

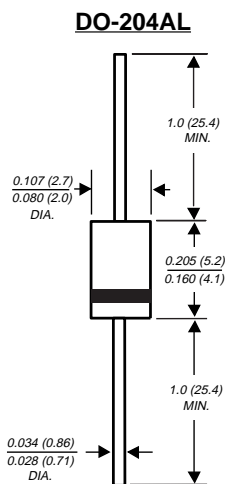
1N4942GP THRU 1N4948GP

GLASS PASSIVATED JUNCTION FAST SWITCHING PLASTIC RECTIFIER

Reverse Voltage - 200 to 1000 Volts

Forward Current - 1.0 Ampere

PATENTED*



NOTE: Lead diameter is 0.026 (0.66) for suffix "E" part numbers
0.023 (0.58)

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
- ◆ For use in high frequency rectifier circuits
- ◆ Fast switching for high efficiency
- ◆ Glass passivated cavity-free junction
- ◆ Capable of meeting environmental standards of MIL-S-19500
- ◆ 1.0 Ampere operation at $T_A=55^\circ\text{C}$ with no thermal runaway
- ◆ High temperature soldering guaranteed: 350°C/10 seconds, 0.375" (9.5mm) lead length, 5 lbs. (2.3kg) tension

MECHANICAL DATA

Case: JEDEC DO-204AL 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: 0.012 ounce, 0.3 gram

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

	SYMBOLS	1N 4942GP	1N 4944GP	1N 4946GP	1N 4947GP	1N 4948GP	UNITS
* Maximum repetitive peak reverse voltage	V_{RRM}	200	400	600	800	1000	Volts
* Maximum RMS voltage	V_{RMS}	140	280	420	560	700	Volts
* Maximum DC blocking voltage	V_{DC}	200	400	600	800	1000	Volts
* Maximum average forward rectified current 0.375" (9.5mm) lead length at $T_A=55^\circ\text{C}$	$I_{(AV)}$	1.0					Amp
* Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	25.0					Amps
* Maximum instantaneous forward voltage at 1.0A	V_F	1.3					Volts
* Maximum DC reverse current $T_A=25^\circ\text{C}$ at rated DC blocking voltage $T_A=150^\circ\text{C}$	I_R	1.0 200.0					μA
* Maximum reverse recovery time (NOTE 1)	t_{rr}	150		250		500	ns
Typical junction capacitance (NOTE 2)	C_J	15.0					pF
Typical thermal resistance (NOTE 3)	$R_{\theta JA}$	55.0					$^\circ\text{C/W}$
* Operating junction and storage temperature range	T_J, T_{STG}	-65 to +175					$^\circ\text{C}$

NOTES:

(1) Reverse recovery test conditions: $I_F=0.5\text{A}$, $I_R=1.0\text{A}$, $I_{rr}=0.25\text{A}$

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

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

* JEDEC registered values

RATINGS AND CHARACTERISTIC CURVES 1N4942GP THRU 1N4948GP

FIG. 1 - FORWARD CURRENT DERATING CURVE

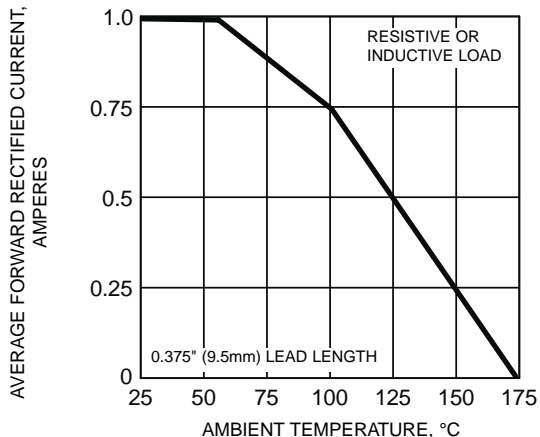


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

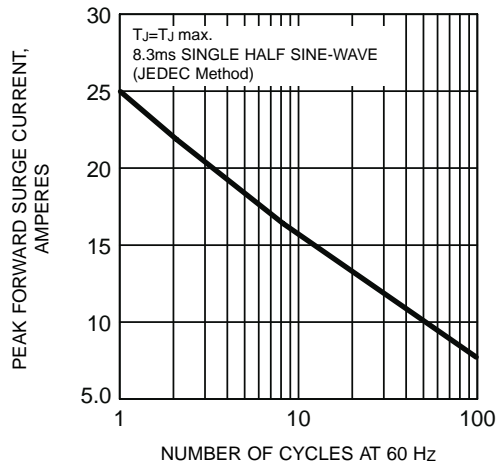


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

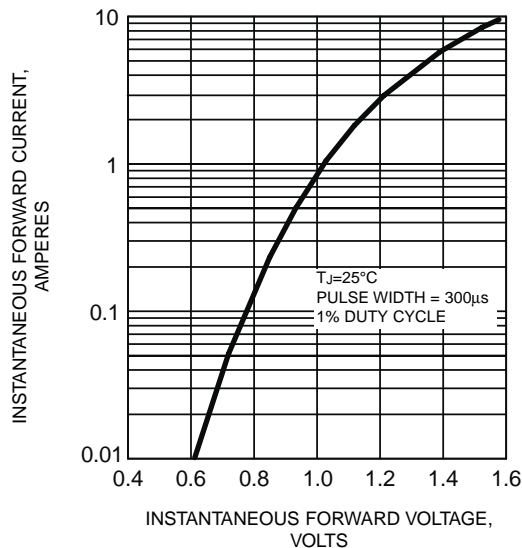


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

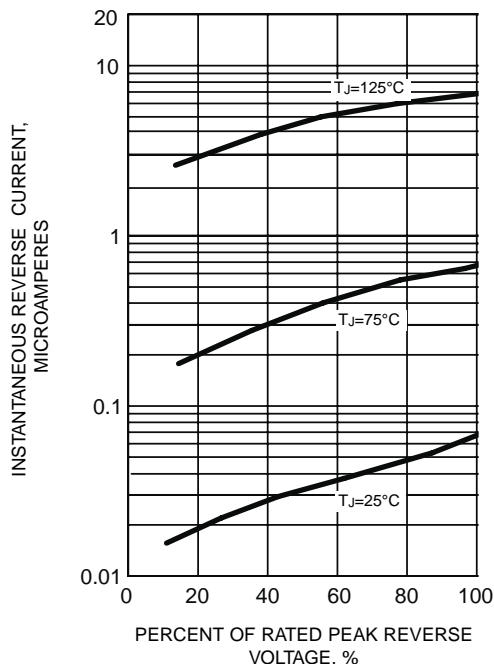


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

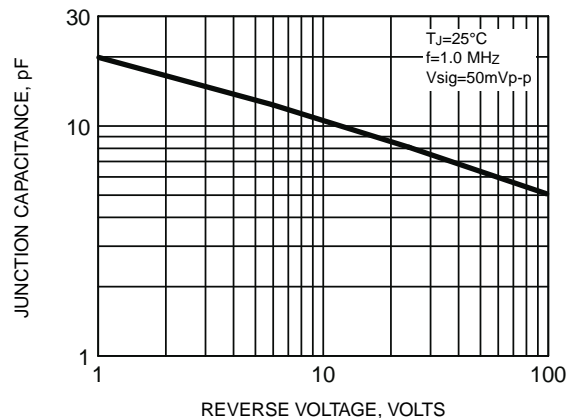


FIG. 6 - TYPICAL TRANSIENT THERMAL IMPEDANCE

