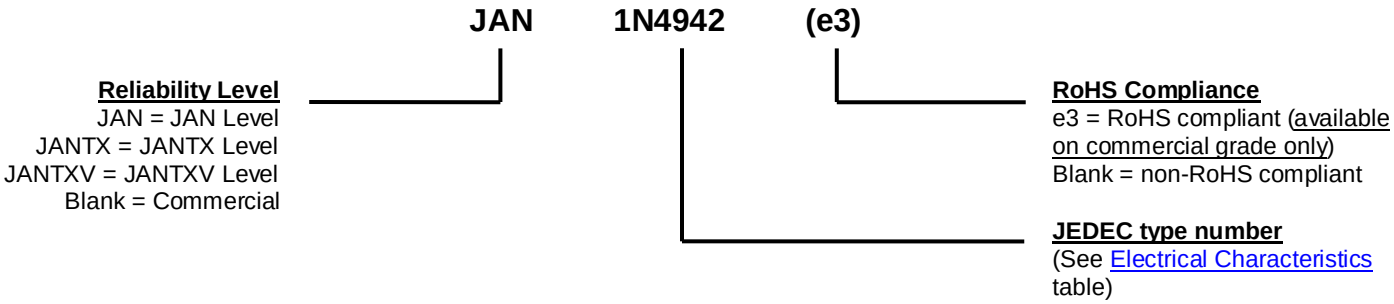
MECHANICAL and PACKAGING

- CASE: Hermetically sealed voidless hard glass with tungsten slugs.
- TERMINALS: Tin/lead or RoHS compliant matte/tin (commercial grade only) over nickel plate over copper.
- MARKING: Body painted with part number.
- POLARITY: Cathode indicated by band.
- TAPE & REEL option: Standard per EIA-296. Consult factory for quantities.
- WEIGHT: Approximately 340 milligrams.
- See Package Dimensions on last page.

PART NOMENCLATURE



SYMBOLS & DEFINITIONS

Symbol	Definition
C	Capacitance: The capacitance in pF at a frequency of 1 MHz and specified voltage
I_R	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.
V_F	Maximum Forward Voltage: The maximum forward voltage the device will exhibit at a specified current.
$V_{(BR)}$	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). Also sometimes known as PIV.
C	Capacitance: The capacitance in pF at a frequency of 1 MHz and specified voltage.

ELECTRICAL CHARACTERISTICS

TYPE	MAXIMUM FORWARD VOLTAGE V_{FM} @ I_{FM} = 1A		MINIMUM BREAKDOWN VOLTAGE $V_{(BR)}$	MAXIMUM REVERSE CURRENT I_R @ V_{RWM}		MAXIMUM JUNCTION CAPACITANCE C_J @ V_R = 12 V	MAXIMUM REVERSE RECOVERY (NOTE 2) t_{rr}
	Volts		Volts	μA		pF	ns
	25°C	150°C		25°C	150°C		
1N4942	0.6 – 1.3	0.6 – 1.5	220	1.0	200	45	150
1N4944	0.6 – 1.3	0.6 – 1.5	440	1.0	200	35	150
1N4946	0.6 – 1.3	0.6 – 1.5	660	1.0	200	25	250

NOTE 1: T_A = 100 °C, 8.3 ms surges
NOTE 2: I_F = 0.5 A, I_{RM} = 1 A, $I_{R(REC)}$ = 0.250 A

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GRAPHS

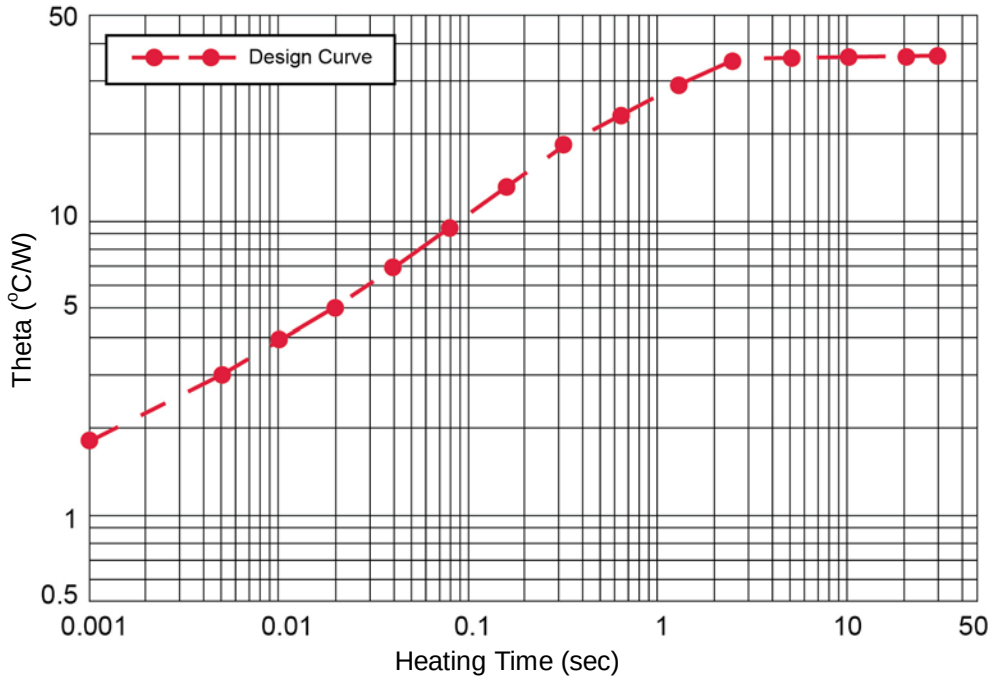

FIGURE 1
Maximum Thermal Impedance

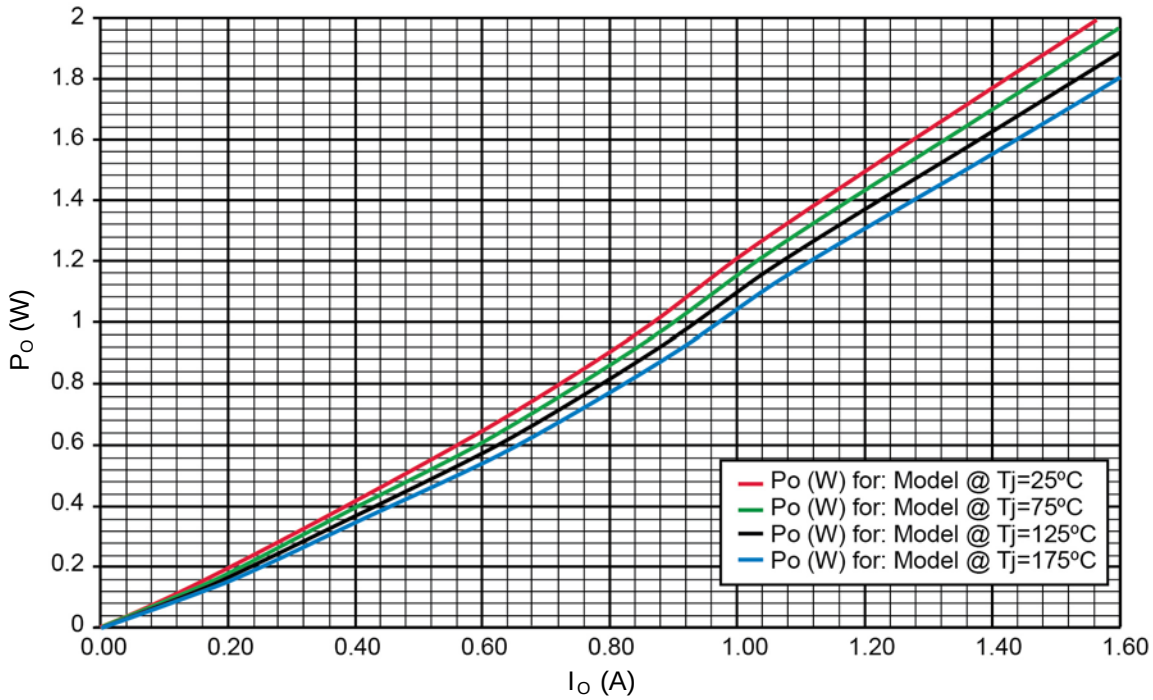

FIGURE 2
Rectifier Power vs I_O (Average Forward Current)

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GRAPHS (continued)

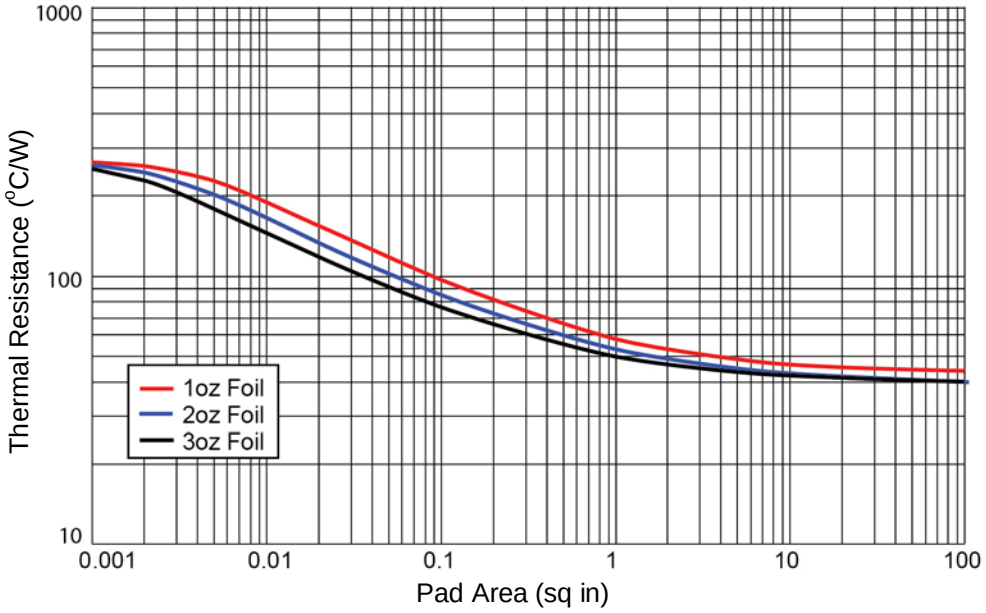

FIGURE 3

Thermal Resistance vs FR4 Pad Area At Ambient

PCB horizontal (for each pad) with 1, 2, and 3 oz copper

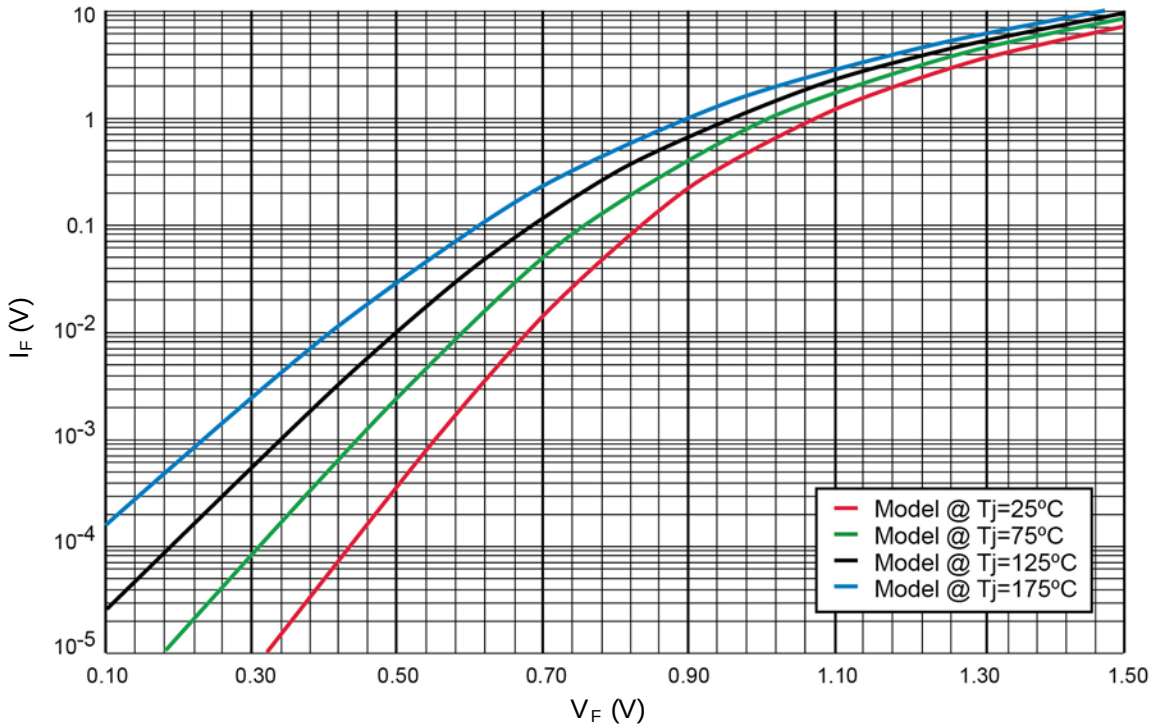

FIGURE 4

Forward Voltage vs Forward Current

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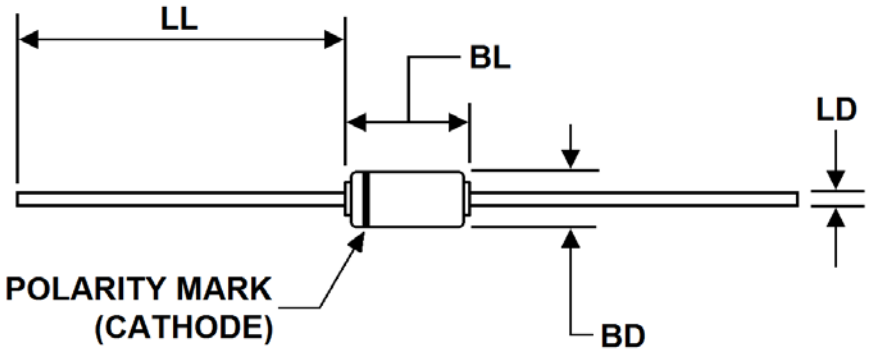
PACKAGE DIMENSIONS



NOTES:

1. Dimensions are in inches.
2. Millimeters equivalents are given for general information only.
3. Dimension BD shall be measured at the largest diameter.
4. Dimension BL shall include the entire body including slugs and sections of the lead over which the diameter is uncontrolled. This uncontrolled area is defined as the zone between the edge of the diode body and extending .050 inch (1.27 mm) onto the leads.
5. In accordance with ASME Y14.5M, diameters are equivalent to Φx symbology.

Ltr	DIMENSIONS				Notes
	INCH		MILLIMETERS		
	Min	Max	Min	Max	
BD	0.065	0.150	1.65	3.81	3, 4
BL	0.140	0.250	3.56	6.35	4
LD	0.027	0.033	0.69	0.84	
LL	1.00	1.50	25.4	38.1	

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