

GI510-E3/54 Datasheet



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DiGi Electronics Part Number	GI510-E3/54-DG
Manufacturer	Vishay General Semiconductor - Diodes Division
Manufacturer Product Number	GI510-E3/54
Description	DIODE GEN PURP 1KV 3A DO201AD
Detailed Description	Diode 1000 V 3A Through Hole DO-201AD

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Purchase and inquiry

Manufacturer Product Number:

GI510-E3/54

Series:

-

Technology:

Standard

Current - Average Rectified (Io):

3A

Speed:

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

Current - Reverse Leakage @ Vr:

5 μ A @ 1000 V

Mounting Type:

Through Hole

Supplier Device Package:

DO-201AD

Base Product Number:

GI510

Manufacturer:

Vishay General Semiconductor - Diodes Division

Product Status:

Active

Voltage - DC Reverse (Vr) (Max):

1000 V

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

1.1 V @ 9.4 A

Reverse Recovery Time (trr):

2 μ s

Capacitance @ Vr, F:

28pF @ 4V, 1MHz

Package / Case:

DO-201AD, Axial

Operating Temperature - Junction:

-50°C ~ 150°C

Environmental & Export classification

RoHS Status:

ROHS3 Compliant

REACH Status:

REACH Unaffected

HTSUS:

8541.10.0080

Moisture Sensitivity Level (MSL):

1 (Unlimited)

ECCN:

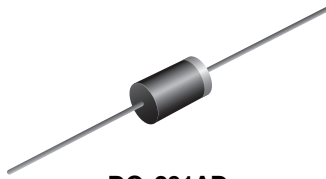
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GI500, GI501, GI502, GI504, GI506, GI508, GI510

Vishay General Semiconductor

General Purpose Plastic Rectifier



DO-201AD

FEATURES

- Low forward voltage drop
- Low leakage current, I_R less than 0.1 μ A
- High forward surge capability
- Solder dip 275 °C max. 10 s, per JESD 22-B106
- 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 application.

Note

- These devices are not AEC-Q101 qualified.

MECHANICAL DATA

Case: DO-201AD, molded epoxy 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

PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	3.0 A
V_{RRM}	50 V, 100 V, 200 V, 400 V, 600 V, 800 V, 1000 V
I_{FSM}	100 A
I_R	5.0 μ A
V_F	1.1 V
T_J max.	150 °C
Package	DO-201AD
Diode variations	Single die

MAXIMUM RATINGS ($T_A = 25$ °C unless otherwise noted)									
PARAMETER	SYMBOL	GI500	GI501	GI502	GI504	GI506	GI508	GI510	UNIT
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	200	400	600	800	1000	V
Maximum RMS voltage	V_{RMS}	35	70	140	280	420	560	700	V
Maximum DC blocking voltage	V_{DC}	50	100	200	400	600	800	1000	V
Maximum average forward rectified current 0.375" (9.5 mm) lead length at $T_A = 95$ °C	$I_{F(AV)}$	3.0							A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I_{FSM}	100							A
Operating junction and storage temperature range	T_J, T_{STG}	- 50 to + 150							°C

ELECTRICAL CHARACTERISTICS ($T_A = 25$ °C unless otherwise noted)											
PARAMETER	TEST CONDITIONS		SYMBOL	GI500	GI501	GI502	GI504	GI506	GI508	GI510	UNIT
Maximum instantaneous forward voltage	9.4 A	$T_J = 25$ °C	V_F	1.1						V	
		$T_J = 175$ °C		1.0							
Maximum DC reverse current at rated DC blocking voltage			I_R	5.0						μ A	
				50							
Typical reverse recovery time	$I_F = 0.5$ A, $I_R = 1.0$ A, $t_{rr} = 0.25$ A		t_{rr}	2.0						μ s	
Typical junction capacitance	4.0 V, 1 MHz		C_J	28						pF	



GI500, GI501, GI502, GI504, GI506, GI508, GI510

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THERMAL CHARACTERISTICS ($T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)									
PARAMETER	SYMBOL	GI500	GI501	GI502	GI504	GI506	GI508	GI510	UNIT
Typical thermal resistance	$R_{\theta JA}^{(1)}$	20						$^\circ\text{C/W}$	
	$R_{\theta JL}^{(1)}$	5.0							

Note

(1) Thermal resistance from junction to ambient and from junction to lead at 0.375" (9.5 mm) lead length, PCB mounted with 0.8" x 0.8" (20 mm x 20 mm) copper heatsinks

ORDERING INFORMATION (Example)				
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
GI506-E3/54	1.1	54	1400	13" diameter paper tape and reel
GI506-E3/73	1.1	73	1000	Ammo pack packaging

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

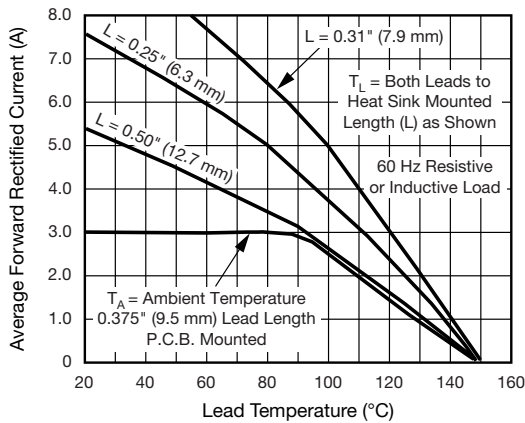


Fig. 1 - Forward Current Derating Curve

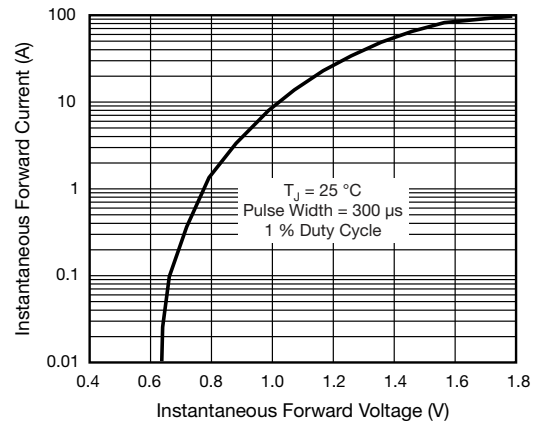


Fig. 3 - Typical Instantaneous Forward Characteristics

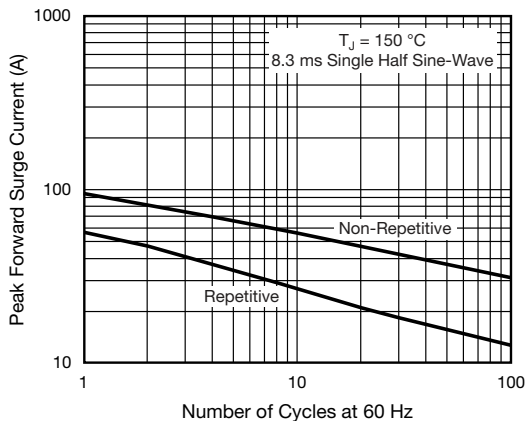


Fig. 2 - Maximum Non-repetitive Peak Forward Surge Current

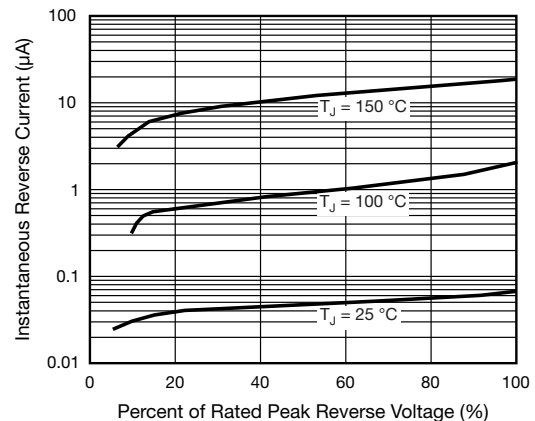


Fig. 4 - Typical Reverse Characteristics



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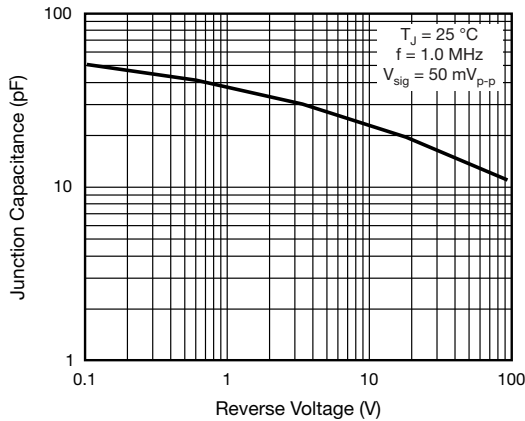


Fig. 5 - Typical Junction Capacitance

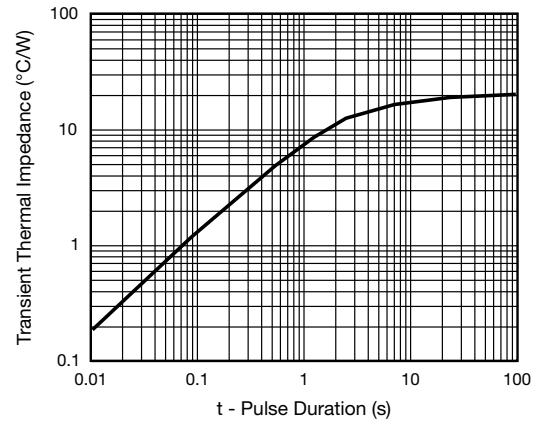
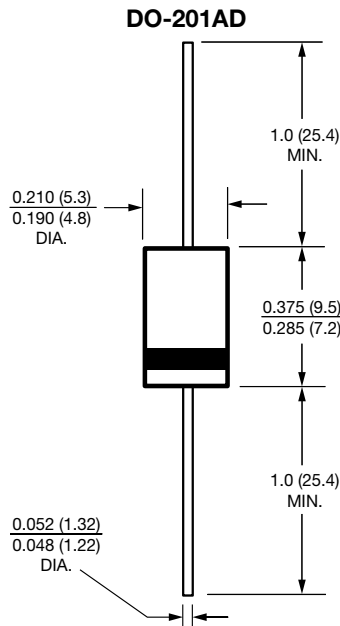


Fig. 6 - Typical Transient Thermal Impedance

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





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