FAIRCHILD
SEMICONDUCTOR®

1N4938



DO-35
Color Band Denotes Cathode

Small Signal Diode

Absolute Maximum Ratings * T_A = 25°C unless otherwise noted

Symbol	Parameter	Value	Units
V_{RRM}	Maximum Repetitive Reverse Voltage	200	V
$I_{F(AV)}$	Average Rectified Forward Current	500	mA
I_{FSM}	Non-repetitive Peak Forward Surge Current Pulse Width = 1.0 second Pulse Width = 1.0 microsecond	 1.0 4.0	 A A
T_{STG}	Storage Temperature Range	-65 to +200	°C
T_J	Operating Junction Temperature	175	°C

* These ratings are limiting values above which the serviceability of the diode may be impaired.

NOTES:
1) These ratings are based on a maximum junction temperature of 200 degrees C.
2) These are steady limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.

Thermal Characteristics

Symbol	Parameter	Value	Units
P_D	Power Dissipation	500	mW
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	300	°C/W

Electrical Characteristics T_A=25°C unless otherwise noted

Symbol	Parameter	Test Conditions	Min.	Max.	Units
V_R	Breakdown Voltage	I_R = 100µA	200		V
V_F	Forward Voltage	I_F = 100mA		1.0	V
I_R	Reverse Leakage	V_R = 75V V_R = 175V, T_A = 175°C		100 100	nA µA
C_T	Total Capacitance	V_R = 0V, f = 1MHz		5	pF
t_{rr}	Reverse Recovery Time	I_F = 3mA, I_R = 30mA I_{rr} = 1mA, R_L = 100Ω		50	ns

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2. A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.

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Definition of Terms

Datasheet Identification	Product Status	Definition
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Preliminary	First Production	This datasheet contains preliminary data, and supplementary data will be published at a later date. Fairchild Semiconductor reserves the right to make changes at any time without notice in order to improve design.
No Identification Needed	Full Production	This datasheet contains final specifications. Fairchild Semiconductor reserves the right to make changes at any time without notice in order to improve design.
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