

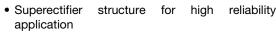
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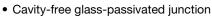
Glass Passivated Junction Plastic Rectifier



PRIMARY CHARACTERISTICS							
I _{F(AV)}	1.5 A						
V _{RRM}	50 V to 1000 V						
I _{FSM}	50 A						
I _R	5.0 μA						
V _F	1.4 V						
T _J max.	175 °C						
Package	DO-15 (DO-204AC)						
Circuit configuration	Single						

FEATURES





· Low forward voltage drop

• Low leakage current, typical 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 applications.

MECHANICAL DATA

Case: DO-15 (DO-204AC), 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	1N53 91GP	1N53 92GP	1N53 93GP	1N53 94GP	1N53 95GP	1N53 96GP	1N53 97GP	1N53 98GP	1N53 99GP	UNIT
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	200	300	400	500	600	800	1000	V
Maximum RMS voltage	V _{RMS}	35	70	140	210	280	350	420	560	700	V
Maximum DC blocking voltage	V_{DC}	50	100	200	300	400	500	600	800	1000	V
Maximum average forward rectified current 0.375" (9.5 mm) lead length at T _L = 70 °C	I _{F(AV)}	1.5						А			
Peak forward surge current 8.3 ms single half sine-wave super-imposed on rated load	I _{FSM}	50						А			
Maximum full load reverse current, full cycle average 0.375" (9.5 mm) lead length at T _A = 70 °C	I _{R(AV)}	300						μA			
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	1N53 91GP	1N53 92GP	1N53 93GP	1N53 94GP	1N53 95GP	1N53 96GP	1N53 97GP	1N53 98GP	1N53 99GP	UNIT
Maximum instantaneous forward voltage	1.5 A	T _A = 70 °C	V _F ⁽¹⁾	1.4							V		
Maximum DC reverse current at rated DC		T _A = 25 °C	I _R ⁽¹⁾	5.0								μA	
blocking voltage		T _A = 150 °C	'R\'	300							PΑ		
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	15						pF			

Note

⁽¹⁾ JEDEC registered values

THERMAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)								
PARAMETER				1N53 99GP	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, PCB mounted

ORDERING INFORMATION (Example)									
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE					
1N5397GP-E3/54	0.425	54	4000	13" diameter paper tape and reel					
1N5397GP-E3/73	0.425	73	2000	Ammo pack packaging					

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

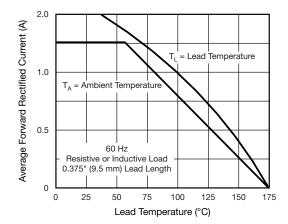


Fig. 1 - Forward Current Derating Curve

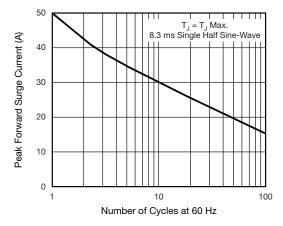


Fig. 2 - Maximum Non-repetitive Peak Forward Surge Current

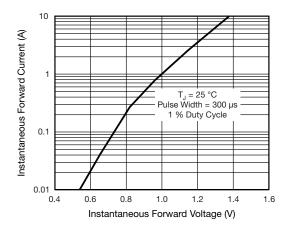


Fig. 3 - Typical Instantaneous Forward Characteristics

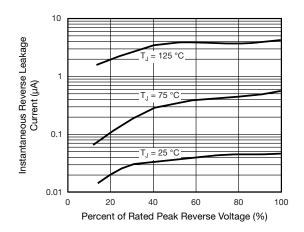


Fig. 4 - Typical Reverse Characteristics

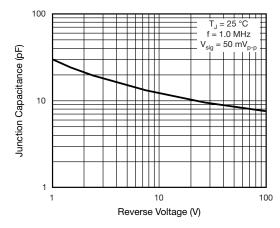


Fig. 5 - Typical Junction Capacitance

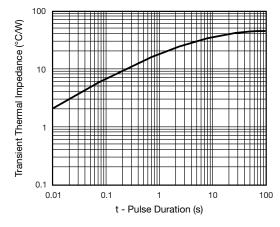


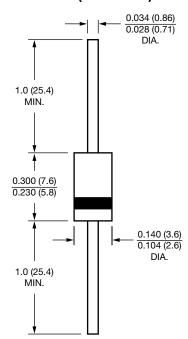
Fig. 6 - Typical Transient Thermal Impedance



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PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

DO-15 (DO-204AC)





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