

1N5822-E3/54 Datasheet



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DiGi Electronics Part Number	1N5822-E3/54-DG
Manufacturer	Vishay General Semiconductor - Diodes Division
Manufacturer Product Number	1N5822-E3/54
Description	DIODE SCHOTTKY 40V 3A DO201AD
Detailed Description	Diode 40 V 3A Through Hole DO-201AD

This model 1N5822-E3/54 is available at DiGi Electronics.

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Purchase and inquiry

Manufacturer Product Number:

1N5822-E3/54

Series:

-

Technology:

Schottky

Current - Average Rectified (Io):

3A

Speed:

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

Capacitance @ Vr, F:

-

Package / Case:

DO-201AD, Axial

Operating Temperature - Junction:

-65°C ~ 125°C

Manufacturer:

Vishay General Semiconductor - Diodes Division

Product Status:

Active

Voltage - DC Reverse (Vr) (Max):

40 V

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

525 mV @ 3 A

Current - Reverse Leakage @ Vr:

2 mA @ 40 V

Mounting Type:

Through Hole

Supplier Device Package:

DO-201AD

Base Product Number:

1N5822

Environmental & Export classification

RoHS Status:

ROHS3 Compliant

REACH Status:

REACH Unaffected

HTSUS:

8541.10.0080

Moisture Sensitivity Level (MSL):

1 (Unlimited)

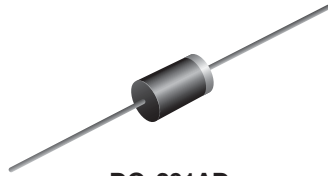
ECCN:

EAR99


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1N5820, 1N5821, 1N5822

Vishay General Semiconductor

Schottky Barrier Plastic Rectifier



DO-201AD


RoHS
COMPLIANT

FEATURES

- Guardring for overvoltage protection
- Very small conduction losses
- Extremely fast switching
- Low forward voltage drop
- High forward surge capability
- High frequency operation
- Solder dip 275 °C max. 10 s, per JESD 22-B106
- Material categorization: For definitions of compliance please see www.vishay.com/doc?99912

TYPICAL APPLICATIONS

For use in low voltage high frequency inverters, freewheeling, DC/DC converters, and polarity protection applications.

MECHANICAL DATA

Case: DO-201AD

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 the cathode end

PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	3.0 A
V_{RRM}	20 V, 30 V, 40 V
I_{FSM}	80 A
V_F	0.475 V, 0.500 V, 0.525 V
T_J max.	125 °C
Package	DO-201AD
Diode variations	Single

MAXIMUM RATINGS ($T_A = 25\text{ °C}$ unless otherwise noted)					
PARAMETER	SYMBOL	1N5820	1N5821	1N5822	UNIT
Maximum repetitive peak reverse voltage	V_{RRM}	20	30	40	V
Maximum RMS voltage	V_{RMS}	14	21	28	V
Maximum DC blocking voltage	V_{DC}	20	30	40	V
Non-repetitive peak reverse voltage	V_{RSM}	24	36	48	V
Maximum average forward rectified current at 0.375" (9.5 mm) lead length at $T_L = 95\text{ °C}$	$I_{F(AV)}$	3.0			A
Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load	I_{FSM}	80			A
Operating junction and storage temperature range	T_J, T_{STG}	- 65 to + 125			°C

ELECTRICAL CHARACTERISTICS ($T_A = 25\text{ °C}$ unless otherwise noted)						
PARAMETER	TEST CONDITIONS	SYMBOL	1N5820	1N5821	1N5822	UNIT
Maximum instantaneous forward voltage	3.0	$V_F^{(1)}$	0.475	0.500	0.525	V
Maximum instantaneous forward voltage	9.4	$V_F^{(1)}$	0.850	0.900	0.950	V
Maximum average reverse current at rated DC blocking voltage	$T_A = 25\text{ °C}$	$I_R^{(1)}$	2.0			mA
	$T_A = 100\text{ °C}$		20			

Note

⁽¹⁾ Pulse test: 300 μ s pulse width, 1 % duty cycle



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THERMAL CHARACTERISTICS ($T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)					
PARAMETER	SYMBOL	1N5820	1N5821	1N5822	UNIT
Typical thermal resistance	$R_{\theta JA}$ ⁽¹⁾	40			$^\circ\text{C}/\text{W}$
	$R_{\theta JL}$ ⁽¹⁾	10			

Note

(1) Thermal resistance from junction to lead vertical PCB mounted, 0.500" (12.7 mm) lead length with 2.5" x 2.5" (63.5 mm x 63.5 mm) copper pad

ORDERING INFORMATION (Example)				
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
1N5820-E3/54	1.08	54	1400	13" diameter paper tape and reel
1N5820-E3/73	1.08	73	1000	Ammo pack packaging

RATINGS AND CHARACTERISTICS CURVES

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

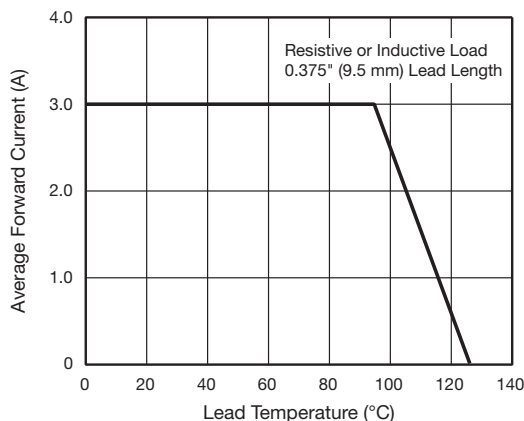


Fig. 1 - Forward Current Derating Curve

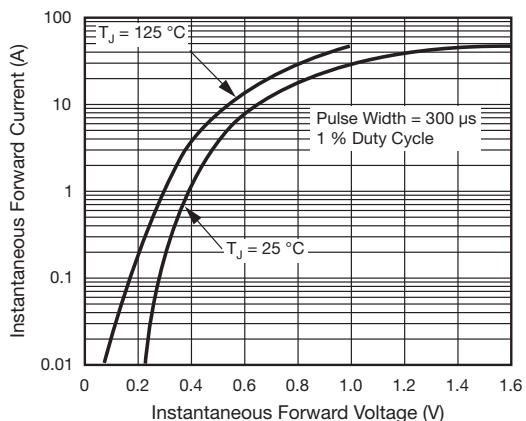


Fig. 3 - Typical Instantaneous Forward Characteristics

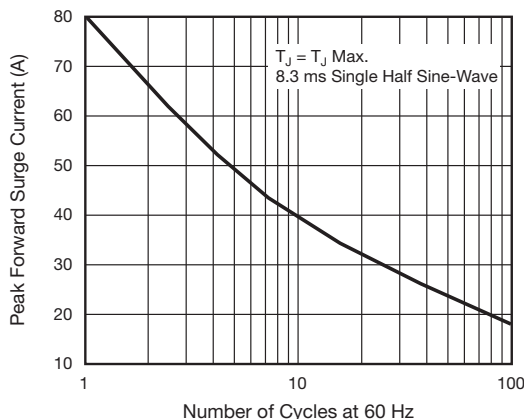


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

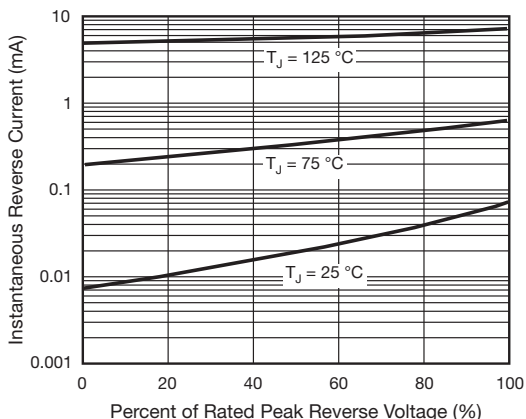


Fig. 4 - Typical Reverse Characteristics



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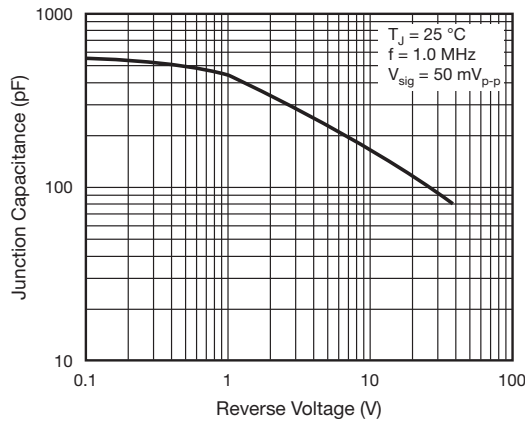


Fig. 5 - Typical Junction Capacitance

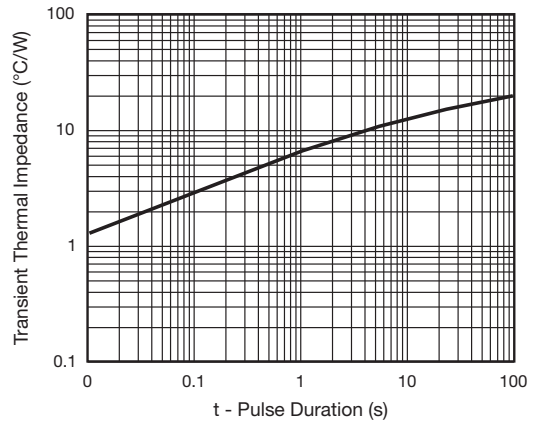
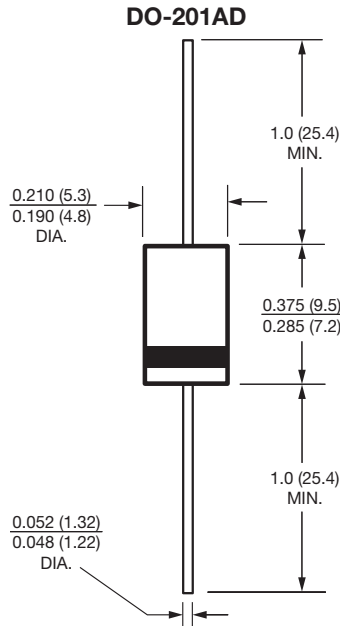


Fig. 6 - Typical Transient Thermal Impedance

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





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