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Glass Passivated Junction Plastic Rectifier



DO-41 (DO-204AL)

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-41 (DO-204AL)					
Circuit configuration	Single					

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
- Material categorization: for definitions of compliance please see <u>www.vishay.com/doc?99912</u>

TYPICAL APPLICATIONS

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

MECHANICAL DATA

Case: DO-41 (DO-204AL), 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) ⁽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	٧
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 = 75 °C	I _{F(AV)}			1.0			Α
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I _{FSM}	30				Α	
Operating junction and storage temperature range	T _J , T _{STG}	-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	1N3611GP	1N3612GP	1N3613GP	1N3614GP	1N3957GP	UNIT
Maximum instantaneous forward voltage	1.0 A		V _F	1.0					V
Maximum DC reverse		T _A = 25 °C	. (1)	1.0					
current at rated DC blocking voltage		T _A = 150 °C	I _R ⁽¹⁾ 300		300		μA		
Typical reverse recovery time	$I_F = 0.5$ $I_{rr} = 0.2$	A, I _R = 1.0 A, 5 A	t _{rr}	2.0				μs	
Typical junction capacitance	4.0 V, 1	MHz	СЈ	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 _{0JA} (1)	55					°C/W
Typical trieffilal resistance	R _{0JL} (1)	25					C/ VV

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				

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

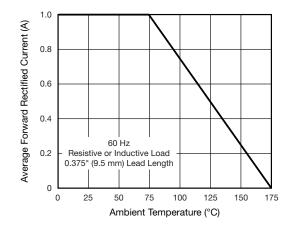


Fig. 1 - Max. Forward Current Derating

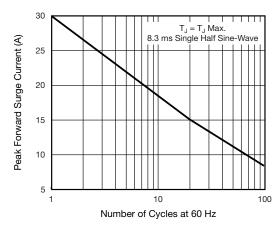


Fig. 2 - Maximum Non-repetitive Peak Forward Surge Current



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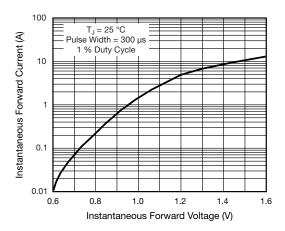


Fig. 3 - Typical Instantaneous Forward Characteristics

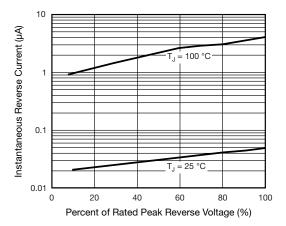


Fig. 4 - Typical Reverse Characteristics

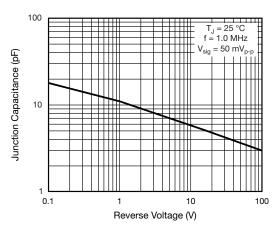


Fig. 5 - Typical Junction Capacitance

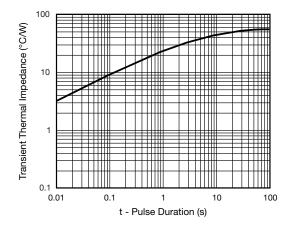


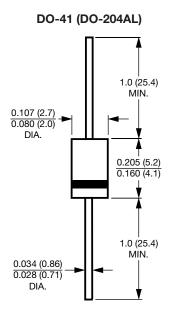
Fig. 6 - Typical Transient Thermal Impedance



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PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





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