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Vishay Semiconductor/Diodes Division
31GF4-E3/73

For any questions, you can email us directly:
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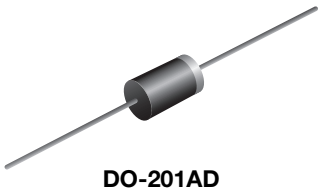
31GF4-E3

Vishay General Semiconductor

Ultrafast Plastic Rectifier



DO-201AD

FEATURES

- Glass passivated pellet chip junction
- Ultrafast reverse recovery time
- Low forward voltage drop
- Low switching losses, high efficiency
- 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 high frequency rectification and freewheeling application in switching mode converters and inverters for consumer, computer and telecommunication.

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 cathode end

PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	3.0 A
V_{RRM}	400 V
I_{FSM}	60 A
t_{rr}	30 ns
V_F	1.25 V
T_J max.	150 °C
Package	DO-201AD
Diode variations	Single die

MAXIMUM RATINGS (T_A = 25 °C unless otherwise noted)

PARAMETER		SYMBOL	VALUE	UNIT
Maximum repetitive peak reverse voltage		V_{RRM}	400	V
Maximum RMS voltage		V_{RMS}	280	
Maximum DC blocking voltage		V_{DC}	400	
Maximum average forward rectified current, 0.375" (9.5 mm) lead length	with FIN	$I_{F(AV)}$	3.0	A
	without FIN/PCB		1.5	
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load		I_{FSM}	60	
Operating junction and storage temperature range		T_J, T_{STG}	-40 to +150	°C
Reverse avalanche energy (8/20 µs surge)		E_{AR}	10	mJ

ELECTRICAL CHARACTERISTICS (T_A = 25 °C unless otherwise noted)

PARAMETER	TEST CONDITIONS	SYMBOL	VALUE	UNIT
Minimum reverse breakdown voltage	10 µA	V_{BR}	400	V
Maximum instantaneous forward voltage	3.0 A	V_F (1)	1.25	
Maximum DC reverse current at rated DC blocking voltage		I_R	20	µA
Maximum reverse recovery time	I_F = 0.5 A, I_R = 1.0 A, I_{rr} = 0.25 A	t_{rr}	30	ns

Note

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

THERMAL CHARACTERISTICS (T_A = 25 °C unless otherwise noted)			
PARAMETER	**SYMBOL**	**VALUE**	**UNIT**
Typical thermal resistance, junction to ambient	$R_{\theta JA}$ (1)	80	°C/W

Note

(1) Thermal resistance from junction to ambient at 0.375" (9.5 mm) lead length, PCB mounted

ORDERING INFORMATION (Example)				
PREFERRED P/N	**UNIT WEIGHT (g)**	**PREFERRED PACKAGE CODE**	**BASE QUANTITY**	**DELIVERY MODE**
31GF4-E3/54	1.13	54	1400	13" diameter paper tape and reel
31GF4-E3/73	1.13	73	1000	Ammo pack packaging

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

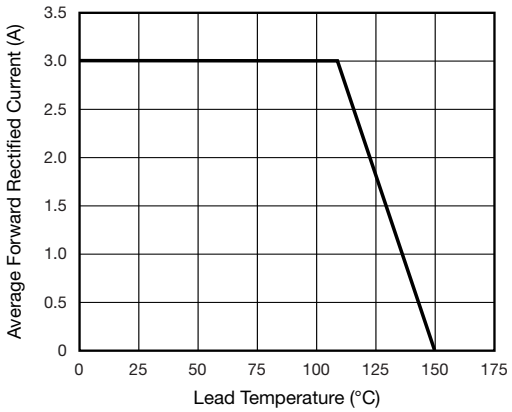


Fig. 1 - Maximum Forward Current Derating Curve

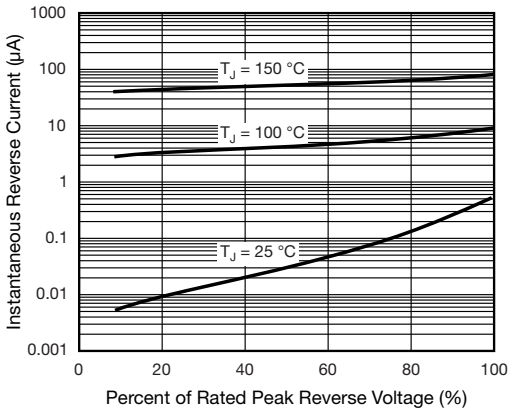


Fig. 3 - Typical Reverse Characteristics

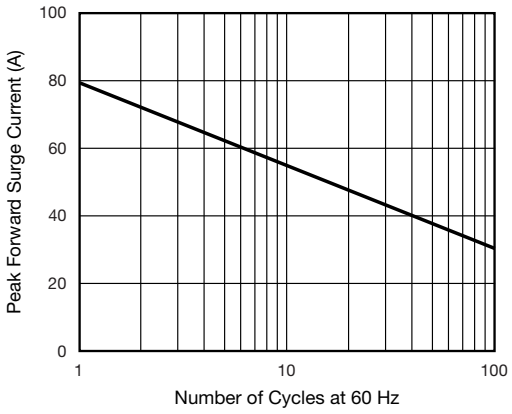


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

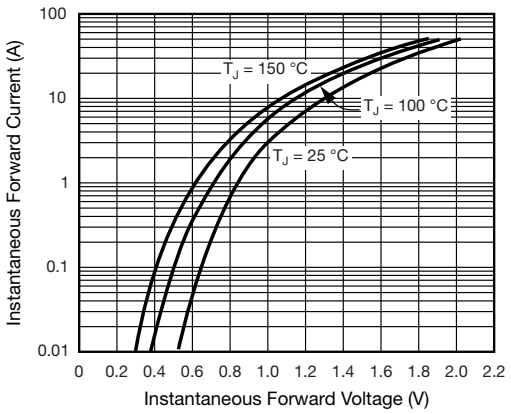


Fig. 4 - Typical Instantaneous Forward Characteristics

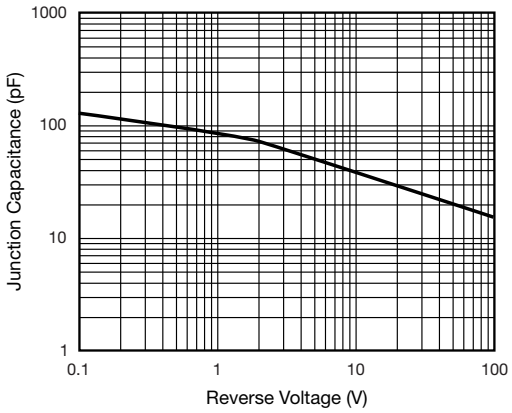
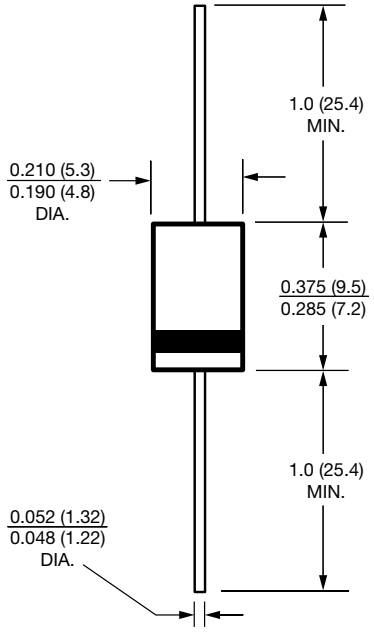


Fig. 5 - Typical Junction Capacitance

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

DO-201AD



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