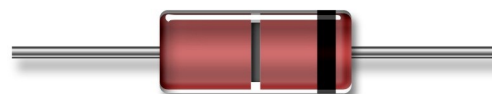


Silicon Switching Diode

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 ($T_A = +25^{\circ}\text{C}$ 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)} ($T_A = +75^{\circ}\text{C}$)	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 $+175^{\circ}\text{C}$

Electrical Specifications @ $T_A = +25^\circ\text{C}$ (unless otherwise specified)

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

Thermal Characteristics

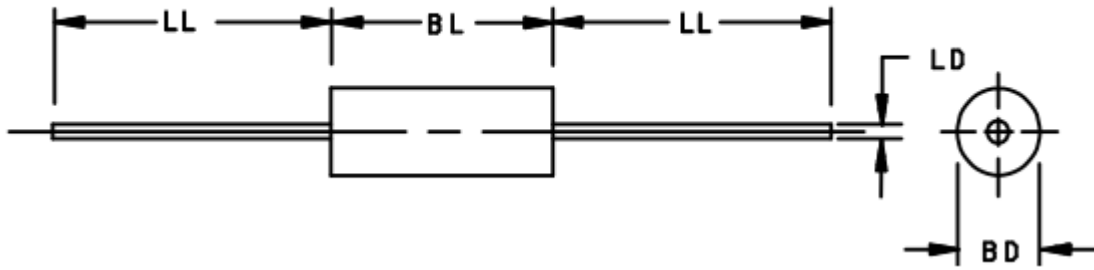
Types	Symbol	Max. Value
Thermal Resistance Junction to Ambient ^{(2) (3)}	$R_{\theta JA}$	325 $^\circ\text{C/W}$
Thermal Resistance Junction to Lead ⁽³⁾ L = 3/8 inch (9.53 mm)	$R_{\theta JL}$	250 $^\circ\text{C/W}$

(1) For temperature-current derating curve see figure 5.

(2) $T_A = +75^\circ\text{C}$ 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 $L \leq .187 \text{ inch } (\leq 4.75 \text{ mm})$; $R_{\theta JA}$ with a defined PCB thermal resistance condition included, is measured at $I_O = 200 \text{ mA dc}$.

(3) See figure 7 for thermal impedance curves.

Outline Drawing (DO-34)

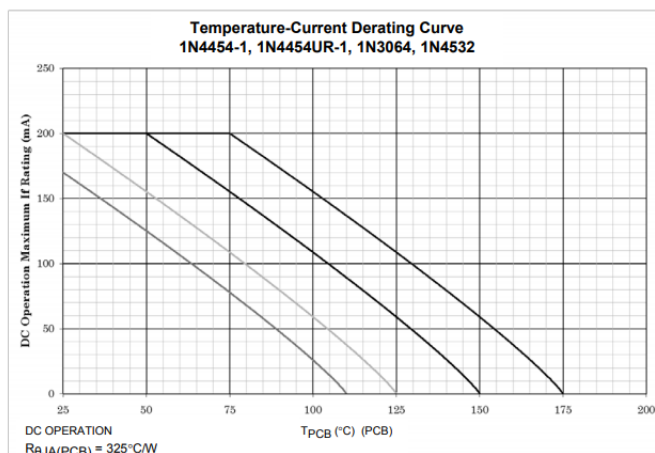


Types	Symbol	Dimensions			
		Inches		Millimeters	
		Min	Max	Min	Max
1N4532 (DO-34)	BD	.050	.075	1.27	1.91
	BL	.080	.120	2.03	3.05
	LD	.018	.022	0.46	0.56
	LL	1.000	1.500	25.40	38.10

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 \varnothing x symbology.

Graphs



NOTES:

1. All devices are capable of operating at $\leq T_J$ 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 ($T_J \leq 175^{\circ}C$) and current rating specified. (See 1.3.)
3. Derate design curve chosen at $T_J \leq 150^{\circ}C$, where the maximum temperature of electrical test is performed.
4. Derate design curves chosen at $T_J \leq 125^{\circ}C$, and $110^{\circ}C$ to show current rating where most users want to limit T_J in their application.

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

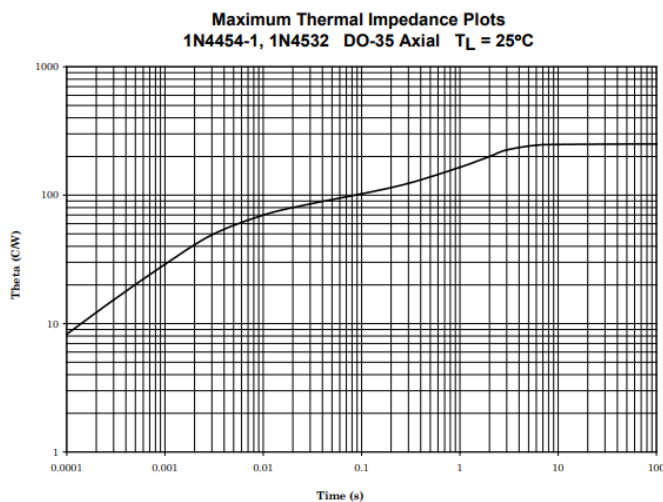


FIGURE 7. Thermal impedance (axial leads).

VPT COMPONENTS. ALL RIGHTS RESERVED.

Information in this document is provided in connection with VPT Components products. These materials are provided by VPT Components as a service to its customers and may be used for informational purposes only. Except as provided in VPT Components Terms and Conditions of Sale for such products or in any separate agreement related to this document, VPT Components assumes no liability whatsoever. VPT Components assumes no responsibility for errors or omissions in these materials. VPT Components may make changes to specifications and product descriptions at any time, without notice. VPT Components makes no commitment to update the information and shall have no responsibility whatsoever for conflicts or incompatibilities arising from future changes to its specifications and product descriptions. No license, express or implied, by estoppels or otherwise, to any intellectual property rights is granted by this document.

THESE MATERIALS ARE PROVIDED "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, RELATING TO SALE AND/OR USE OF VPT COMPONENTS PRODUCTS INCLUDING LIABILITY OR WARRANTIES RELATING TO FITNESS FOR A PARTICULAR PURPOSE, CONSEQUENTIAL OR INCIDENTAL DAMAGES, MERCHANTABILITY, OR INFRINGEMENT OF ANY PATENT, COPYRIGHT OR OTHER INTELLECTUAL PROPERTY RIGHT. VPT COMPONENTS FURTHER DOES NOT WARRANT THE ACCURACY OR COMPLETENESS OF THE INFORMATION, TEXT, GRAPHICS OR OTHER ITEMS CONTAINED WITHIN THESE MATERIALS. VPT COMPONENTS SHALL NOT BE LIABLE FOR ANY SPECIAL, IN-DIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, INCLUDING WITHOUT LIMITATION, LOST REVENUES OR LOST PROFITS, WHICH MAY RESULT FROM THE USE OF THESE MATERIALS.

VPT Components products are not intended for use in medical, lifesaving or life sustaining applications. VPT Components customers using or selling VPT Components products for use in such applications do so at their own risk and agree to fully indemnify VPT Components for any damages resulting from such improper use or sale.