

# 1N4938

## SILICON POLARITY SWITCHING DIODE

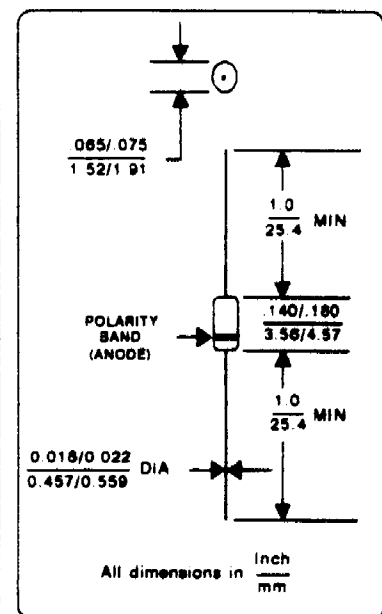
### ABSOLUTE MAXIMUM RATINGS

SYMBOL	CHARACTERISTIC	VALUE	UNIT
$V_R$	Reverse Voltage	175	V
$V_{RM}$	Peak Reverse Voltage	200	V
$I_o$	Rectified Current (Average) Half Wave Rectification With Resistive Load at $T_A = 25^{\circ}\text{C}$ and $f = 50$ Hz	100(1)	mA
$I_{FSM}$	Surge Current at $t = 1$ ms and $T_J = 25^{\circ}\text{C}$	2.0	A
$P_{TOT}$	Power Dissipation at $T_A = 25^{\circ}\text{C}$	500(1)	mW
$T_J$	Maximum Junction Temperature	200	$^{\circ}\text{C}$
$T_S$	Storage Temperature	-65 to +175	$^{\circ}\text{C}$

### ELECTRICAL CHARACTERISTICS @ $25^{\circ}\text{C}$ unless otherwise specified

SYMBOL	CHARACTERISTIC	MIN	MAX	UNITS	TEST CONDITIONS
$V_f$	Forward Voltage		1.0	Volts	$I_f = 100$ mA
$I_R$	Reverse Current		0.1 100	nA	$V_R = 175$ Volts @ $T_J = 25^{\circ}\text{C}$ $V_R = 175$ Volts @ $T_J = 150^{\circ}\text{C}$
$V_{BR}$	Reverse Breakdown Voltage	200		Volts	$I_{BR} = 100$ $\mu\text{A}$ pulses
$C_{100}$	Capacitance		5	pF	$V_f = V_R = 0$
$t_r$	Reverse Recovery Time		50	nS	from $I_f = 10$ mA to $I_R = 1$ mA, $V_R = 6$ V, $R_L = 100$ ohms
$R_{JA}$	Thermal Resistance Junction to Ambient Air		0.35	$^{\circ}\text{C}/\text{mW}$	
$\eta_V$	Rectification Efficiency	45			$f = 100$ MHz, $V_{DR} = 2$ V

NOTE 1: Valid provided that leads are kept at ambient temperature at a distance of 8 mm (32") from case



DO-35 OUTLINE

### DESIGN DATA

**CASE:** Hermetically sealed glass case, DO-35 Outline.

**LEAD MATERIAL:** Copper Clad Steel

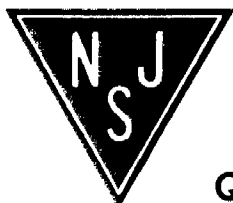
**LEAD FINISH:** Tin Plate

**THERMAL RESISTANCE:**  
250  $^{\circ}\text{C}/\text{w}$  (Typical)  
junction to ambient.

**POLARITY:** Diode to be operated with the banded (cathode) end positive with respect to the opposite end

**WEIGHT:** 0.14 Grams

**MOUNTING POSITION:** Any



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