MECHANICAL and PACKAGING

- CASE: Hermetically sealed glass package.
- TERMINALS: Tin/lead plated or RoHS compliant matte-tin (on commercial grade only) over copper clad steel. Solderable per MIL-STD-750, method 2026.
- POLARITY: Cathode indicated by band.
- MARKING: Part number.
- TAPE & REEL option: Standard per EIA-296. Consult factory for quantities.
- WEIGHT: 0.2 grams.
- See Package Dimensions on last page.

PART NOMENCLATURE

JAN 1N4148 -1 (e3)

Reliability Level
JAN = JAN level
JANTX = JANTX level
JANTXV = JANTXV level
MSP (reference JANS)
See 1N6642 for JANS level
Blank = Commercial grade

JEDEC type number
(see Electrical Characteristics table)

RoHS Compliance
e3 = RoHS compliant (on commercial grade only)
Blank = non-RoHS compliant

Metallurgically Bonded

SYMBOLS & DEFINITIONS

Symbol	Definition
I_R	Reverse Current: The maximum reverse (leakage) current that will flow at the specified voltage and temperature.
I_O	Average Rectified Forward Current: The output current averaged over a full cycle with a 50 Hz or 60 Hz sine-wave input and a 180 degree conduction angle.
t_{rr}	Reverse Recovery Time: The time interval between the instant the current passes through zero when changing from the forward direction to the reverse direction and a specified decay point after a peak reverse current occurs.
V_F	Forward Voltage: The forward voltage the device will exhibit at a specified current (typically shown as maximum value).
V_R	Reverse Voltage: The reverse voltage dc value, no alternating component.
V_{RWM}	Working Peak Reverse Voltage: The maximum peak voltage that can be applied over the operating temperature range excluding all transient voltages (ref JESD282-B). Also sometimes known as PIV.

ELECTRICAL CHARACTERISTICS @ 25 °C unless otherwise noted

FORWARD VOLTAGE V_{F1} @ I_F=10 mA	FORWARD VOLTAGE V_{F2} @ I_F=100 mA	REVERSE RECOVERY TIME t_{rr} (Note 1)	FORWARD RECOVERY TIME t_{fr} (Note 2)	REVERSE CURRENT I_{R1} @ 20 V	REVERSE CURRENT I_{R2} @ 75 V	REVERSE CURRENT I_{R3} @ 20 V T_A=150°C	REVERSE CURRENT I_{R4} @ 75 V T_A=150°C	CAPACI-TANCE C (Note 3)	CAPACI-TANCE C (Note 4)
V	V	ns	ns	nA	µA	µA	µA	pF	pF
0.8	1.2	5	20	25	0.5	35	75	4.0	2.8

NOTE 1: $I_F = I_R = 10$ mA, $R_L = 100$ Ohms.
NOTE 2: $I_F = 50$ mA.
NOTE 3: $V_R = 0$ V, f = 1 MHz, $V_{SIG} = 50$ mV (pk to pk).
NOTE 4: $V_R = 1.5$V, f = 1 MHz, $V_{SIG} = 50$ mV (pk to pk).

GRAPHS

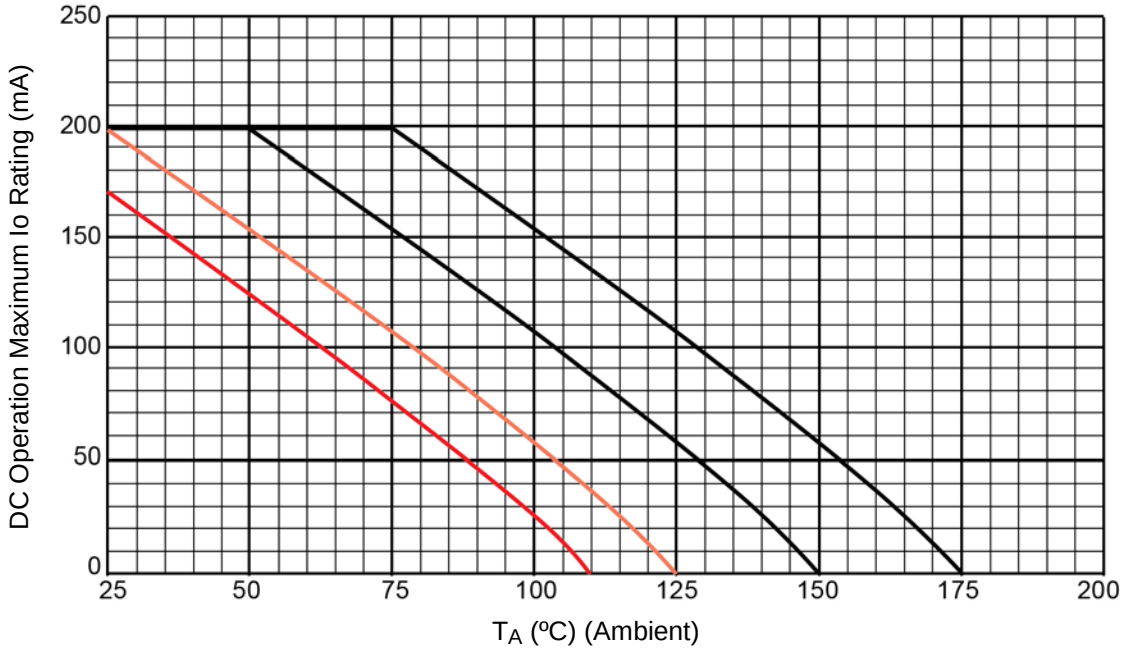


FIGURE 1 – Temperature – Current Derating

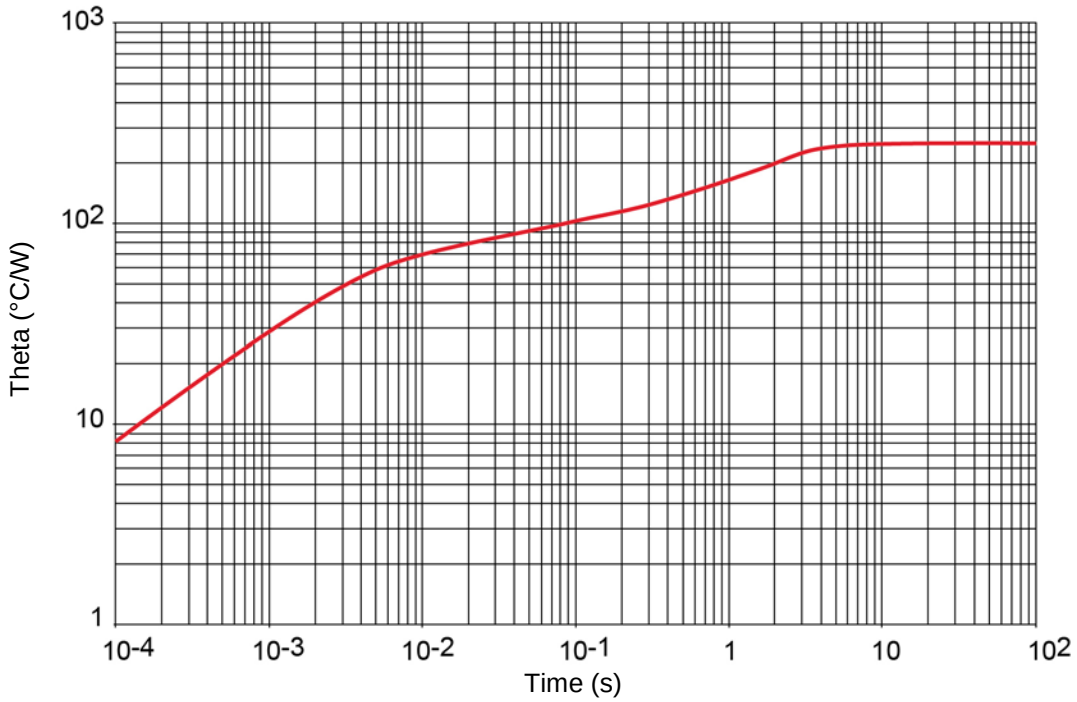
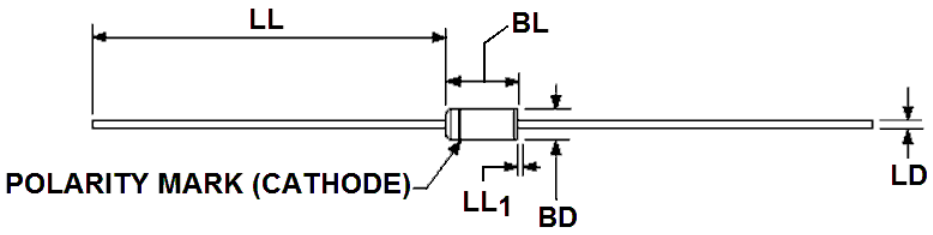


FIGURE 2 – Thermal Impedance

PACKAGE DIMENSIONS



Ltr	Dimensions				Notes
	Inch		Millimeters		
	Min	Max	Min	Max	
BD	.056	.075	1.42	1.91	3
BL	.140	.180	3.56	4.57	3
LD	.018	.022	0.46	0.56	
LL	1.000	1.500	25.40	38.10	
LL_1		.050		1.27	4

NOTES:

1. Dimensions are in inch.
2. Millimeters are given for general information only.
3. Package contour optional within BD and length BL. Heat slugs, if any, shall be included within this cylinder but shall not be subject to minimum limit of BD. The BL dimension shall include the entire body including slugs.
4. Within this zone lead, diameter may vary to allow for lead finishes and irregularities other than heat slugs.
5. In accordance with ASME Y14.5M, diameters are equivalent to Φx symbology.