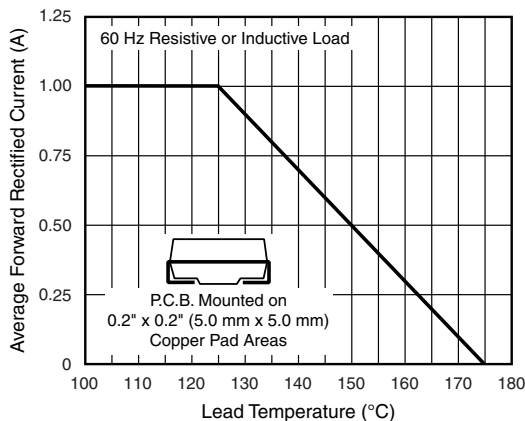


Fig. 1 - Forward Current Derating Curve

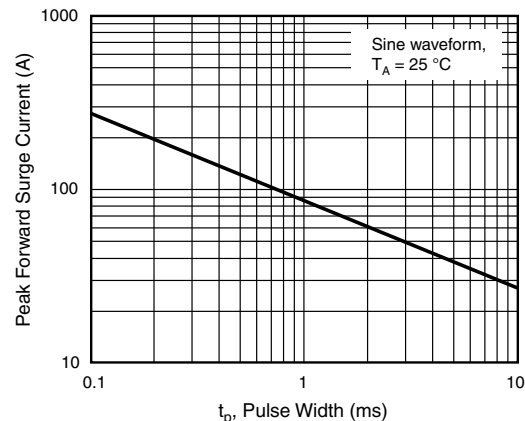


Fig. 2 - Non-Repetitive Peak Forward Surge Current



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

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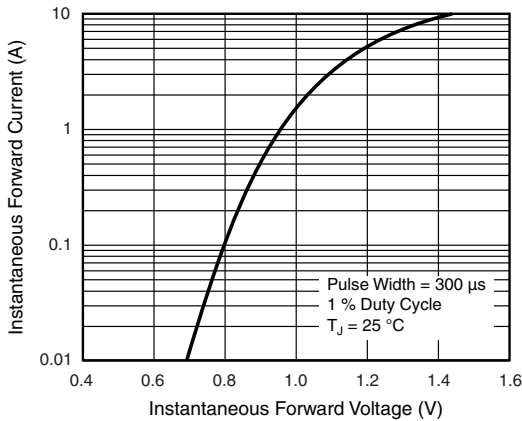


Fig. 3 - Typical Instantaneous Forward Characteristics

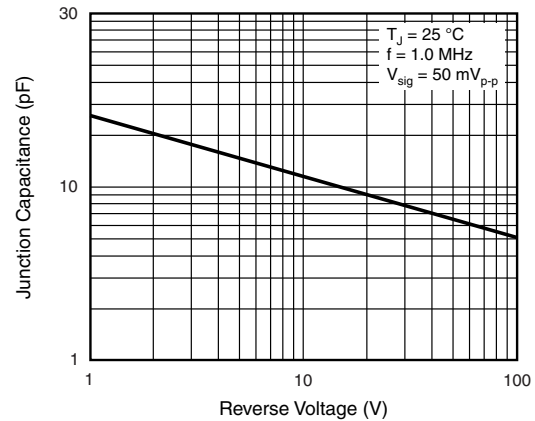


Fig. 5 - Typical Junction Capacitance

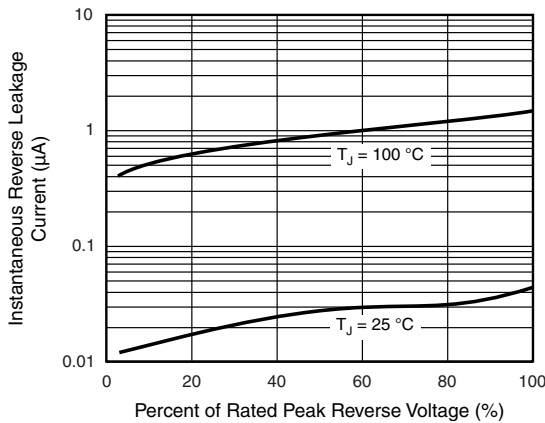


Fig. 4 - Typical Reverse Characteristics

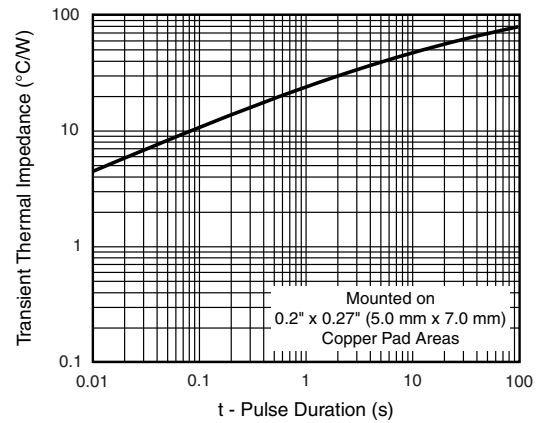
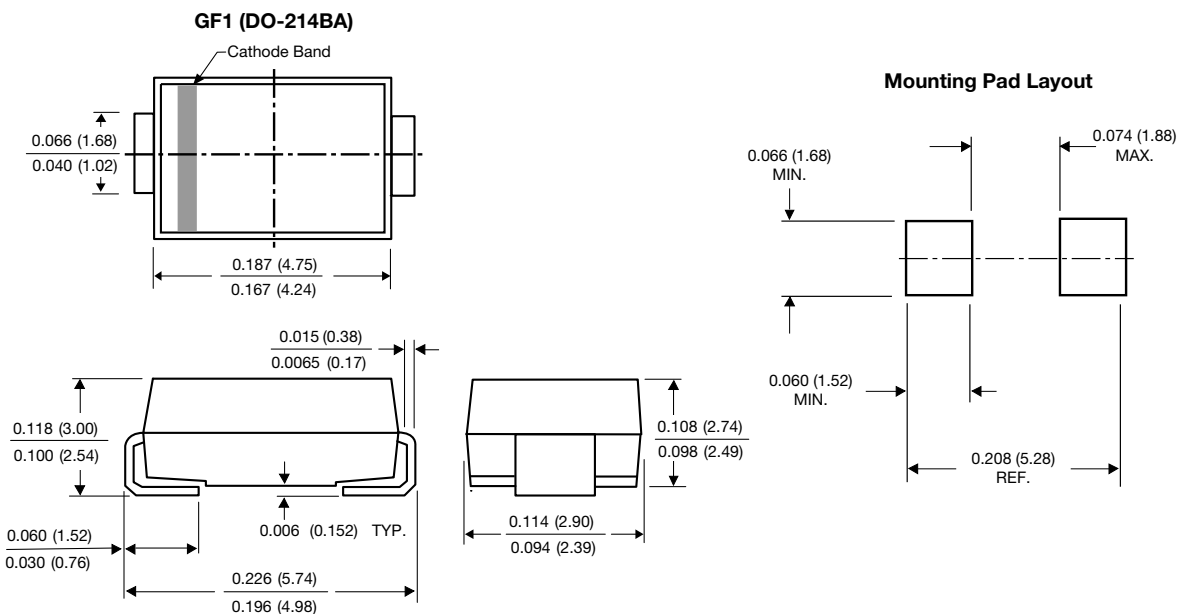


Fig. 6 - Typical Transient Thermal Impedance

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





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