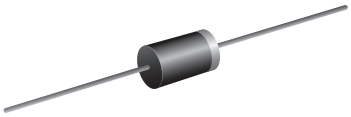
1N3611GP, 1N3612GP, 1N3613GP, 1N3614GP, 1N3957GP

Glass Passivated Junction Plastic Rectifier

SUPERECTIFIER®



DO-204AL (DO-41)

FEATURES

- Superectifier structure for high reliability application
- Cavity-free glass-passivated junction
- Low forward voltage drop
- Low leakage current, I_R less than 0.1 µA
- 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 www.vishay.com/doc?99912

Pb e3 RoHS COMPLIANT

PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	1.0 A
V_{RRM}	200 V, 400 V, 600 V, 800 V, 1000 V
I_{FSM}	30 A
I_R	1.0 µA
V_F	1.0 V
T_J max.	175 °C
Package	DO-204AL (DO-41)
Diode variation	Single die

TYPICAL APPLICATIONS

For use in general purpose rectification of power supplies, inverters, converters, and freewheeling diodes application

MECHANICAL DATA

Case: DO-204AL, 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) (1)

PARAMETER	SYMBOL	1N3611GP	1N3612GP	1N3613GP	1N3614GP	1N3957GP	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	A
Maximum average forward rectified current 0.375" (9.5 mm) lead length at T_A = 75 °C	$I_{F(AV)}$	1.0					A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I_{FSM}	30					A
Operating junction and storage temperature range	T_J, T_{STG}	- 65 to + 175					°C

Note
(1) JEDEC® registered values

ELECTRICAL CHARACTERISTICS (T_A = 25 °C unless otherwise noted)									
PARAMETER	**TEST CONDITIONS**		**SYMBOL**	**1N3611GP**	**1N3612GP**	**1N3613GP**	**1N3614GP**	**1N3957GP**	**UNIT**
Maximum instantaneous forward voltage	1.0 A		V_F	1.0					V
Maximum DC reverse current at rated DC blocking voltage		T_A = 25 °C	I_R (1)	1.0					µA
		T_A = 150 °C		300					
Typical reverse recovery time	I_F = 0.5 A, I_R = 1.0 A, I_{rr} = 0.25 A		t_{rr}	2.0					µs
Typical junction capacitance	4.0 V, 1 MHz		C_J	8.0					pF

Note

(1) JEDEC registered values

THERMAL CHARACTERISTICS (T_A = 25 °C unless otherwise noted)								
PARAMETER	**SYMBOL**	**1N3611GP**	**1N3612GP**	**1N3613GP**	**1N3614GP**	**1N3957GP**	**UNIT**
Typical thermal resistance	$R_{\theta JA}$ (1)	55					°C/W
	$R_{\theta JL}$ (1)	25					

Note

(1) Thermal resistance from junction to ambient and from junction to lead 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**
1N3612GP-E3/54	0.335	54	5500	13" diameter paper tape and reel
1N3612GP-E3/73	0.335	73	3000	Ammo pack packaging
1N3612GPHE3/54 (1)	0.335	54	5500	13" diameter paper tape and reel
1N3612GPHE3/73 (1)	0.335	73	3000	Ammo pack packaging

Note

(1) AEC-Q101 qualified

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

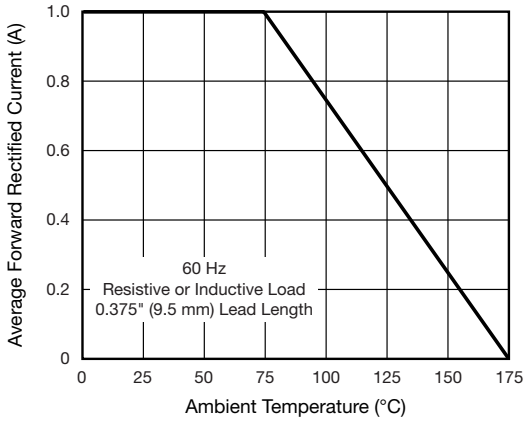


Fig. 1 - Max. Forward Current Derating

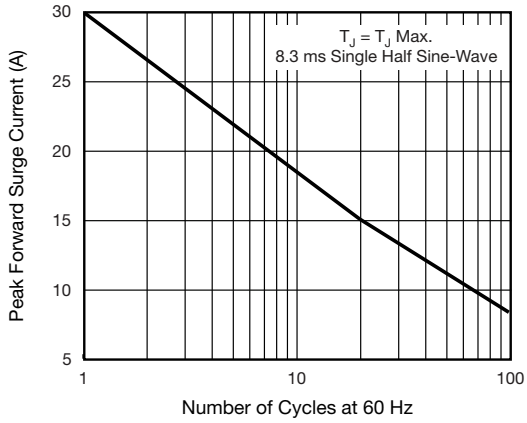


Fig. 2 - Maximum Non-repetitive Peak Forward Surge Current

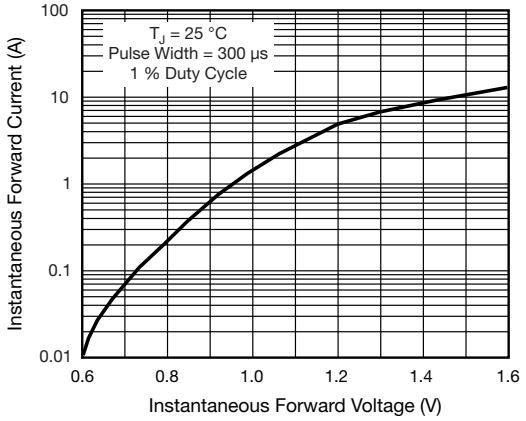


Fig. 3 - Typical Instantaneous Forward Characteristics

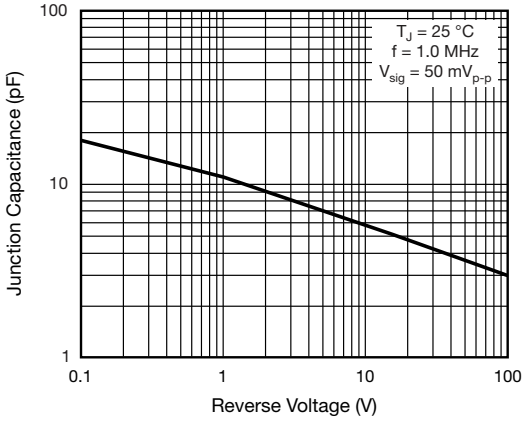


Fig. 5 - Typical Junction Capacitance

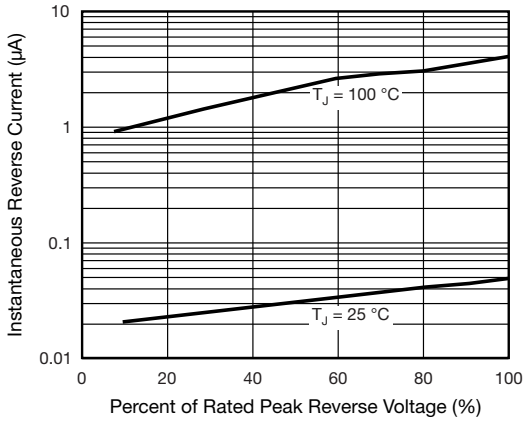


Fig. 4 - Typical Reverse Characteristics

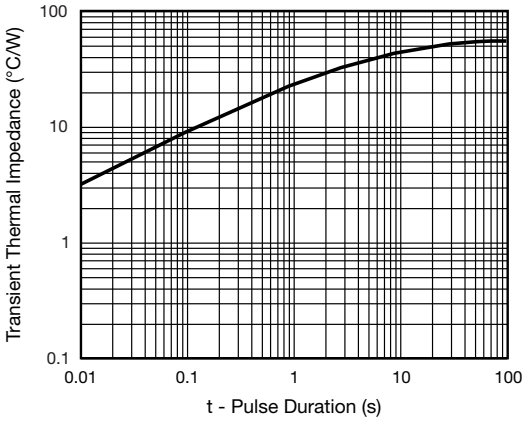
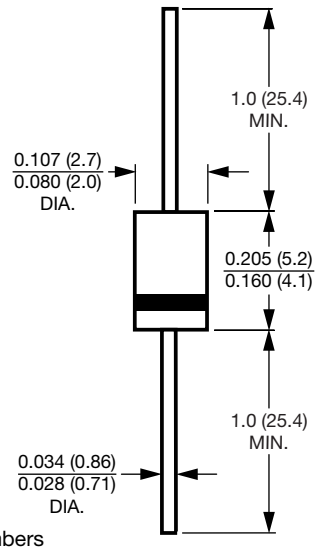


Fig. 6 - Typical Transient Thermal Impedance

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

DO-204AL (DO-41)



Note

• Lead diameter is $\frac{0.026\ (0.66)}{0.023\ (0.58)}$ for suffix “E” part numbers

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