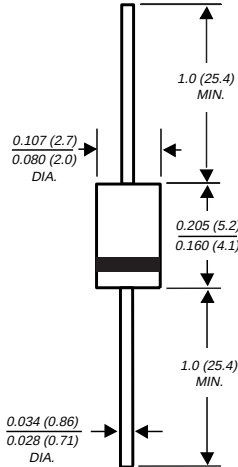


1N5391 THRU 1N5399

GENERAL PURPOSE PLASTIC RECTIFIER

Reverse Voltage - 50 to 1000 Volts **Forward Current** - 1.5 Amperes

DO-204AL



Dimensions in inches and (millimeters)

FEATURES

- ♦ Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- ♦ High surge current capability
- ♦ 1.5 Ampere operation at $T_L=70^{\circ}\text{C}$ with no thermal runaway
- ♦ Low reverse leakage
- ♦ Construction utilizes void-free molded plastic technique
- ♦ High temperature soldering guaranteed: $250^{\circ}\text{C}/10$ seconds, 0.375" (9.5mm) lead length, 5 lbs. (2.3kg) tension



MECHANICAL DATA

Case: JEDEC DO-204AL molded plastic body

Terminals: Plated axial leads, solderable per MIL-STD-750, Method 2026

Polarity: Color band denotes cathode end

Mounting Position: Any

Weight: 0.012 ounce, 0.3 gram

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

	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 $T_L=70^{\circ}\text{C}$	$I_{(AV)}$	1.5									Amps
*Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) at $T_A=75^{\circ}\text{C}$	I_{FSM}	50.0									Amps
*Maximum instantaneous forward voltage at 1.5A $T_A=70^{\circ}\text{C}$	V_F	1.4									Volts
*Maximum DC reverse current $T_A=25^{\circ}\text{C}$ at rated DC blocking voltage $T_A=150^{\circ}\text{C}$	I_R	5.0 300.0									μA
*Maximum full load reverse current full cycle average, 0.375" (9.5mm) lead length at $T_L=70^{\circ}\text{C}$	$I_{R(AV)}$	300.0									μA
Typical reverse recovery time (NOTE 1)	t_{rr}	2.0									μs
Typical junction capacitance (NOTE 2)	C_J	15.0									pF
Typical thermal resistance (NOTE 3)	$R_{\theta JA}$ $R_{\theta JL}$	50.0 25.0									$^{\circ}\text{C/W}$
*Maximum DC blocking voltage temperature	T_A	+150									$^{\circ}\text{C}$
*Operating junction temperature range	T_J	-50 to + 170									$^{\circ}\text{C}$
*Storage temperature range	T_{STG}	-50 to+175									$^{\circ}\text{C}$

NOTES:

(1) Measured with $I_F=0.5\text{A}$, $I_R=0.1\text{A}$, $I_{rr}=0.25\text{A}$

(2) Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts

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

*JEDEC registered value

RATINGS AND CHARACTERISTIC CURVES 1N5391 THRU 1N5399

FIG. 1 - FORWARD CURRENT DERATING CURVE

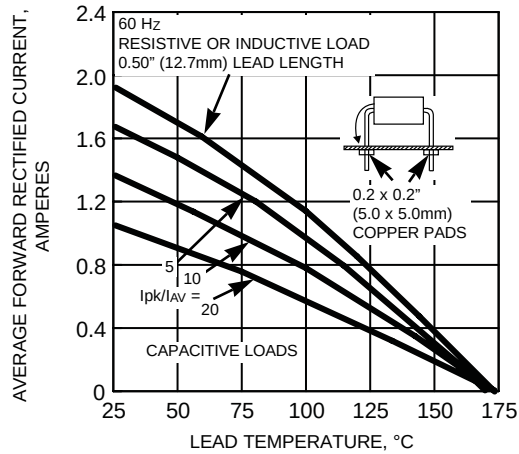


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

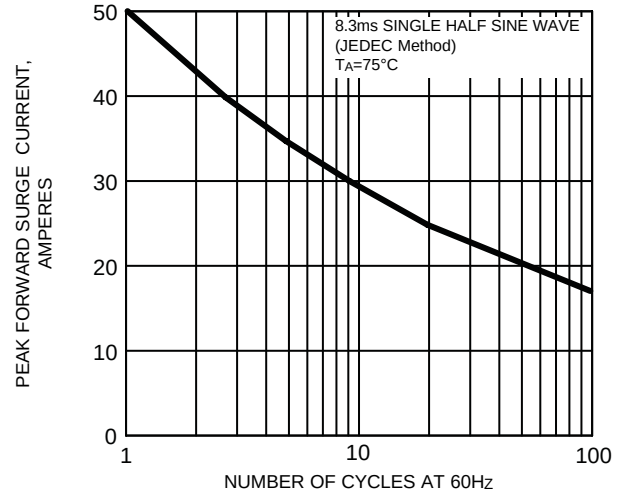


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

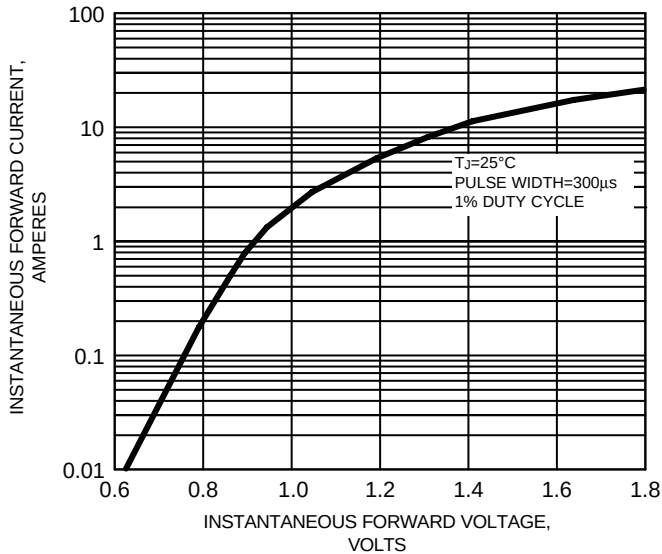


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

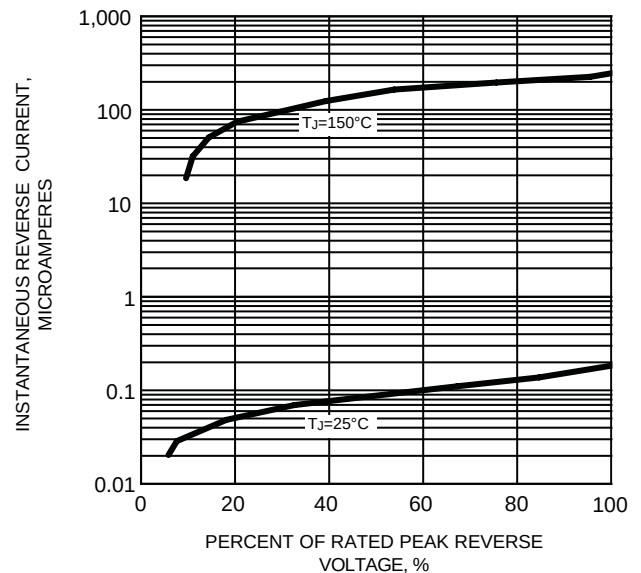


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

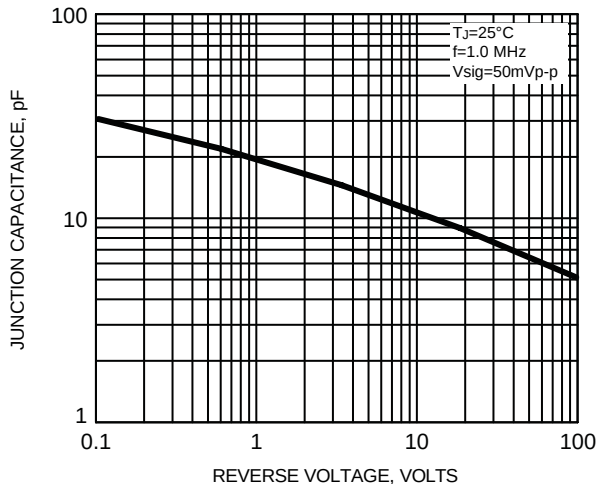


FIG. 6 - TYPICAL TRANSIENT THERMAL IMPEDANCE

