



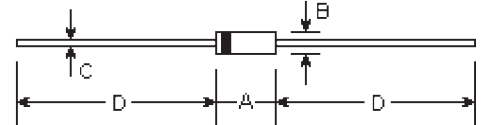
1N4942 THRU 1N4948

FAST SWITCHING PLASTIC RECTIFIER
Reverse Voltage - 200 to 1000 Volts
Forward Current - 1.0 Ampere

Features

- High temperature metallurgically bonded construction
- Hermetically sealed package
- 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

DO-41



Mechanical Data

- **Case:** DO-41 solid plastic body
- **Terminals:** Plated axial leads, solderable per MIL-STD-750, method 2026
- **Polarity:** Color band denotes cathode
- **Weight:** 0.012 ounce, 0.33 gram

DIM	DIMENSIONS				Note
	inches		mm		
	Min.	Max.	Min.	Max.	
A	0.165	0.205	4.2	5.2	
B	0.079	0.106	2.0	2.7	ϕ
C	0.028	0.034	0.71	0.86	ϕ
D	1.000	-	25.40	-	

Maximum Ratings and Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

	Symbols	1N4942	1N4944	1N4946	1N4947	1N4948	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 (MIL-STD-750D 4066 method)	I_{FSM}	25.0					Amps
Maximum instantaneous forward voltage at: 1.0A at: 2.0A, $T_A=40^\circ\text{C}$	V_F	1.3 2.5					Volts
Maximum DC reverse current at rated DC blocking voltage $T_A=25^\circ\text{C}$ $T_A=175^\circ\text{C}$	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)	$R_{\theta JA}$	55.0					$^\circ\text{C}/\text{W}$
Operating junction and storage temperature range	T_{Jr} , T_{STG}	-65 to +175					$^\circ\text{C}$

Notes:

- (1) Reverse recovery test conditions: $I_F=0.5\text{A}$, $I_R=1.0\text{A}$, $I_T=0.25\text{A}$
- (2) Measured at 1.0MHz 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

RATINGS AND CHARACTERISTIC CURVES

FIG. 1 - FORWARD CURRENT DERATING CURVE

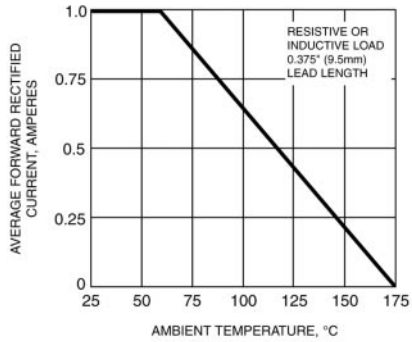


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

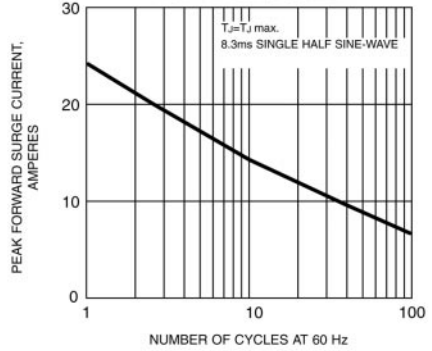


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

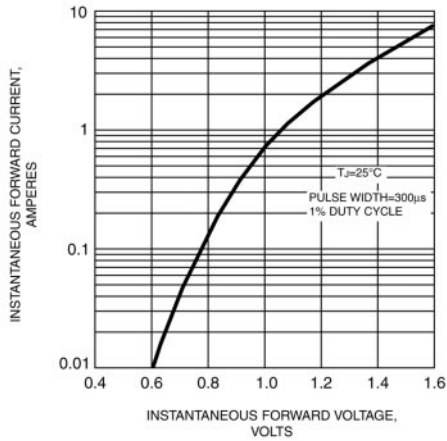


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

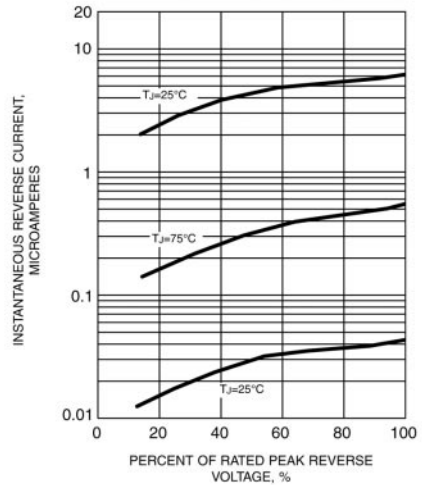


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

