

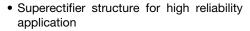
Vishay General Semiconductor

Miniature Clamper / Damper Glass Passivated Rectifier



PRIMARY CHARACTERISTICS			
I _{F(AV)}	1.5 A		
V_{RRM}	1650 V		
I _{FSM}	40 A		
t _{rr}	1500 ns		
I _R	5.0 μA		
V_{F}	1.6 V		
T _J max.	175 °C		
Package	DO-15 (DO-204AC)		
Circuit configuration	Single		

FEATURES





RoHS

· 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

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-15 (DO-204AC), 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

MAXIMUM RATINGS (T _A = 25 °C unless otherwise noted)				
PARAMETER	SYMBOL	BY448GP	UNIT	
Maximum repetitive peak reverse voltage	V _{RRM}	1650	V	
Maximum RMS voltage	V _{RMS}	1150	V	
Maximum DC blocking voltage	V _{DC}	1650	V	
Maximum average forward rectified current 0.375" (9.5 mm) lead length at $T_A = 50$ °C	I _{F(AV)}	1.5	А	
Peak forward surge current 8.3 ms single half sine wave superimposed on rated load	I _{FSM}	40	А	
Maximum full load reverse current, full cycle average, 0.375" (9.5 mm) lead length at $T_A = 100 ^{\circ}\text{C}$	I _{R(AV)}	50	μAu	
Operating junction and storage temperature range	T _J , T _{STG}	-65 to +175	°C	



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ELECTRICAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)					
PARAMETER	TEST CONDITIONS		SYMBOL	BY448GP	UNIT
Maximum instantaneous forward voltage	I _F = 3.0 A		V _F ⁽¹⁾	1.6	V
Maximum reverse current	V _R = 1650 V	T _A = 25 °C	- I _R	5.0	μΑ
		T _A = 100 °C		100	
Maximum reverse recovery time	I _F = 0.5 A, I _R =	50 mA	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		1.5	
Typical junction capacitance	4.0 V, 1 MHz		CJ	15	pF

Note

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

THERMAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)				
PARAMETER	SYMBOL	BY448GP	UNIT	
Typical thermal resistance	R ₀ JA (1)	55	°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	
BY448GP-E3/54	0.425	54	4000	13" diameter paper tape and reel	
BY448GP-E3/73	0.425	73	2000	Ammo pack packaging	

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

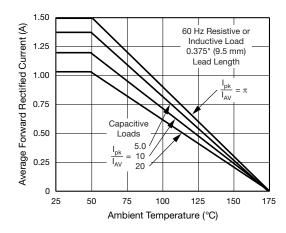


Fig. 1 - Forward Current Derating Curve

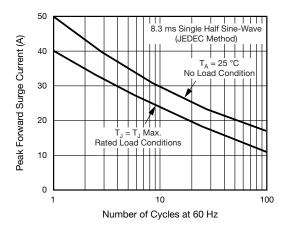


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current



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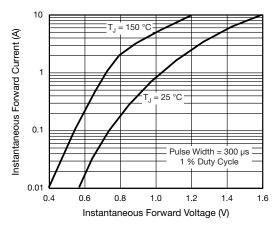


Fig. 3 - Typical Instantaneous Forward Characteristics

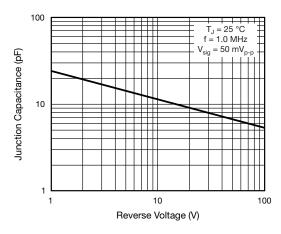


Fig. 5 - Typical Junction Capacitance

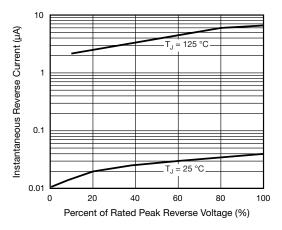
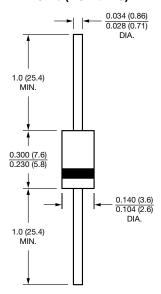


Fig. 4 - Typical Reverse Characteristics

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

DO-15 (DO-204AC)





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