

1N5615GP, 1N5617GP, 1N5619GP, 1N5621GP, 1N5623GP

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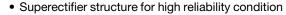
Vishay General Semiconductor

Glass Passivated Junction Fast Switching Plastic Rectifier



PRIMARY CHARACTERISTICS					
I _{F(AV)}	1.0 A				
V_{RRM}	200 V, 400 V, 600 V, 800 V, 1000 V				
I _{FSM}	50 A				
t _{rr}	150 ns, 250 ns, 300 ns, 500 ns				
I _R	0.5 μΑ				
V_{F}	1.2 V				
T _J max.	175 °C				
Package	DO-204AC (DO-15)				
Diode variation	Single die				

FEATURES





RoHS COMPLIANT

- Cavity-free glass-passivated junction
- Fast switching for high efficiency
- Low leakage current
- High forward surge capability
- Solder dip 275 °C max. 10 s, per JESD 22-B106
- AEC-Q101 qualified
- Material categorization: For definitions of compliance please see <u>www.vishay.com/doc?99912</u>

TYPICAL APPLICATIONS

For use in fast switching rectification of power supply, inverters, converters and freewheeling diodes for consumer, automotive and telecommunication.

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	1N5615GP	1N5617GP	1N5619GP	1N5621GP	1N5623GP	UNIT
Maximum repetitive peak reverse voltage	V_{RRM}	200	400	600	800	1000	V
Maximum RMS voltage	V _{RMS}	140	280	420	560	700	V
Maximum DC blocking voltage	V_{DC}	200	400	600	800	1000	Α
Maximum average forward rectified current 0.375" (9.5 mm) lead length at T _A = 55 °C	I _{F(AV)}			1.0			Α
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load I _{FSM} 50				Α			
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	1N5615GP	1N5617GP	1N5619GP	1N5621GP	1N5623GP	UNIT
Maximum instantaneous forward voltage	1.0 A		V _F	1.2					V
Maximum DC reverse current at rated DC		T _A = 25 °C		0.5					μА
blocking voltage		T _A = 100 °C	l _R	25					
Maximum reverse recovery time	I _F = 0.5 I _{rr} = 0.2	A, I _R = 1.0 A, 5 A	t _{rr}	150 250 300 500		500	ns		
Typical junction capacitance	4.0 V, 1	MHz	СЈ	25				pF	

THERMAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)						
PARAMETER SYMBOL 1N5615GP 1N5617GF		1N5617GP	1N5619GP	1N5621GP	1N5623GP	UNIT
Typical thermal resistance	R _{0JA} (1)	45		°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				
1N5619GP-E3/54	0.425	54	4000	13" diameter paper tape and reel				
1N5619GP-E3/73	0.425	73	2000	Ammo pack packaging				
1N5619GPHE3/54 ⁽¹⁾	0.425	54	4000	13" diameter paper tape and reel				
1N5619GPHE3/73 (1)	0.425	73	2000	Ammo pack packaging				

Note

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

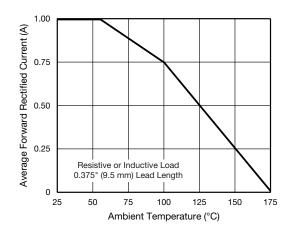


Fig. 1 - Forward Current Derating Curve

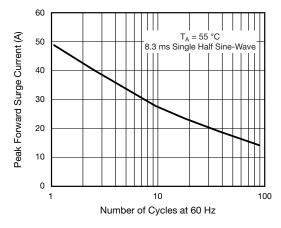


Fig. 2 - Maximum Non-repetitive Peak Forward Surge Current

⁽¹⁾ AEC-Q101 qualified

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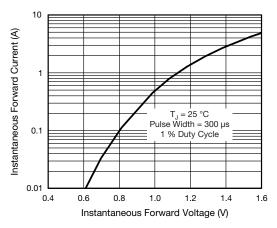


Fig. 3 - Typical Instantaneous Forward Characteristics

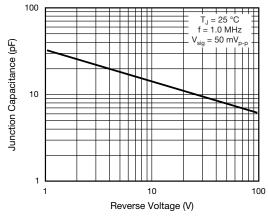


Fig. 5 - Typical Junction Capacitance

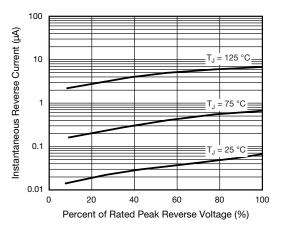


Fig. 4 - Typical Reverse Characteristics

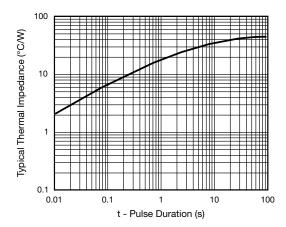
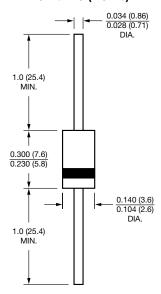


Fig. 6 - Typical Transient Thermal Impedance

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

DO-204AC (DO-15)





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