



1N5391 thru 1N5399

General Purpose Plastic Rectifiers
Reverse Voltage 50 to 1000 Volts Forward Current 1.5 Amperes

Features

- ◆ Plastic package has Underwriters Laboratories Flammability Classification 94V-0
- ◆ High surge current capability
- ◆ 1.5 Amperes operation at $T_J=70^\circ\text{C}$ with no thermal runaway
- ◆ Low reverse leakage
- ◆ Construction utilizes void-free molded plastic technique
- ◆ High temperature soldering guaranteed:
250°C/10 seconds, 0.375" (9.5mm) lead length, 5 lbs. (2.3kg) tension
- ◆ T_J is 150°C (Max.) and T_{STG} is 175°C (Max.) with PI glue



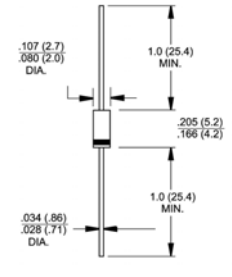
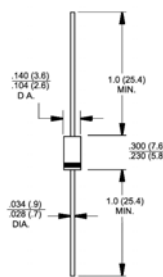
DO-204AC (DO-15)



DO-204AL (DO-41)

Mechanical Data

- ◆ Case: JEDEC DO-204AC(DO-15)/DO-204AL(DO-41), molded plastic body
- ◆ Terminals: Plated axial leads, solderable per MIL-STD-750, Method 2026
- ◆ Polarity: Color band denotes cathode end
- ◆ Mounting Position: Any
- ◆ Weight: DO-15 - 0.014 ounce, 0.39 gram
DO-41 - 0.012 ounce, 0.34 gram



Dimensions in inches and (millimeters) Dimensions in inches and (millimeters)

Note: Package is DO-204AL(DO-41) for suffix "L" part numbers

Maximum Ratings and Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbols	1N 5391	1N 5392	1N 5393	1N 5394	1N 5395	1N 5396	1N 5397	1N 5398	1N 5399	Units	
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	200	300	400	500	600	800	1000	Volts	
Maximum RMS voltage	V_{RMS}	35	70	140	210	280	350	420	560	700	Volts	
Maximum DC blocking voltage	V_{DC}	50	100	200	300	400	500	600	800	1000	Volts	
Maximum average forward rectified current 0.500" (12.7mm) lead length at $T_J=55^\circ\text{C}$	I_{FAV}										1.5	Amps
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) at $T_A=50^\circ\text{C}$	I_{FSM}										50.0	Amps
Maximum full load reverse current full cycle average, 0.375" (9.5mm) lead length at $T_J=70^\circ\text{C}$	I_{RAV}										300	µA
Maximum instantaneous forward voltage at 1.5A, $T_A=70^\circ\text{C}$	V_F										1.4	Volts
Maximum DC reverse current at rated DC blocking voltage $T_A=25^\circ\text{C}$ $T_A=150^\circ\text{C}$	I_R										5.0 300	µA
Typical reverse recovery time at $I_F=0.5\text{A}$, $I_R=1.0\text{A}$, $I_T=0.25\text{A}$	t_{rr}										1.0	µS
Typical junction capacitance at 4.0V, 1MHz	C_J										15.0	pF
Typical thermal resistance (NOTE 1)	$R_{\theta JA}$ $R_{\theta JL}$										50.0 25.0	°C/W
Maximum DC blocking voltage temperature	T_A										+125	°C
Operating junction temperature range	T_J										-55 to +125	°C
Storage temperature range	T_{STG}										-55 to +150	°C

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

RATINGS AND CHARACTERISTIC CURVES

($T_A = 25^\circ\text{C}$ unless otherwise noted)

Fig. 1 – Forward Current Derating Curve

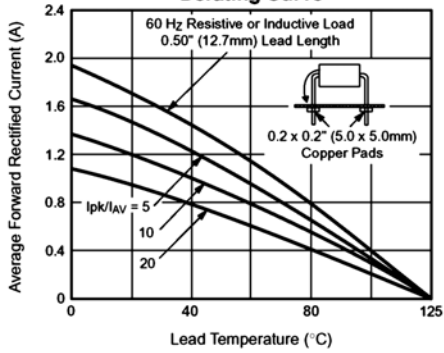


Fig. 2 – Maximum Non-Repetitive Peak Forward Surge Current

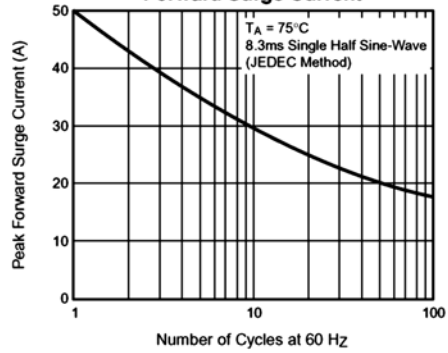


Fig. 3 – Typical Instantaneous Forward Characteristics

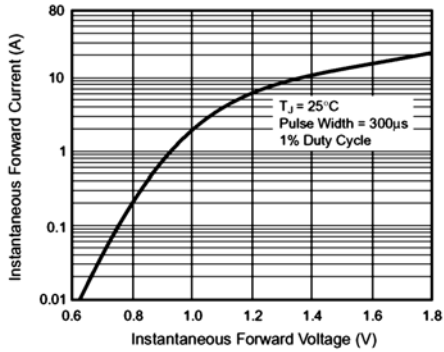


Fig. 4 – Typical Reverse Characteristics

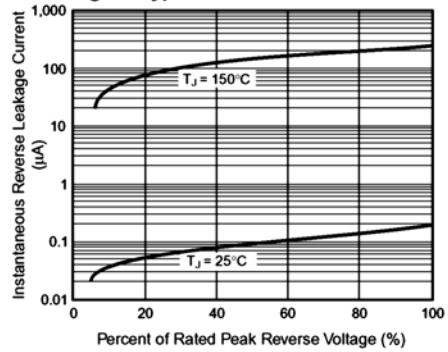


Fig. 5 – Typical Junction Capacitance

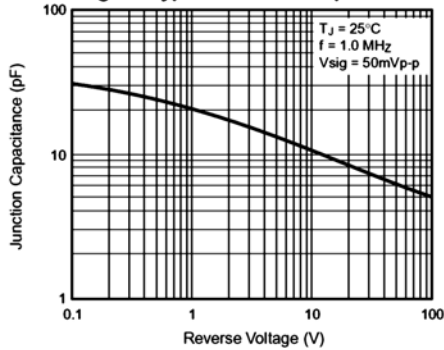
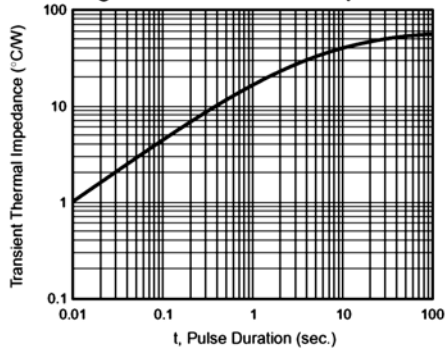


Fig. 6 – Transient Thermal Impedance



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