

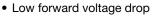
Vishay General Semiconductor

General Purpose Plastic Rectifier



PRIMARY CHARACTERISTICS							
I _{F(AV)}	1.5 A						
V _{RRM}	50 V to 1000 V						
I _{FSM}	50 A						
V _F	1.4 V						
I _R	5.0 μΑ						
T _J max.	150 °C						

FEATURES





• High forward surge capability

• Solder dip 275 °C max. 10 s, per JESD 22-B106

• 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.

Note

• These devices are not AEC-Q101 qualified.

MECHANICAL DATA

Case: DO-204AL, molded epoxy 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)											
PARAMETER	SYMBOL	1N5391	1N5392	1N5393	1N5394	1N5395	1N5396	1N5397	1N5398	1N5399	UNIT
Maximum repetitive peak reverse voltage	V _{RRM}	50	100	200	300	400	500	600	800	1000	٧
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 0.500" (12.7 mm) lead length at T _L = 70 °C	I _{F(AV)}		1.5							Α	
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I _{FSM}		50							А	
Maximum full load reverse current, full cycle average 0.375" (9.5 mm) lead length at T _L = 70 °C	I _{R(AV)}	300							μA		
Operation junction and storage temperature range	T _J , T _{STG}				-	50 to + 15	50				°C

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ELECTRICAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)													
PARAMETER	TEST (CONDITIONS	SYMBOL	1N5391	1N5392	1N5393	1N5394	1N5395	1N5396	1N5397	1N5398	1N5399	UNIT
Maximum instantaneous forward voltage	1.5 A	T _A = 70 °C	V _F	1.4					V				
Maximum DC reverse current at rated		T _A = 25 °C	I_	5.0									
DC blocking voltage		T _A = 150 °C	I IR	I _R 300						μA			
Typical reverse recovery time	I _F = 0.5 I _{rr} = 0.2	A, I _R = 1.0 A, 25 A	t _{rr}	2.0						μs			
Typical junction capacitance	4.0 V, 1	1 MHz	CJ	15					pF				

THERMAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)											
PARAMETER	SYMBOL	YMBOL 1N5391 1N5392 1N5393 1N5394 1N5395 1N5396 1N5397 1N5398 1N5399 U							UNIT		
Typical thermal resistance	R _{0JA} (1)		55								°C/W
Typical thermal resistance	R _{0JL} (1)	25					C/VV				

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						
1N5391-E3/54	0.336	54	5500	13" diameter paper tape and reel						
1N5391-E3/73	0.336	73	3000	Ammo pack packaging						

RATINGS AND CHARACTERISTICS CURVES

(T_A = 25 °C unless otherwise noted)

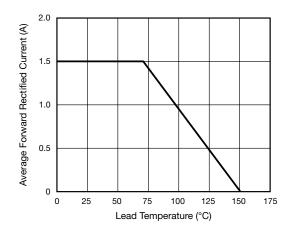


Fig. 1 - Forward Current Derating Curve

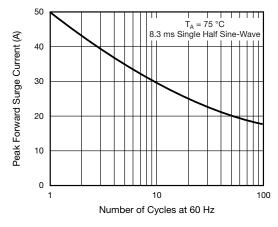


Fig. 2 - Maximum Non-repetitive Peak Forward Surge Current



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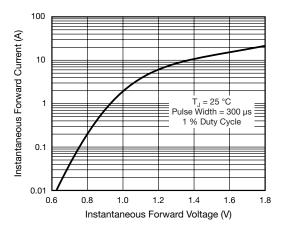
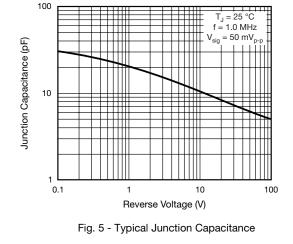


Fig. 3 - Typical Instantaneous Forward Characteristics



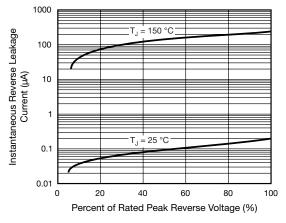


Fig. 4 - Typical Reverse Characteristics

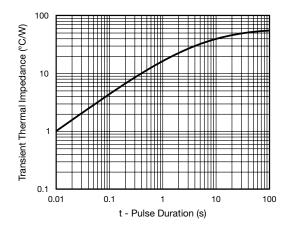


Fig. 6 - Transient Thermal Impedance

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

DO-204AL (DO-41) 1.0 (25.4) MIN. 0.107 (2.7) 0.080 (2.0) DIA. 0.205 (5.2) 0.160 (4.1) 1.0 (25.4) MIN. 1.0 (25.4) MIN.



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