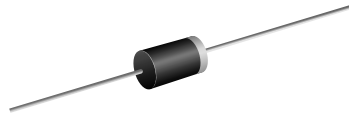


General Purpose Plastic Rectifier


DO-204AL (DO-41)

FEATURES

- Low forward voltage drop
- Low leakage current
- High forward surge capability
- Solder Dip 260 °C, 40 seconds
- Component in accordance to RoHS 2002/95/EC and 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 Q101 qualified. Therefore, the devices specified in this datasheet have not been designed for use in automotive or Hi-Rel applications.)

MECHANICAL DATA

Case: DO-204AL, molded epoxy body

Epoxy meets UL 94V-0 flammability rating

Terminals: Matte tin plated (E3 Suffix) leads, solderable per J-STD-002B and JESD22-B102D

Polarity: Color band denotes cathode end

MAJOR RATINGS AND 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 μ A
T_j max.	150 °C

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	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 0.500" (12.7 mm) lead length at $T_L = 70$ °C	$I_{F(AV)}$	1.5									A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I_{FSM}	50									A
Maximum full load reverse current, full cycle average 0.375" (9.5 mm) lead length at $T_L = 70$ °C	$I_{R(AV)}$	300									μ A
Operation junction and storage temperature range	T_J, T_{STG}	- 50 to + 150									°C



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	at 1.5 A, T _A = 70 °C	V _F						1.4				V
Maximum DC reverse current at rated DC blocking voltage	T _J = 25 °C T _J = 150 °C	I _R						5.0 300				μA
Typical reverse recovery time	at I _F = 0.5 A, I _R = 1.0 A, I _{rr} = 0.25 A	t _{rr}						2.0				μs
Typical junction capacitance	at 4.0 V, 1 MHz	C _J						15				pF

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

Note:

(1) Thermal resistance from junction to ambient at 0.375" (9.5 mm) lead length, P.C.B. mounted

ORDERING INFORMATION				
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
1N5391-E3/54	0.336	54	5500	13" Diameter Paper Tape & Reel
1N5391-E3/73	0.336	73	3000	Ammo Pack Packaging

RATINGS AND CHARACTERISTICS CURVES

(T_A = 25 °C unless otherwise noted)

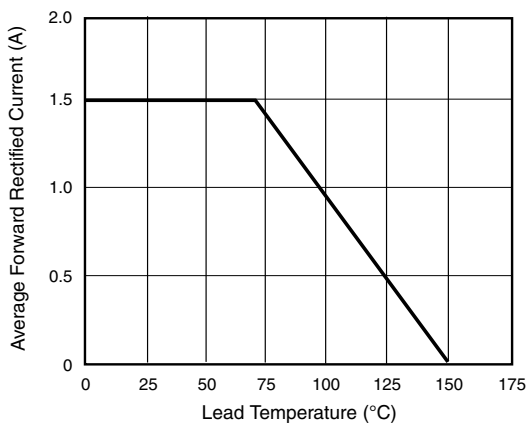


Figure 1. Forward Current Derating Curve

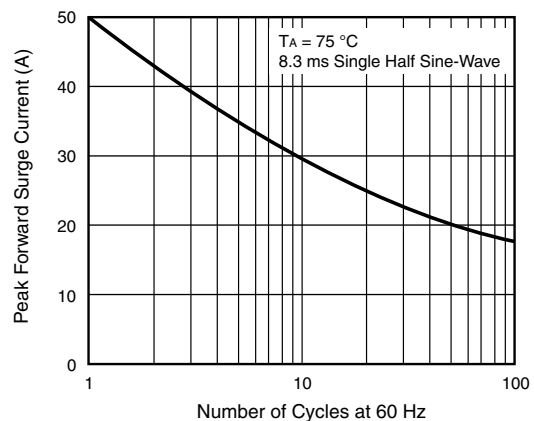


Figure 2. Maximum Non-repetitive Peak Forward Surge Current

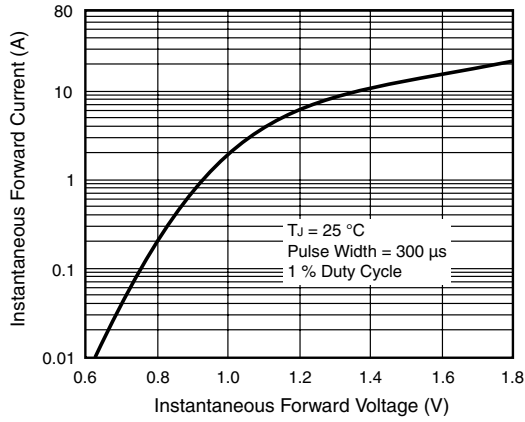


Figure 3. Typical Instantaneous Forward Characteristics

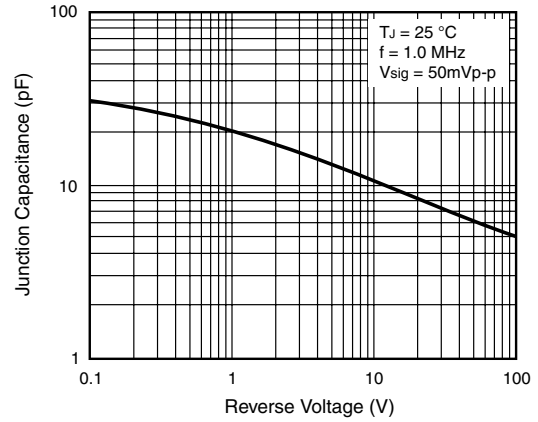


Figure 5. Typical Junction Capacitance

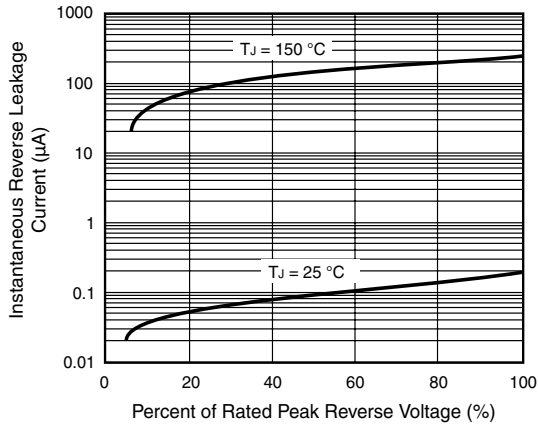


Figure 4. Typical Reverse Characteristics

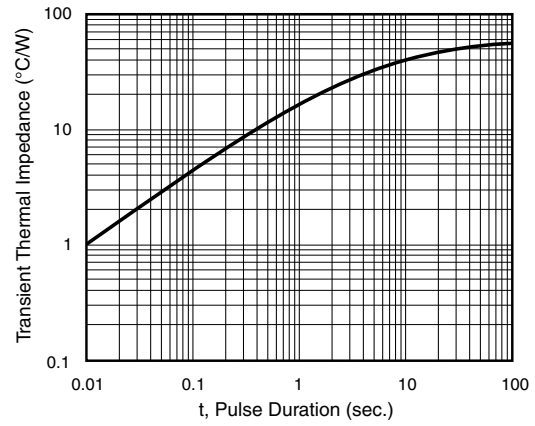
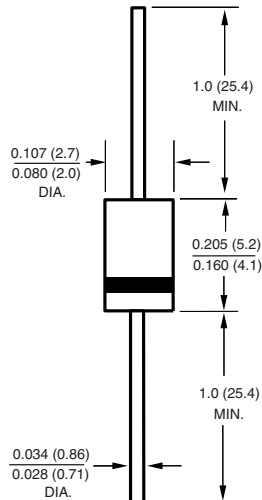


Figure 6. Transient Thermal Impedance

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

DO-204AL (DO-41)





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