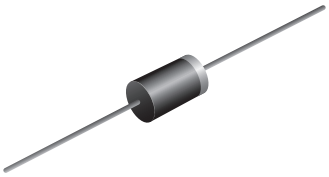
Clamper / Damper Glass Passivated Fast Plastic Rectifier

SUPERECTIFIER®



DO-201AD

FEATURES

- Superectifier structure for high reliability application
- Cavity-free glass-passivated junction
- Low forward voltage drop
- Typical I_R less than 0.1 µA
- 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 voltage rectification of power supplies, inverters, converters and freewheeling diodes specially designed for clamping circuits, horizontal deflection systems and damper applications.

MECHANICAL DATA

Case: DO-201AD, molded epoxy over glass 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	
$I_{F(AV)}$	2.5 A
V_{RRM}	1500 V
I_{FSM}	50 A
t_{rr}	2000 ns
I_R	5.0 µA
V_F	1.6 V
T_J max.	150 °C
Package	DO-201AD
Circuit configuration	Single

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

PARAMETER	SYMBOL	BY228GP	UNIT
Maximum non repetitive peak reverse voltage	V_{RSM}	1650	V
Maximum repetitive peak reverse voltage	V_{RRM}	1500	V
Maximum RMS voltage	V_{RMS}	1050	V
Maximum DC blocking voltage	V_{DC}	1500	V
Maximum average forward rectified current 0.375" (9.5 mm) lead length at T_A = 50 °C	$I_{F(AV)}$	2.5	A
Peak forward surge current 10 ms single half sine-wave superimposed on rated load	I_{FSM}	50	A
Working peak forward current at T_A = 75 °C	I_{FWM}	5.0	A
Peak repetitive forward surge current at T_A = 75 °C	I_{FRM}	10	A
Operating junction temperature range	T_J	-65 to +150	°C
Storage temperature range	T_{STG}	-65 to +200	°C

ELECTRICAL CHARACTERISTICS (T_A = 25 °C unless otherwise noted)					
PARAMETER	**TEST CONDITIONS**		**SYMBOL**	**BY228GP**	**UNIT**
Maximum instantaneous forward voltage	I_F = 2.5 A		V_F (1)	1.6	V
Maximum reverse current	V_R = 1500 V	T_A = 25 °C	I_R	5.0	μA
		T_J = 140 °C		200	
Maximum reverse recovery time	I_F = 1.0 A, I_R = 50 mA, dI/dt = 50 mA/μs		t_{rr}	20	μs
Reverse recovery time	I_F = 0.5 A, I_R = 1.0 A, I_{rr} = 0.25 A	typical	t_{rr}	0.5	μs
		maximum		2.0	
Maximum forward recovery time	I_F = 5.0 A with t_r = 0.1 μs		t_{fr}	1.0	μs
Typical junction capacitance	4.0 V, 1 MHz		C_J	40	pF

Note

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

THERMAL CHARACTERISTICS (T_A = 25 °C unless otherwise noted)			
PARAMETER	**SYMBOL**	**BY228GP**	**UNIT**
Typical thermal resistance	$R_{\theta JA}$ (1)	20	°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**
BY228GP-E3/54	1.28	54	1400	13" diameter paper tape and reel
BY228GP-E3/73	1.28	73	1000	Ammo pack packaging

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

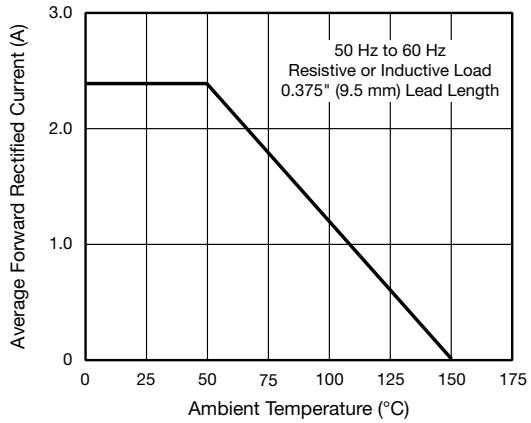


Fig. 1 - Forward Current Derating Curve

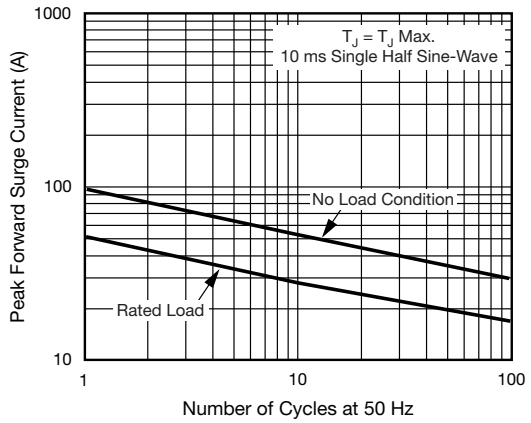


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

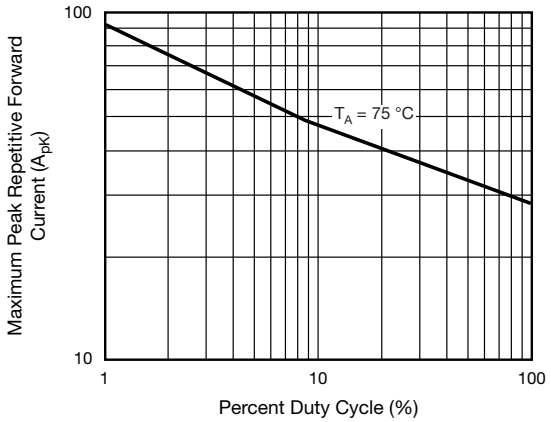


Fig. 3 - Maximum Peak Repetitive Forward Surge Current

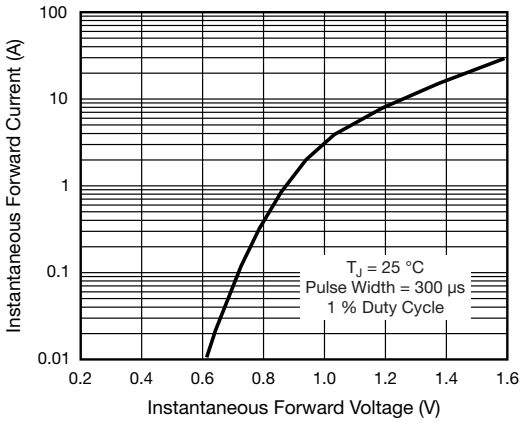


Fig. 4 - Typical Instantaneous Forward Characteristics

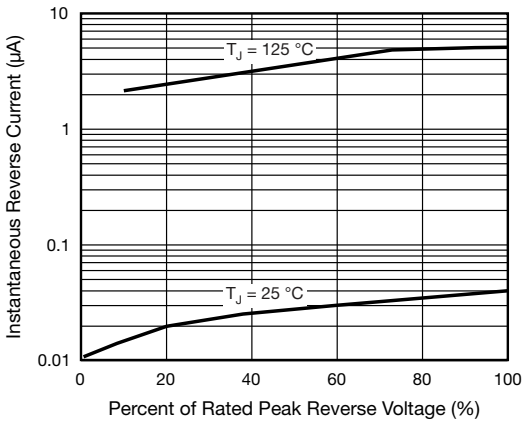


Fig. 5 - Typical Reverse Characteristics

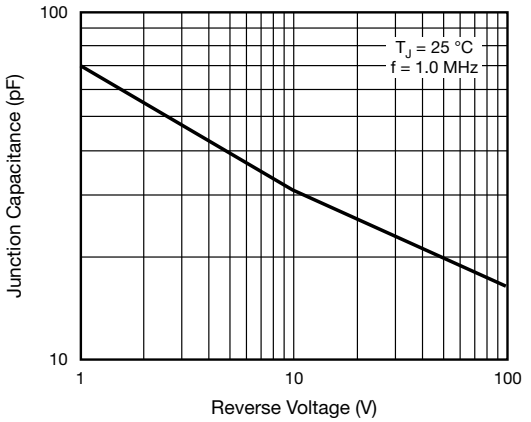
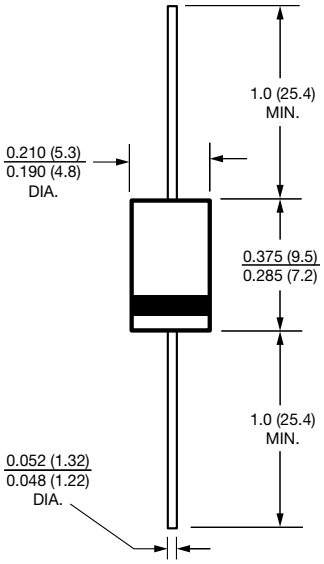


Fig. 6 - Typical Junction Capacitance

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

DO-201AD



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