

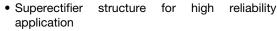
Vishay General Semiconductor

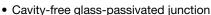
Miniature High Voltage Glass Passivated Rectifier



PRIMARY CHARACTERISTICS					
I _{F(AV)}	1.0 A				
V_{RRM}	1200 V to 1600 V				
I _{FSM}	30 A				
I _R	10 μΑ				
V_{F}	1.1 V				
T _J max.	175 °C				

FEATURES





· Low forward voltage drop

• Typical I_R less than 0.1 μA

• High forward surge capability

• Meets environmental standard MIL-S-19500

• Solder dip 275 °C max. 10 s, per JESD 22-B106

AEC-Q101 qualified

 Compliant to RoHS Directive 2002/95/EC and in accordance to WEEE 2002/96/EC

TYPICAL APPLICATIONS

For use in high voltage rectification of power supplies, inverters, converters, freewheeling diodes applications

MECHANICAL DATA

Case: DO-204AC, molded epoxy over glass body Molding compound meets UL 94 V-0 flammability rating Base P/N-E3 - RoHS compliant, commercial grade Base P/NHE3 - RoHS compliant, AEC-Q101 qualified

Terminals: Matte tin plated leads, solderable per J-STD-002 and JESD 22-B102

E3 suffix meets JESD 201 class 1A whisker test, HE3 suffix meets JESD 201 class 2 whisker test

Polarity: Color band denotes cathode end

MAXIMUM RATINGS (T _A = 25 °C unless otherwise noted)						
PARAMETER	SYMBOL	GI1-1200GP	GI1-1400GP	GI1-1600GP	UNIT	
Maximum repetitive peak reverse voltage	V_{RRM}	1200	1400	1600	V	
Maximum RMS voltage	V _{RMS}	840	980	1120	V	
Maximum DC blocking voltage	V_{DC}	1200	1400	1600	V	
Maximum average forward rectified current 0.375" (9.5 mm) lead length at T _A = 75 °C	I _{F(AV)}	1.0			А	
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I _{FSM}	30			А	
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	GI1-1200GP	GI1-1400GP	GI1-1600GP	UNIT
Maximum instantaneous forward voltage	I _F = 1.0 A		V _F ⁽¹⁾	1.1			- V
	I _F = 3.14 A			1.3			
Maximum reverse current	Rated V _R	T _A = 25 °C	I _R ⁽¹⁾	10		μА	
	naieu v _R	T _A = 100 °C	'R`'	100			
Maximum reverse recovery time	I _{FM} = 20 mA, I _{RM} = 2 mA		t _{rr}	25		μs	
Reverse recovery time	I _F = 0.5 A, typical I _B = 1.0 A,		t _{rr}	0.7			μs
	$I_{rr} = 0.25 \text{ A}$	maximum	۲rr	1.5			μο
Maximum forward recovery time	I _{FM} = 20 mA		t _{fr}	1.0		μs	
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	GI1-1200GP	GI1-1400GP	GI1-1600GP	UNIT
Typical thermal resistance	R ₀ JA (1)	55		°C/W	

⁽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		
GI1-1200-E3/54	0.425	54	4000	13" diameter paper tape and reel		
GI1-1200-E3/73	0.425	73	2000	Ammo pack packaging		
GI1-1200HE3/54 (1)	0.425	54	4000	13" diameter paper tape and reel		
GI1-1200HE3/73 (1)	0.425	73	2000	Ammo pack packaging		

Note

RATINGS AND CHARACTERISTICS CURVES

(T_A = 25 °C unless otherwise noted)

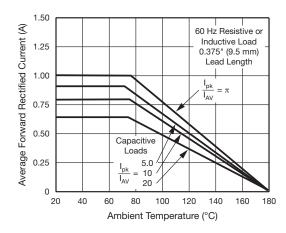


Fig. 1 - Forward Current Derating Curve

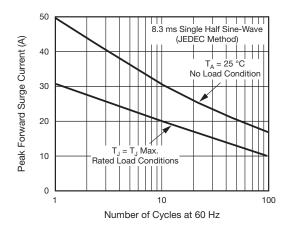


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

⁽¹⁾ AEC-Q101 qualified



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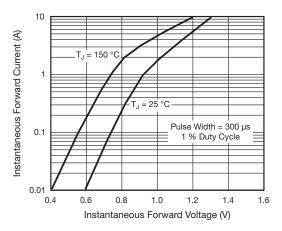


Fig. 3 - Typical Instantaneous Forward Characteristics

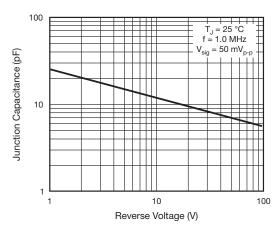


Fig. 5 - Typical Junction Capacitance

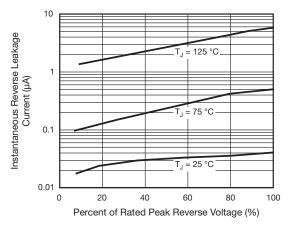
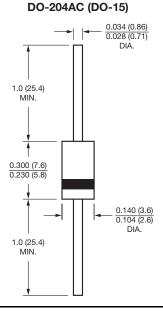


Fig. 4 - Typical Reverse Characteristics

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)



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Наши контакты:

Телефон: +7 812 627 14 35

Электронная почта: sales@st-electron.ru

Адрес: 198099, Санкт-Петербург,

Промышленная ул, дом № 19, литера Н,

помещение 100-Н Офис 331