

Silicon Diode

1N4942

Fast Switching Rectifier

200V / 1A

DATASHEET

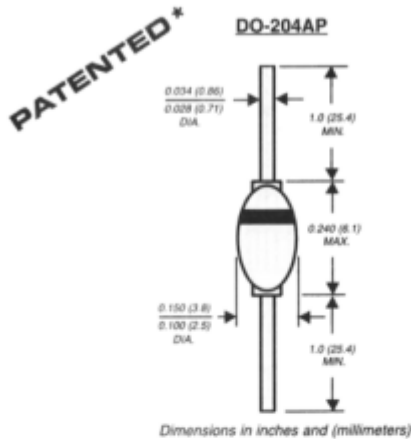
OEM – General Semiconductor

Source: General Semiconductor Databook 1998

1N4942 THRU 1N4948

GLASS PASSIVATED JUNCTION FAST SWITCHING RECTIFIER

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



PATENTED *

DO-204AP

Dimensions in inches and (millimeters)

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

FEATURES

- ◆ High temperature metallurgically bonded construction
- ◆ Hermetically sealed package
- ◆ Glass passivated cavity-free junction
- ◆ 1.0 Ampere operation at TA=55°C with no thermal runaway
- ◆ Typical I_R less than 0.1µA
- ◆ Capable of meeting environmental standards of MIL-S-19500
- ◆ Fast switching for high efficiency
- ◆ High temperature soldering guaranteed: 350°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

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	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
* 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	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 at 2.0A, TA=-40°C	V _F	1.3 2.5					Volts
* Maximum DC reverse current at Rated DC blocking voltage TA=25°C TA=175°C	I _R	1.0 500.0					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 _{θJA}	55.0					°C/W
* Operating junction and storage temperature range	T _J , T _{STG}	-65 to +175					°C

NOTES:

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

