

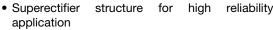
Vishay General Semiconductor

Glass Passivated Junction Rectifier



PRIMARY CHARACTERISTICS						
I _{F(AV)}	1.0 A					
V _{RRM}	200 V to 1000 V					
I _{FSM}	50 A					
I _R	0.5 μΑ					
V _F	1.2 V					
T _J max.	175 °C					

FEATURES





· Cavity-free glass-passivated junction

RoHS

- Low forward voltage drop
- Low leakage current, 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 general purpose rectification of power supplies, inverters, converters and freewheeling diodes application.

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	1N5614GP	1N5616GP	1N5618GP	1N5620GP	1N5622GP	UNIT
Maximum repetitive peak reverse voltage	V _{RRM} ⁽¹⁾	200	400	600	800	1000	V
Maximum RMS voltage	V _{RMS}	140	280	420	560	700	V
Maximum DC blocking voltage	V _{DC} (1)	200	400	600	800	1000	V
Maximum average forward rectified current 0.375" (9.5 mm) lead length at T _A = 55 °C				1.0			Α
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I _{FSM} ⁽¹⁾	50				А	
Operating junction and storage temperature range	T _J , T _{STG} ⁽¹⁾	- 65 to + 175			°C		

Note

(1) JEDEC registered values

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ELECTRICAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)									
PARAMETER	TEST CONDITIONS		SYMBOL	1N5614GP	1N5616GP	1N5618GP	1N5620GP	1N5622GP	UNIT
Minimum reverse breakdown voltage	50 μA		V _{BR} ⁽¹⁾	220	440	660	880	1100	٧
Maximum instantaneous forward voltage	1.0 A		V _F ⁽¹⁾	1.2					V
Maximum DC reverse current		T _A = 25 °C	I _R ⁽¹⁾	0.5					μА
at rated DC blocking voltage		T _A = 100 °C	IR (*)	25					
Maximum reverse recovery time	$I_F = 0.5 \text{ A}, I_R = 1.0 \text{ A},$ $I_{rr} = 0.25 \text{ A}$		t _{rr} ⁽¹⁾	2.0			μs		
Maximum junction capacitance	12 V, 1 MHz		CJ	45	35	25	20	15	pF

Note

⁽¹⁾ JEDEC registered values

THERMAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)							
PARAMETER	SYMBOL	1N5614GP	1N5616GP	1N5618GP	1N5620GP	1N5622GP	UNIT
Typical thermal resistance	R _{0JA} (1)	45 °C			°C/W		

Note

⁽¹⁾ Thermal resistance from junction to ambient at 0.375" (9.5 mm) lead length, P.C.B. mounted

ORDERING INFORMATION (Example)								
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE				
1N5618GP-E3/54	0.425	54	4000	13" diameter paper tape and reel				
1N5618GP-E3/73	0.425	73	2000	Ammo pack packaging				
1N5618GPHE3/54 ⁽¹⁾	0.425	54	4000	13" diameter paper tape and reel				
1N5618GPHE3/73 ⁽¹⁾	0.425	73	2000	Ammo pack packaging				

RATINGS AND CHARACTERISTICS CURVES

(T_A = 25 °C unless otherwise noted)

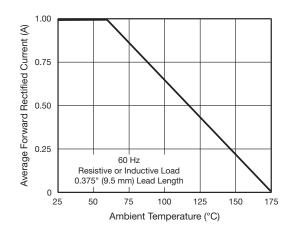


Fig. 1 - Forward Current Derating Curve

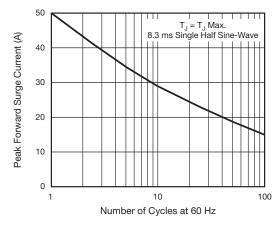


Fig. 2 - Maximum Non-repetitive Peak Forward Surge Current

⁽¹⁾ AEC-Q101 qualified

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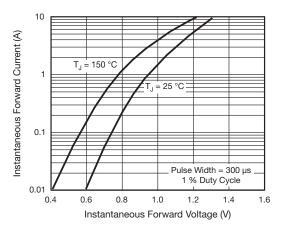


Fig. 3 - Typical Instantaneous Forward Characteristics

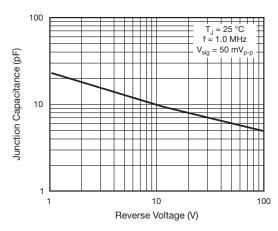


Fig. 5 - Typical Junction Capacitance

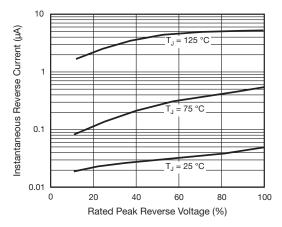
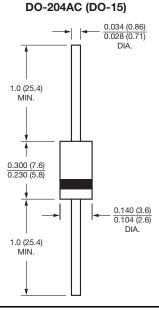


Fig. 4 - Typical Reverse Characteristics

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)



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