

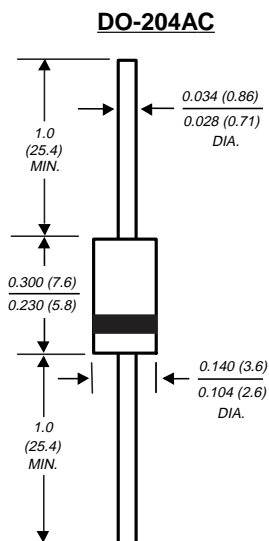
1N5391GP THRU 1N5399GP

GLASS PASSIVATED JUNCTION RECTIFIER

Reverse Voltage - 50 to 1000 Volts

Forward Current - 1.5 Amperes

PATENTED*



Dimensions in inches and (millimeters)

* Glass-plastic encapsulation technique is covered by Patent No. 3,996,602 and brazed-lead assembly by Patent No. 3,930,306

SUPERRECTIFIER®

FEATURES

- ◆ Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- ◆ High temperature metallurgically bonded construction
- ◆ Glass passivated cavity-free junction
- ◆ Capable of meeting environmental standards of MIL-S-19500
- ◆ 1.5 Ampere operation at $T_A=70^\circ\text{C}$ with no thermal runaway
- ◆ Typical I_R less than $0.1\mu\text{A}$
- ◆ High temperature soldering guaranteed: $350^\circ\text{C}/10$ seconds, $0.375''$ (9.5mm) lead length, 5 lbs. (2.3kg) tension



MECHANICAL DATA

Case: JEDEC DO-204AC molded plastic over glass body
Terminals: Plated axial leads, solderable per MIL-STD-750, Method 2026
Polarity: Color band denotes cathode end
Mounting Position: Any
Weight: 0.015 ounce, 0.4 gram

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

	SYMBOLS	1N53 91GP	1N53 92GP	1N53 93GP	1N53 94GP	1N53 95GP	1N53 96GP	1N53 97GP	1N53 98GP	1N53 99GP	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 0.375" (9.5mm) 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)	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 at rated DC blocking voltage	I_R	$T_A=25^\circ\text{C}$: 5.0 $T_A=150^\circ\text{C}$: 300.0									μA
* Maximum full load reverse current full cycle average, 0.375" (9.5mm) lead length at $T_A=70^\circ\text{C}$	$I_{R(AV)}$	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)	$R_{\theta JA}$	45.0									$^\circ\text{C}/\text{W}$
*Operating junction and storage temperature range	T_J, T_{STG}	-65 to +175									$^\circ\text{C}$

NOTES:

- (1) Reverse recovery test condition: $I_F=0.5\text{A}$, $I_R=1.0\text{A}$, $t_{rr}=0.25\text{A}$
 - (2) Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts
 - (3) Thermal resistance from junction to ambient at $0.375''$ (9.5mm) lead length, P.C.B. mounted
- * JEDEC registered values

RATINGS AND CHARACTERISTIC CURVES 1N5391GP THRU 1N5399GP

FIG. 1 - FORWARD CURRENT DERATING CURVE

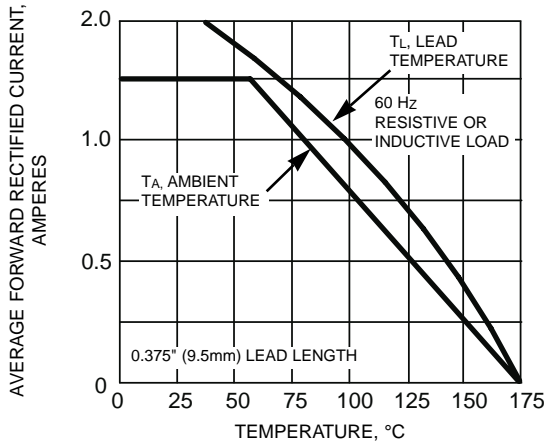


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

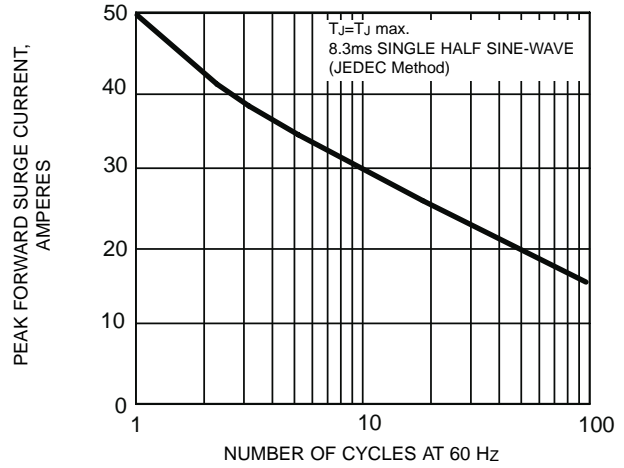


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

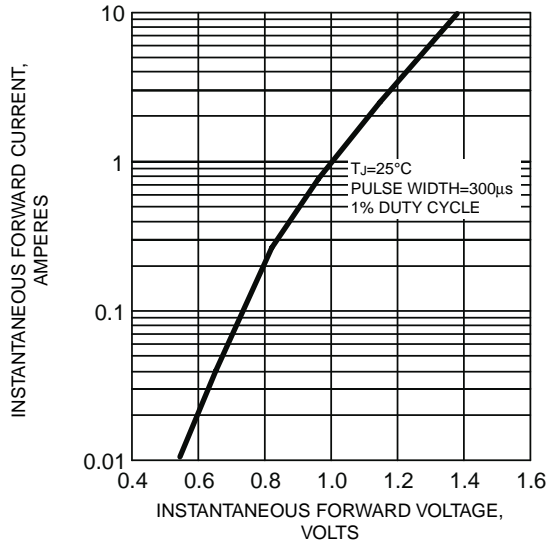


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

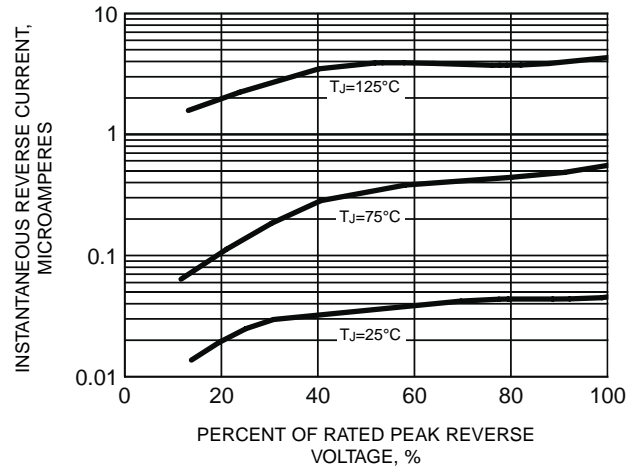


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

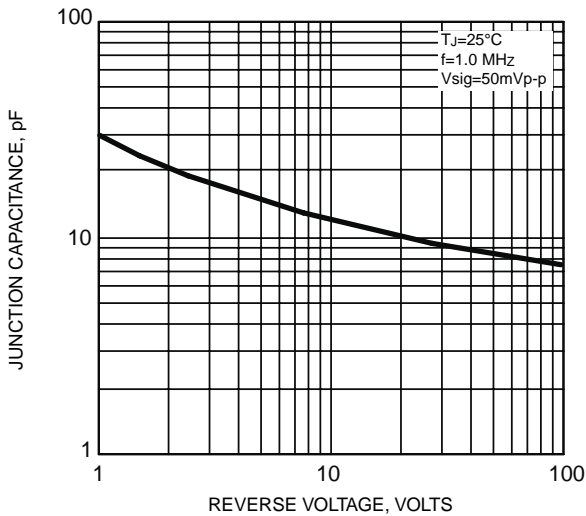


FIG. 6 - TYPICAL TRANSIENT THERMAL IMPEDANCE

