

1N4305

Small Signal Diode



DO-35
Color Band Denotes Cathode

Absolute Maximum Ratings * $T_A = 25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Value	Unit
V_{RRM}	Maximum Repetitive Reverse Voltage	75	V
$I_{F(AV)}$	Average Rectified Forward Current	300	mA
I_{FSM}	Non-repetitive Peak Forward Surge Current Pulse Width = 1.0 second Pulse Width = 1.0 microsecond	1.0	A
		4.0	A
T_{STG}	Storage Temperature Range	-65 to +200	$^\circ\text{C}$
T_J	Operating Junction Temperature	175	$^\circ\text{C}$

* 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	Unit
P_D	Power Dissipation	500	mW
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	300	$^\circ\text{C}/\text{W}$

Electrical Characteristics $T_C = 25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Conditions	Min.	Max	Units
V_R	Breakdown Voltage	$I_R = 5\mu\text{A}$	75		V
V_F	Forward Voltage	$I_F = 250\mu\text{A}$	0.505	0.575	V
		$I_F = 1\text{mA}$	0.550	0.650	V
		$I_F = 2\text{mA}$	0.610	0.710	V
		$I_F = 10\text{mA}$	0.700	0.850	V
I_R	Reverse Leakage	$V_R = 50\text{V}$		100	nA
		$V_R = 50\text{V}, T_A = 150^\circ\text{C}$		100	μA
C_T	Total Capacitance	$V_R = 0, f = 1.0\text{MHz}$		2	pF
t_{rr}	Reverse Recovery Time	$I_F = 10\text{mA}, V_R = 6.0\text{V}$ $R_L = 100\Omega, I_{rr} = 1\text{mA}$		2	ns
		$I_F = I_R = 10\text{mA}, I_{rr} = 1.0\text{mA},$ $R_L = 100\Omega$		4	ns

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