

1N4942 THRU 1N4948

FAST RECOVERY RECTIFIER



REVERSE VOLTAGE: 200 to 1000 VOLTS
FORWARD CURRENT: 1.0 AMPERE

FEATURES

- High surge current capability
- 1.0 ampere operation at $T_A=55^{\circ}\text{C}$ with no thermal runaway.
- Void-free Plastic in a DO-41 package.
- Fast switching for high efficiency
- Exceeds environmental standards of MIL-S-19500/228
- Low leakage.

MECHANICAL DATA

Case: Molded plastic, DO-41

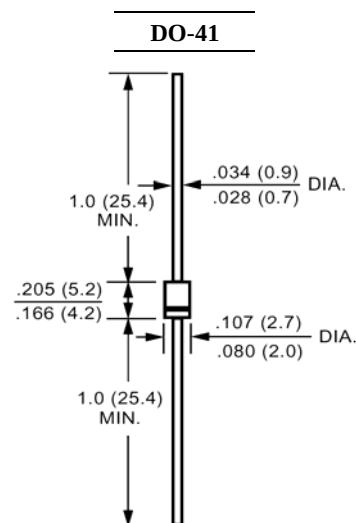
Epoxy: UL 94V-O rate flame retardant

Lead: Axial leads, solderable per MIL-STD-202, method 208 guaranteed

Polarity: Color band denotes cathode end

Mounting position: Any

Weight: 0.012ounce, 0.33gram



Dimensions in inches and (millimeters)

Maximum Ratings and Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60Hz, resistive or inductive load.

For capacitive load, derate current by 20%.

	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
Maximum Average Forward Rectified Current .375"(9.5mm) Lead Length at T _A =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}	30					Amp
Maximum Forward Voltage at 1.0A DC and 25°C	V _F	1.3					Volts
Maximum Reverse Current at T _A =25°C at Rated DC Blocking Voltage T _A =100°C	I _R	5.0 50					uAmp
Typical Junction Capacitance (Note 1)	C _J	12					pF
Typical Thermal Resistance (Note 2)	R _{θJA}	50					°C/W
Maximum Reverse Recovery Time (Note 3)	T _{RR}	150		250	500		nS
Operating and Storage Temperature Range	T _J , T _{stg}	-55 to +150					°C

NOTES:

1- Measured at 1 MHz and applied reverse voltage of 4.0 VDC.

2- Thermal Resistance From Junction to Ambient 0.375"(9.5mm) lead length P.C.B. Mounted.

3- Reverse Recovery Test Conditions: $I_F=5\text{A}$, $I_R=1\text{A}$, $I_{RR}=0.25\text{A}$.

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RATINGS AND CHARACTERISTIC CURVES

FIG.1- MAXIMUM TYPICAL FORWARD CURRENT DERATING CURVE

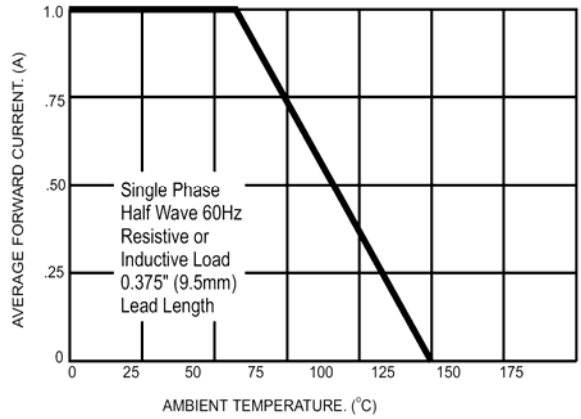


FIG.2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

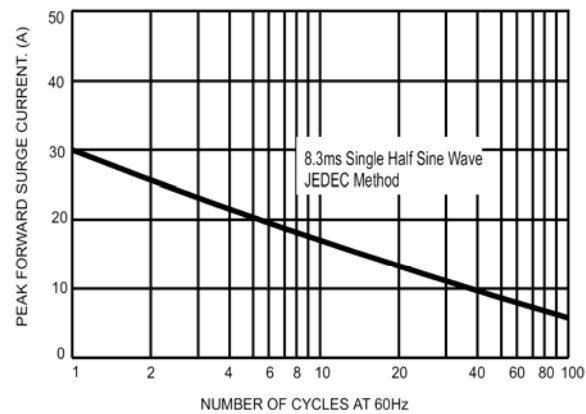


FIG.3- TYPICAL FORWARD CHARACTERISTICS

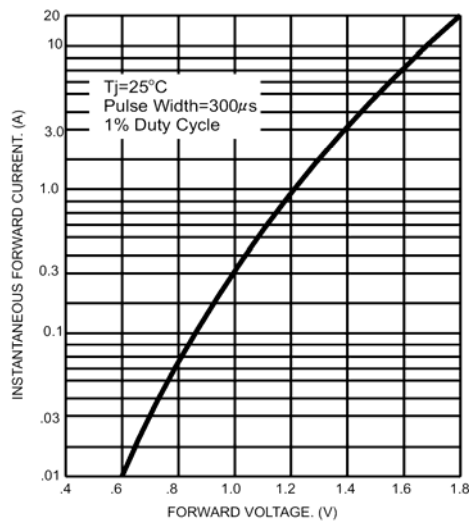


FIG.4- TYPICAL JUNCTION CAPACITANCE

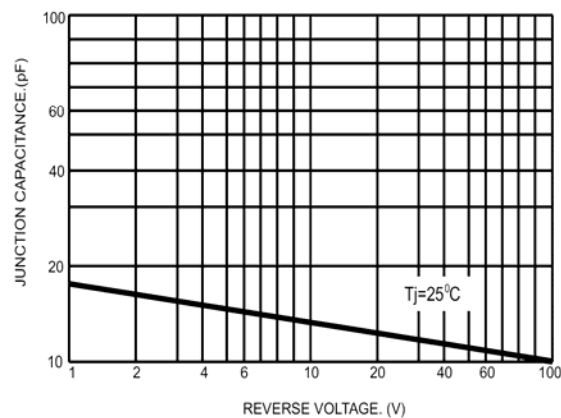


FIG.5- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

