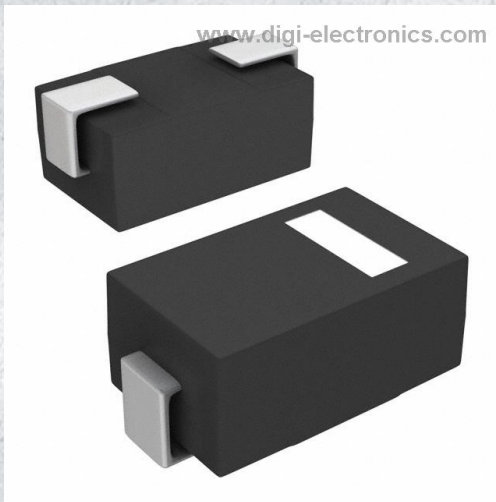


EGF1AHE3/5CA Datasheet



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

DiGi Electronics Part Number	EGF1AHE3/5CA-DG
Manufacturer	Vishay General Semiconductor - Diodes Division
Manufacturer Product Number	EGF1AHE3/5CA
Description	DIODE GEN PURP 50V 1A DO214BA
Detailed Description	Diode 50 V 1A Surface Mount DO-214BA (GF1)

This model EGF1AHE3/5CA is available at DiGi Electronics.

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Purchase and inquiry

Manufacturer Product Number:

EGF1AHE3/5CA

Series:

SUPERECTIFIER®

Technology:

Standard

Current - Average Rectified (Io):

1A

Speed:

Fast Recovery =< 500ns, > 200mA (Io)

Current - Reverse Leakage @ Vr:

5 μ A @ 50 V

Grade:

Automotive

Mounting Type:

Surface Mount

Supplier Device Package:

DO-214BA (GF1)

Base Product Number:

EGF1

Manufacturer:

Vishay General Semiconductor - Diodes Division

Product Status:

Discontinued at Digi-Key

Voltage - DC Reverse (Vr) (Max):

50 V

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

1 V @ 1 A

Reverse Recovery Time (trr):

50 ns

Capacitance @ Vr, F:

-

Qualification:

AEC-Q101

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

EGF1A, EGF1B, EGF1C, EGF1D

Vishay General Semiconductor

Surface-Mount Glass Passivated Ultrafast 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, 150 V, 200 V
I_{FSM}	30 A
t_{rr}	50 ns
V_F	1.0 V
T_J max.	175 °C
Package	GF1 (DO-214BA)
Circuit configuration	Single

FEATURES

- Superectifier structure for high reliability condition
- Cavity-free glass-passivated junction
- Ideal for automated placement
- Ultrafast reverse recovery time
- Low switching losses, high efficiency
- High forward surge capability
- Meets MSL level 1, per J-STD-020, LF maximum peak of 250 °C
- AEC-Q101 qualified
 - Automotive ordering code: base P/NHE3
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912


 RoHS
COMPLIANT

TYPICAL APPLICATIONS

For use in high frequency rectification and freewheeling application in switching mode converters and inverters for consumer, computer, 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 ($T_A = 25\text{ °C}$ unless otherwise noted)						
PARAMETER	SYMBOL	EGF1A	EGF1B	EGF1C	EGF1D	UNIT
Device marking code		EA	EB	EC	ED	
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	150	200	V
Maximum RMS voltage	V_{RMS}	35	70	105	140	V
Maximum DC blocking voltage	V_{DC}	50	100	150	200	V
Maximum average forward rectified current at $T_L = 125\text{ °C}$	$I_{F(AV)}$	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



www.vishay.com

EGF1A, EGF1B, EGF1C, EGF1D

Vishay General Semiconductor

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

PARAMETER	TEST CONDITIONS	SYMBOL	EGF1A	EGF1B	EGF1C	EGF1D	UNIT
Maximum instantaneous forward voltage	1.0 A	$V_F^{(1)}$	1.0				V
Maximum DC reverse current at rated DC blocking voltage	$T_A = 25\text{ }^\circ\text{C}$	$I_R^{(1)}$	5.0				μA
	$T_A = 125\text{ }^\circ\text{C}$		50				
Typical reverse recovery time	$I_F = 0.5\text{ A}$, $I_R = 1.0\text{ A}$, $t_{rr} = 0.25\text{ A}$	t_{rr}	50				ns
Typical junction capacitance	4.0 V, 1 MHz	C_J	15				pF

Note⁽¹⁾ Pulse test: 300 μs pulse width, 1 % duty cycle**THERMAL CHARACTERISTICS** ($T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)

PARAMETER	SYMBOL	EGF1A	EGF1B	EGF1C	EGF1D	UNIT
Typical thermal resistance	$R_{\theta JA}^{(1)}$	85				$^\circ\text{C/W}$
	$R_{\theta JL}^{(1)}$	30				

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
EGF1DHE3_B/H ⁽¹⁾	0.104	H	1500	7" diameter plastic tape and reel
EGF1DHE3_B/I ⁽¹⁾	0.104	I	6500	13" diameter plastic tape and reel

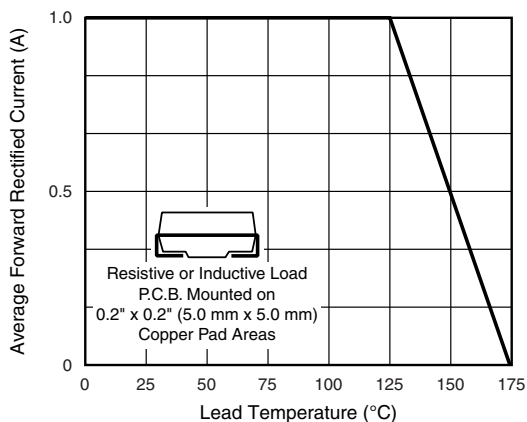
Note⁽¹⁾ AEC-Q101 qualified**RATINGS AND CHARACTERISTICS CURVES** ($T_A = 25\text{ }^\circ\text{C}$ unless otherwise specified)

Fig. 1 - Maximum Forward Current Derating Curve

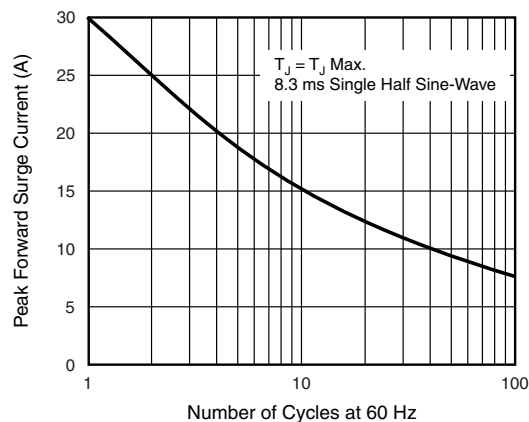


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current



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EGF1A, EGF1B, EGF1C, EGF1D

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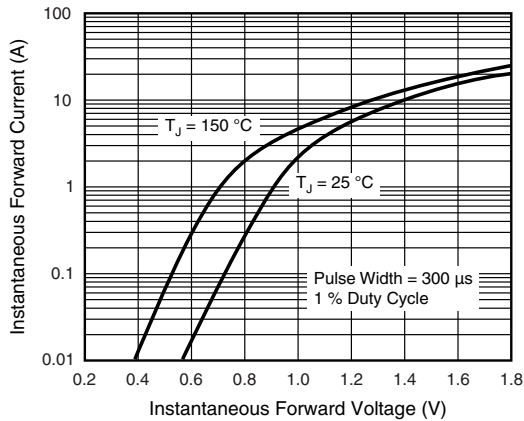


Fig. 3 - Typical Instantaneous Forward Characteristics

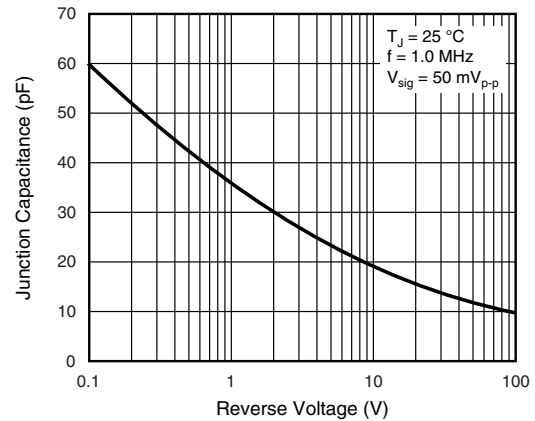


Fig. 5 - Typical Junction Capacitance

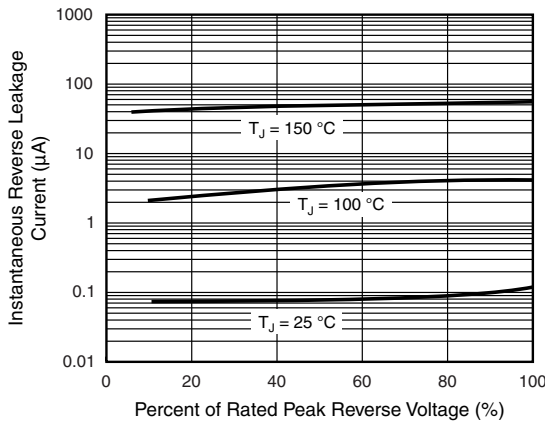


Fig. 4 - Typical Reverse Leakage Characteristics

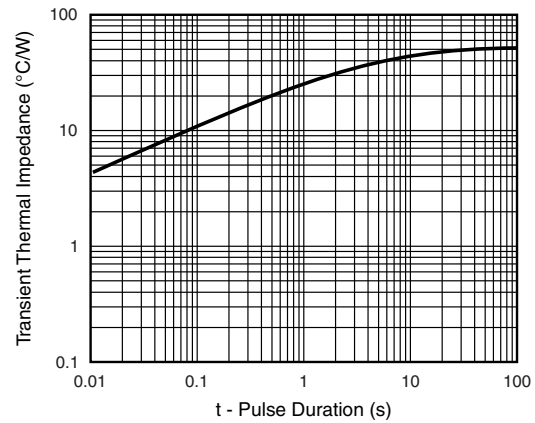
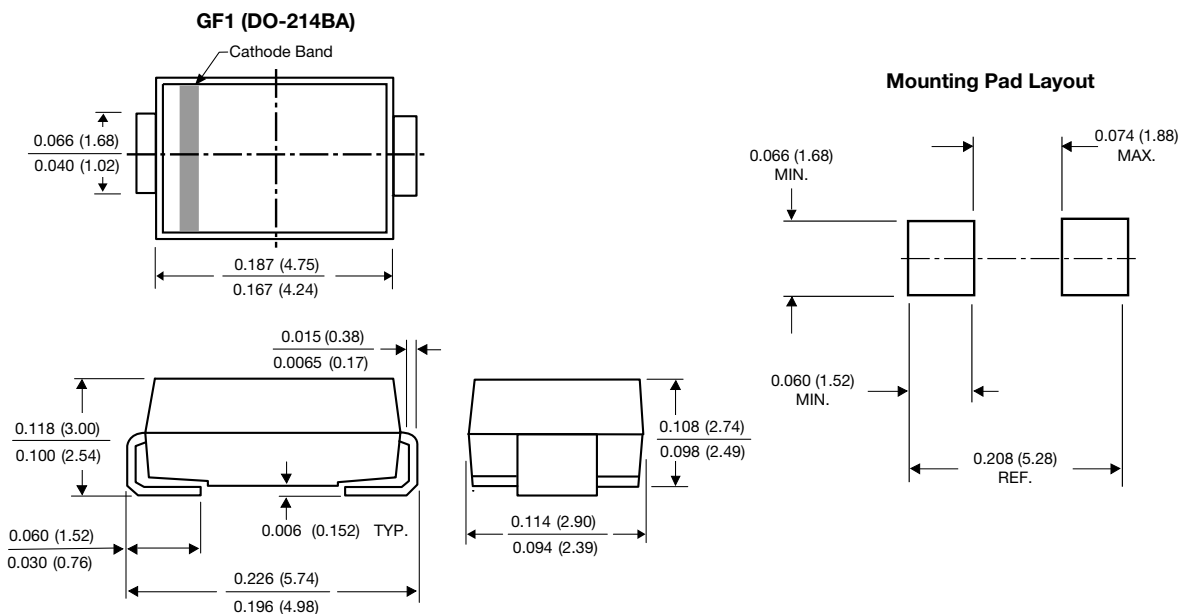


Fig. 6 - Typical Transient Thermal Impedance

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





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