MAXIMUM RATINGS

Notes: 1. Derate linearly at 22 mA/°C for 55 °C ≤ T_A ≤ 100 °C.
2. Above T_A = 100 °C, derate linearly at 26.7 mA/°C to zero at T_A = 175 °C.
3. These ambient ratings are for PC boards where thermal resistance from mounting point to ambient is sufficiently controlled where $T_{J(max)}$ does not exceed 175 °C.

MECHANICAL and PACKAGING

- CASE: Hermetically sealed voidless hard glass with tungsten slugs.
- TERMINALS: End caps are copper with tin/lead (Sn/Pb) finish. Note: Previous inventory had solid silver with tin/lead (Sn/Pb) finish. RoHS compliant matte-tin is available for commercial grade only.
- MARKING: Cathode band only.
- POLARITY: Cathode indicated by band.
- TAPE & REEL option: Standard per EIA-481-B. Contact factory for quantities.
- WEIGHT: 539 milligrams.
- See Package Dimensions and recommended Pad Layout on last page.

PART NOMENCLATURE

JAN 1N5415 US (e3)

Reliability Level
JAN = JAN Level
JANTX = JANTX Level
JANTXV = JANTXV Level
JANS = JANS Level
Blank = commercial

JEDEC type number
See Electrical Characteristics table

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

MELF Package

SYMBOLS & DEFINITIONS

Symbol	Definition
V_{BR}	Minimum Breakdown Voltage: The minimum voltage the device will exhibit at a specified current.
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).
I_O	Average Rectified Output 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.
V_F	Maximum Forward Voltage: The maximum forward voltage the device will exhibit at a specified current.
I_R	Maximum Reverse Current: The maximum reverse (leakage) current that will flow at the specified voltage and temperature.
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.

ELECTRICAL CHARACTERISTICS

TYPE	MINIMUM BREAKDOWN VOLTAGE V_{BR} @ 50 µA Volts	FORWARD VOLTAGE V_F @ 9 A		MAXIMUM REVERSE CURRENT I_R @ V_{RWM}		CAPACITANCE C V_R @ 4 V
		MIN. Volts	MAX. Volts	25 °C µA	100 °C µA	pF
1N5415US	55	0.6	1.5	1.0	20	550
1N5416US	110	0.6	1.5	1.0	20	430
1N5417US	220	0.6	1.5	1.0	20	250
1N5418US	440	0.6	1.5	1.0	20	165
1N5419US	550	0.6	1.5	1.0	20	140
1N5420US	660	0.6	1.5	1.0	20	120

NOTE 1: I_F = 0.5 A, I_{RM} = 1 A, $I_{R(REC)}$ = 0.250 A.

GRAPHS

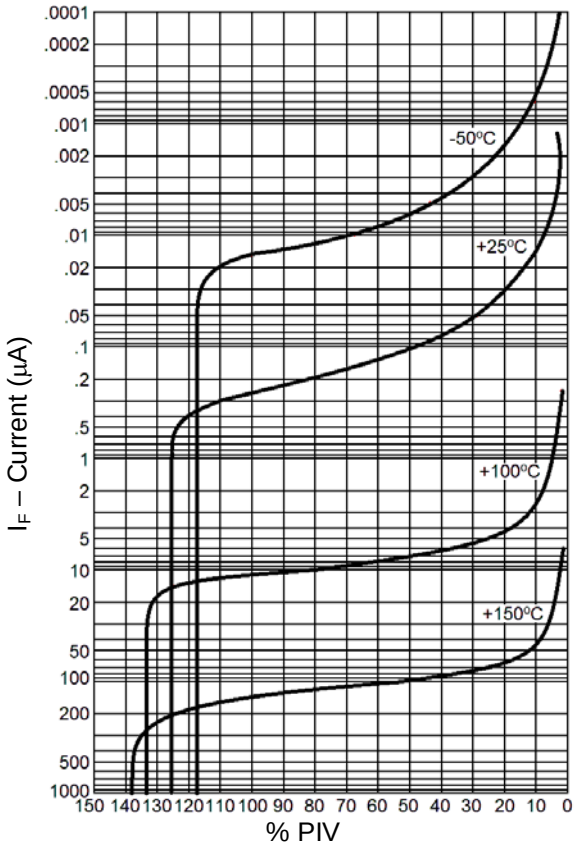


FIGURE 1
Typical Reverse Current vs. PIV

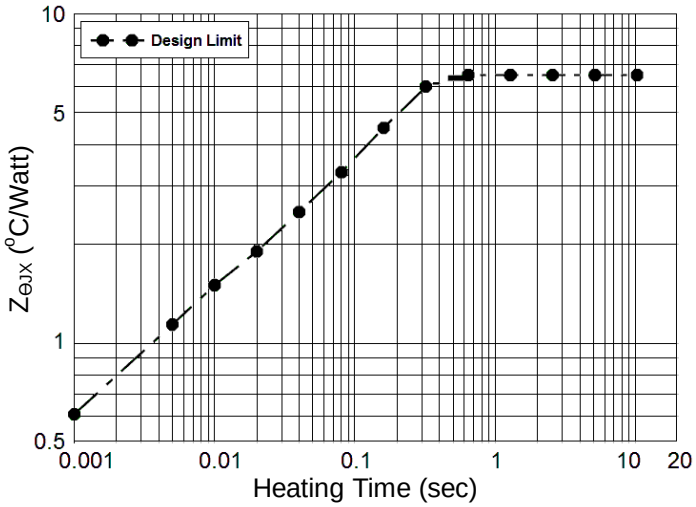


FIGURE 2
Maximum Thermal Impedance

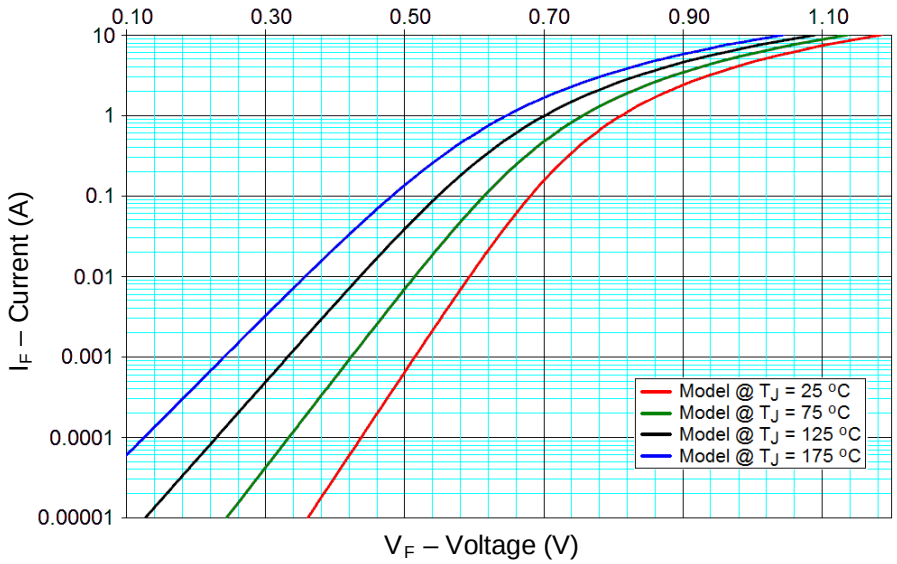
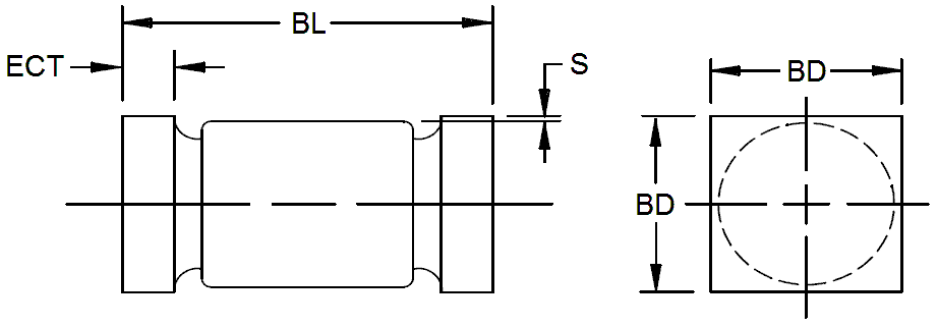


FIGURE 3
Typical Forward Current vs. Forward Voltage

PACKAGE DIMENSIONS

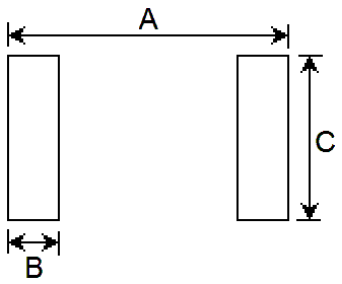


	INCH		MILLIMETERS	
	MIN	MAX	MIN	MAX
BL	0.200	0.225	5.08	5.72
BD	0.137	0.148	3.48	3.76
ECT	0.019	0.028	0.48	0.71
S	0.003	---	0.08	---

NOTES:

1. Dimensions are in inches.
2. Millimeter equivalents are given for general information only.
3. Dimensions are pre-solder dip.
4. Minimum clearance of glass body to mounting surface on all orientations.
5. In accordance with ASME Y14.5M, diameters are equivalent to Φx symbology.
6. This package outline has also previously been identified as “D-5B”.

PAD LAYOUT



	INCH	MILLIMETERS
A	0.288	7.32
B	0.070	1.78
C	0.155	3.94

Note: If mounting requires adhesive separate from the solder, an additional 0.080 inch diameter contact may be placed in the center between the pads as an optional spot for cement.