



# 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



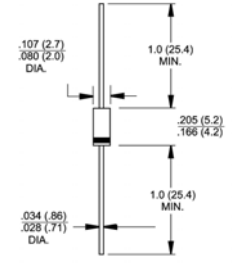
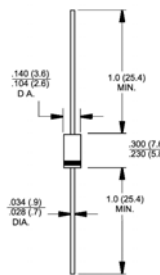
DO-204AC (DO-15)



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.

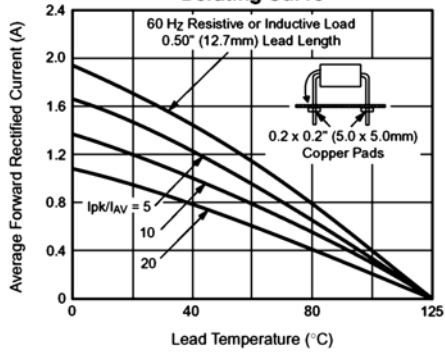
Parameter	Symbols	1N 5391	1N 5392	1N 5393	1N 5394	1N 5395	1N 5396	1N 5397	1N 5398	1N 5399	Units
Maximum repetitive peak reverse voltage	$V_{RRM}$	50	100	200	300	400	500	600	800	1000	Volts
Maximum RMS voltage	$V_{RMS}$	35	70	140	210	280	350	420	560	700	Volts
Maximum DC blocking voltage	$V_{DC}$	50	100	200	300	400	500	600	800	1000	Volts
Maximum average forward rectified current 0.500" (12.7mm) lead length at $T_J=55^\circ\text{C}$	$I_{F(AV)}$	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 $T_J=70^\circ\text{C}$	$I_{R(AV)}$	300									$\mu\text{A}$
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									$\mu\text{A}$
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									$\mu\text{s}$
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									$^\circ\text{C/W}$
Maximum DC blocking voltage temperature	$T_A$	+125									$^\circ\text{C}$
Operating junction temperature range	$T_J$	-55 to +125									$^\circ\text{C}$
Storage temperature range	$T_{STG}$	-55 to +150									$^\circ\text{C}$

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

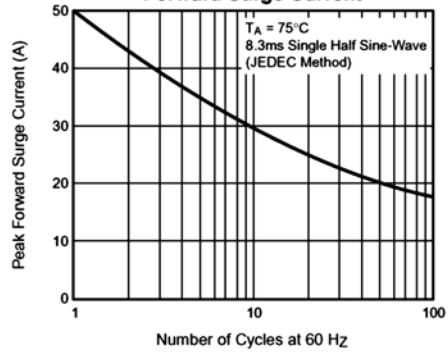
# RATINGS AND CHARACTERISTIC CURVES

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

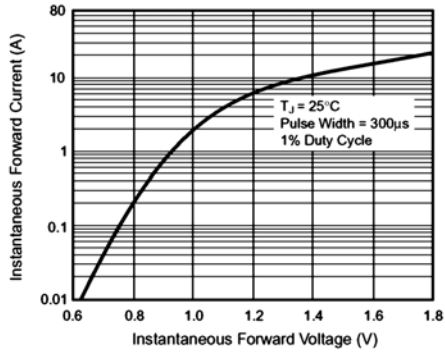
**Fig. 1 – Forward Current Derating Curve**



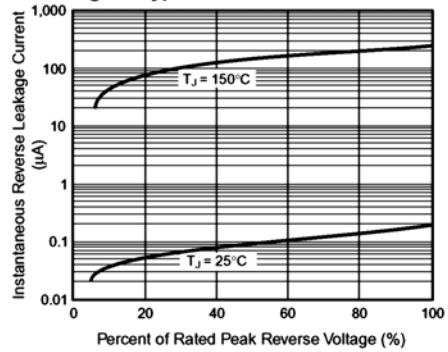
**Fig. 2 – Maximum Non-Repetitive Peak Forward Surge Current**



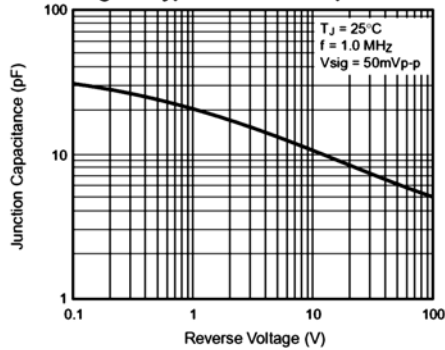
**Fig. 3 – Typical Instantaneous Forward Characteristics**



**Fig. 4 – Typical Reverse Characteristics**



**Fig. 5 – Typical Junction Capacitance**



**Fig. 6 – Transient Thermal Impedance**

