

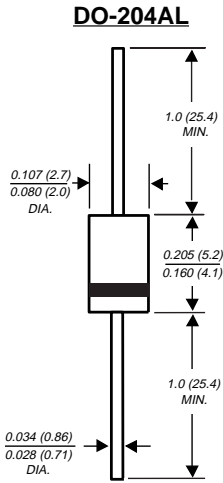
# 1N4942GP THRU 1N4948GP

## 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:  $350^\circ\text{C}/10$  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  $25^\circ\text{C}$  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					$\mu\text{A}$
* 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					$^\circ\text{C}/\text{W}$
* 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

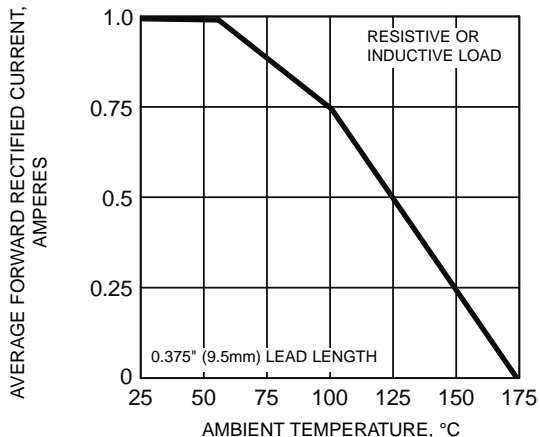


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

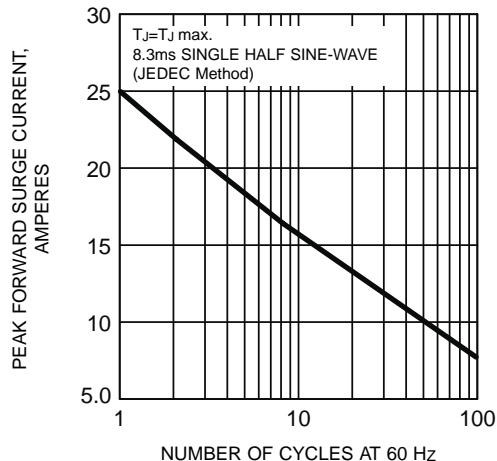


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

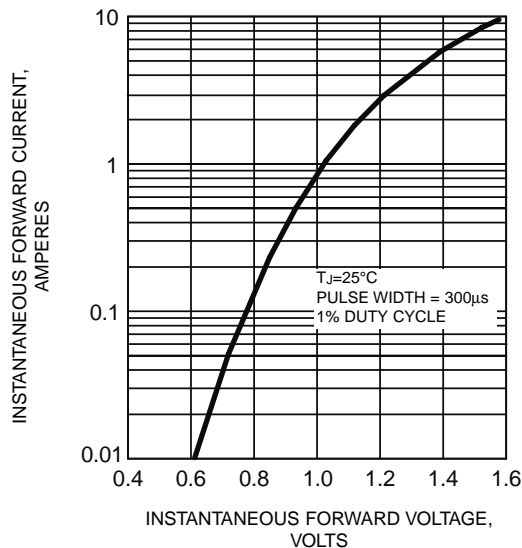


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

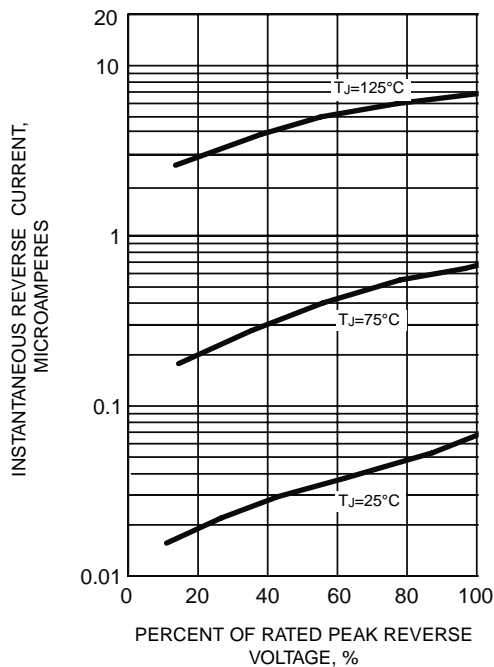


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

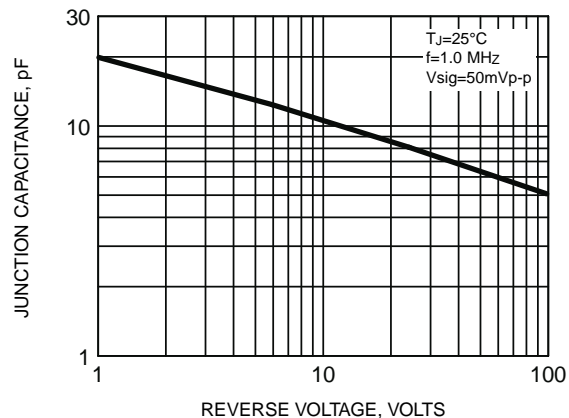


FIG. 6 - TYPICAL TRANSIENT THERMAL IMPEDANCE

