

1N4942 THRU 1N4948

GLASS PASSIVATED JUNCTION FAST SWITCHING RECTIFIER

Reverse Voltage - 200 to 1000 Volts Forward Current - 1.0 Ampere

FEATURES

- ♦ High temperature metallurgically bonded construction
- ♦ Hermetically sealed package
- ♦ Glass passivated cavity-free junction
- ♦ 1.0 Ampere operation at $T_A=55^{\circ}\text{C}$ with no thermal runaway
- ♦ Typical I_R less than $0.1\mu\text{A}$
- ♦ Capable of meeting environmental standards of MIL-S-19500
- ♦ Fast switching for high efficiency
- ♦ 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-204AP solid glass body

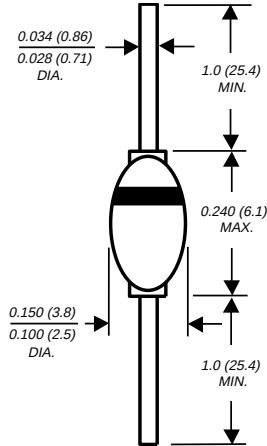
Terminals: Solder plated axial leads, solderable per MIL-STD-750, Method 2026

Polarity: Color band denotes cathode end

Weight: 0.02 ounce, 0.56 gram

PATENTED*

DO-204AP



Dimensions in inches and (millimeters)

* Brazed-lead assembly is covered by Patent No. 3,930,306

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

	SYMBOLS	1N4942	1N4944	1N4946	1N4947	1N4948	UNITS
* Maximum recurrent peak reverse voltage	VRRM	200	400	600	800	1000	Volts
Maximum RMS voltage	VRMS	140	280	420	560	700	Volts
* Maximum DC blocking voltage	VDC	200	400	600	800	1000	Volts
* Minimum reverse breakdown voltage at 50μA	V(BR)	220	440	660	880	1100	Volts
* Maximum average forward rectified current 0.375" (9.5mm) lead length at TA=55°C	l(AV)	1.0					Amp
* Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	lFSM	25.0					Amps
* Maximum instantaneous forward voltage at: 1.0A at 2.0A, TA=-40°C	VF	1.3 2.5					Volts
* Maximum DC reverse current at Rated DC blocking voltage TA=25°C TA=175°C	IR	1.0 500.0					μA
* Maximum reverse recovery time (NOTE 1)	trr	150		250		500	ns
Typical junction capacitance (NOTE 2)	CJ	15.0					pF
Typical thermal resistance (NOTE 3)	RθJA	55.0					°C/W
* Operating junction and storage temperature range	TJ, TSTG	-65 to +175					°C

NOTES:

(1) Reverse recovery test conditions: $I_F=0.5\text{A}$, $I_R=1.0\text{A}$, $I_{rr}=25\text{A}$

(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 1N4942 THRU 1N4948

FIG. 1 - FORWARD CURRENT DERATING CURVE

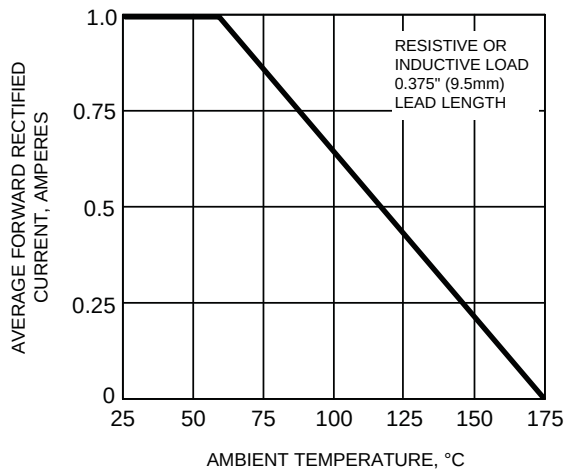


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

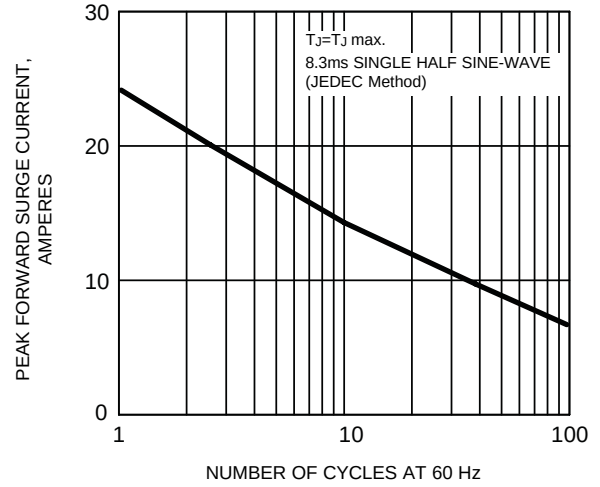


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

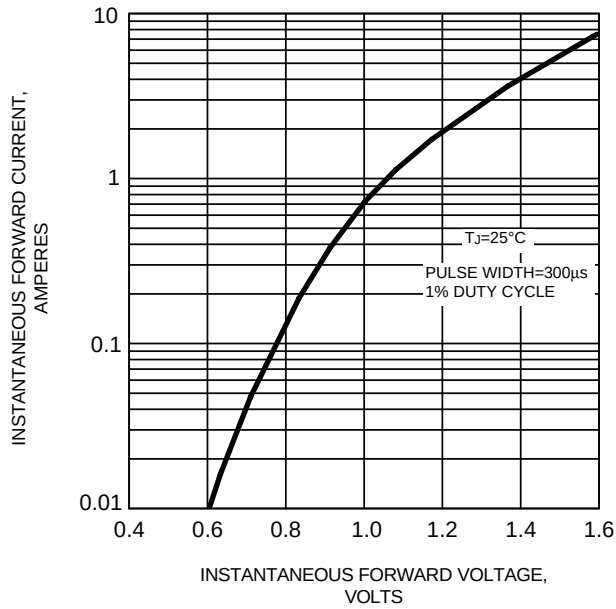


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

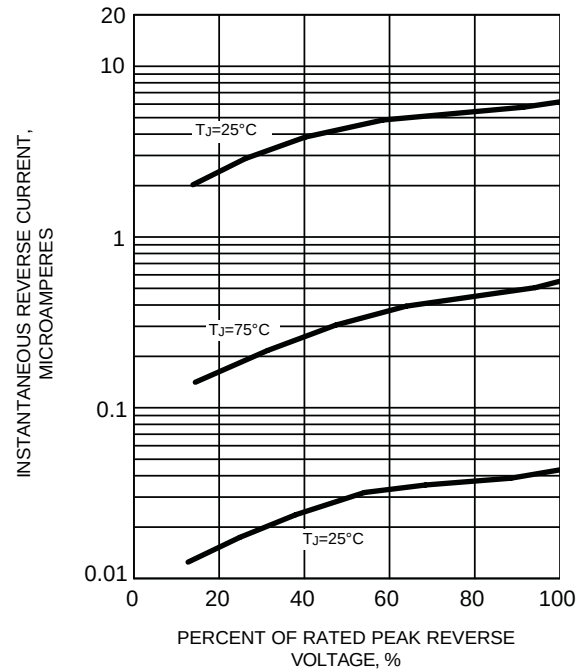


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

