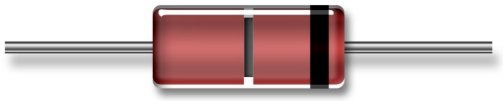
1N4532

Silicon Switching Diode

Rev. V2

Features

- Available in JAN, JANTX, and JANTXV per MIL-PRF-19500/144
- Metallurgically Bonded
- Hermetically Sealed
- Double Plug Construction
- DO-34 Axial Leaded Package



Absolute Maximum Ratings (T_A = +25°C unless otherwise specified)

Ratings	Symbol	Value
Breakdown Voltage	V_{BR}	75 V dc
Working Peak Reverse Voltage	V_{RWM}	50 V (pk)
Operating Current (1) (2) (T_A = +75°C)	I_O	200 mA dc
Peak Surge Current (8.3 ms)	I_{FSM}	2.0 A (pk)
Junction & Storage Temperature Range	T_J, T_{STG}	-55°C to +175°C

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Electrical Specifications @ T_A = +25°C (unless otherwise specified)

Parameter	Test Conditions	Symbol	Units	Min.	Max.
Forward Voltage	I_F = 10 mA dc	V_{F1}	V dc	—	.8
Breakdown Voltage	I_R = 5 µA dc	V_{BR1}	V dc	50	—
Reverse Current	V_R = 50 V dc	I_{R1}	nA dc	—	100
Reverse Current	T_A = +150°C; V_R = 50 V dc	I_{R2}	µA dc	—	100
Forward Voltage	T_A = +150°C; I_F = 10 mA dc	V_{F2}	V dc	—	.7
Breakdown Voltage	T_A = -55°C; I_R = 10 µA dc	V_{BR2}	V dc	75	—
Capacitance	V_R = 0 V dc; f = 1 MHz; V_{sig} = 50 mV_{p-p} max	C	pF	—	2.0
Reverse Recovery Time	I_F = I_{RM} =10 mA dc	t_{rr}	ns	—	4

Thermal Characteristics

Types	Symbol	Max. Value
Thermal Resistance Junction to Ambient (2) (3)	$R_{\theta JA}$	325 °C/W
Thermal Resistance Junction to Lead (3) L = 3/8 inch (9.53 mm)	$R_{\theta JL}$	250 °C/W

(1) For temperature-current derating curve see figure 5.
(2) T_A = +75°C for axial diode on printed circuit board (PCB), PCB = FR4-.0625 inch (1.59 mm) 1-layer 1-Oz Cu, horizontal, in still air; pads for axial = .092 inch (2.34 mm) diameter, strip = .030 inch (0.76 mm) x 1 inch (25.4 mm) long, lead length L ≤ .187 inch (≤ 4.75 mm); $R_{\theta JA}$ with a defined PCB thermal resistance condition included, is measured at I_O = 200 mA dc.
(3) See figure 7 for thermal impedance curves.

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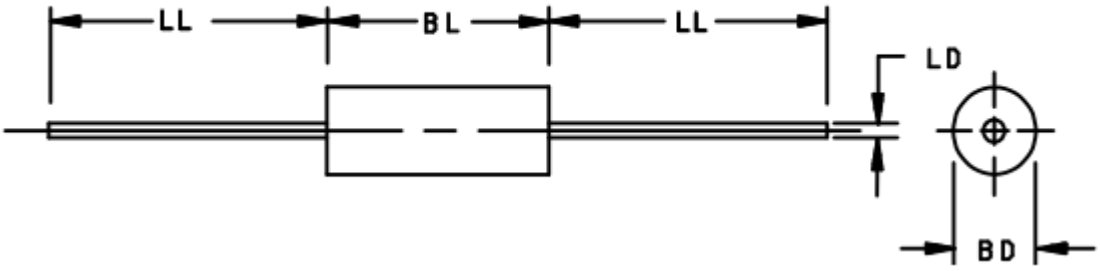
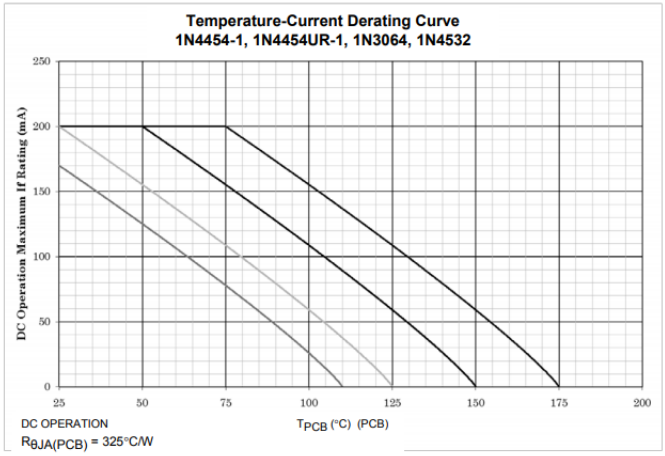
Outline Drawing (DO-34)



Types	Symbol	Dimensions			
		Inches		Millimeters	
		Min	Max	Min	Max
1N4532 (DO-34)	BD	.050	.075	1.27	1.91
	BL	.080	.120	2.03	3.05
	LD	.018	.022	0.46	0.56
	LL	1.000	1.500	25.40	38.10

NOTES:
1. Dimensions are in inches.
2. Millimeters are given for general information only.
3. In accordance with ASME Y14.5M, diameters are equivalent to Φx symbology.

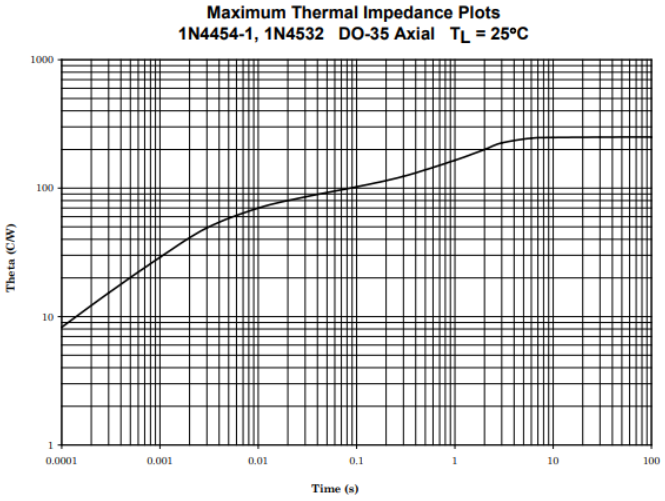
Graphs



NOTES:

1. All devices are capable of operating at ≤ T_J specified on this curve. Any parallel line to this curve will intersect the appropriate power for the desired maximum T_J allowed.
2. Derate design curve constrained by the maximum junction temperature (T_J ≤ 175°C) and current rating specified. (See 1.3.)
3. Derate design curve chosen at T_J ≤ 150°C, where the maximum temperature of electrical test is performed.
4. Derate design curves chosen at T_J ≤ 125°C, and 110°C to show current rating where most users want to limit T_J in their application.

FIGURE 5. Temperature-current derating graph (axial and MELF).



$R_{\theta JL}$ = 250°C/W

NOTE: $Z_{\theta JX}$ = 70°C/W maximum at t_H = 10ms.

FIGURE 7. Thermal impedance (axial leads).