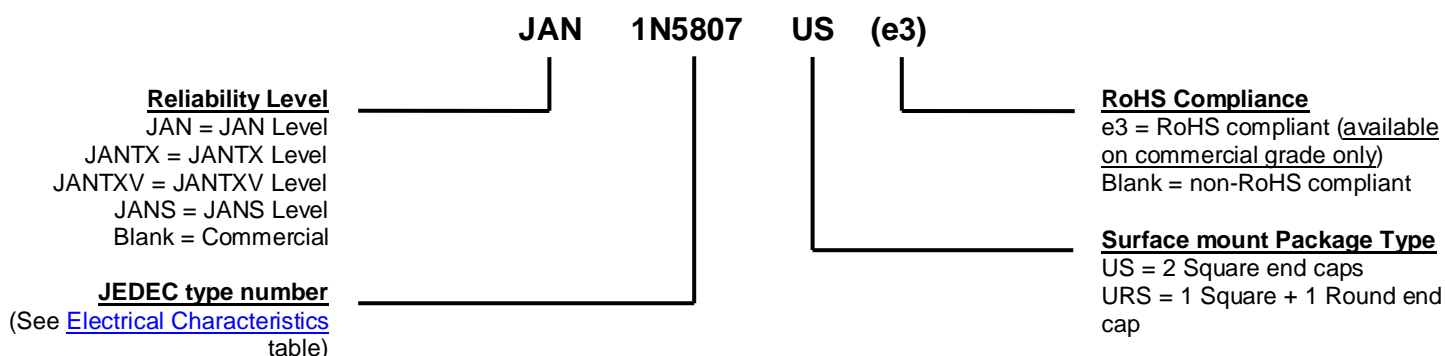


MECHANICAL and PACKAGING

- CASE: Hermetically sealed void-less hard glass with tungsten slugs.
- TERMINALS: Tin/lead (Sn/Pb) or RoHS compliant matte/tin (commercial grade only) over nickel plate over copper.
- MARKING: Body coated in blue with part number.
- POLARITY: Cathode indicated by band.
- TAPE & REEL option: Standard per EIA-296. Consult factory for quantities.
- WEIGHT: 539 milligrams.
- See [Package Dimensions](#) on last page.

PART NOMENCLATURE

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.
I_O	Average Rectified Output Current: 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 Leakage Current: The maximum leakage current that will flow at the specified voltage and temperature.
C	Capacitance: The capacitance in pF at a frequency of 1 MHz and specified voltage.
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 recovery decay point after a peak reverse current occurs.

ELECTRICAL CHARACTERISTICS @ $T_A = 25^\circ\text{C}$ unless otherwise stated

TYPE	BREAKDOWN VOLTAGE (MIN.) @ 100 μA $V_{(BR)}$	MAXIMUM FORWARD VOLTAGE @ 4 A (8.3 ms pulse) V_{FM}		REVERSE CURRENT (MAX.) @ V_{RWM} I_R		SURGE CURRENT (MAX) I_{FSM} (Note 1)	REVERSE RECOVERY TIME (MAX) t_{rr} (Note 2)
	Volts	Volts		μA		Amps	ns
		25 $^\circ\text{C}$	125 $^\circ\text{C}$	25 $^\circ\text{C}$	125 $^\circ\text{C}$		
1N5807	60	0.875	0.800	5	525	125	30
1N5809	110	0.875	0.800	5	525	125	30
1N5811	160	0.875	0.800	5	525	125	30

- NOTES:** 1. $T_A = 25^\circ\text{C}$ @ $I_O = 3.0\text{ A}$ and V_{RWM} for ten 8.3 ms surges at 1 minute intervals.
 2. $I_F = 1.0\text{ A}$, $I_{RM} = 1.0\text{ A}$, $I_{R(REC)} = 0.10\text{ A}$ and $di/dt = 100\text{ A}/\mu\text{s min}$.

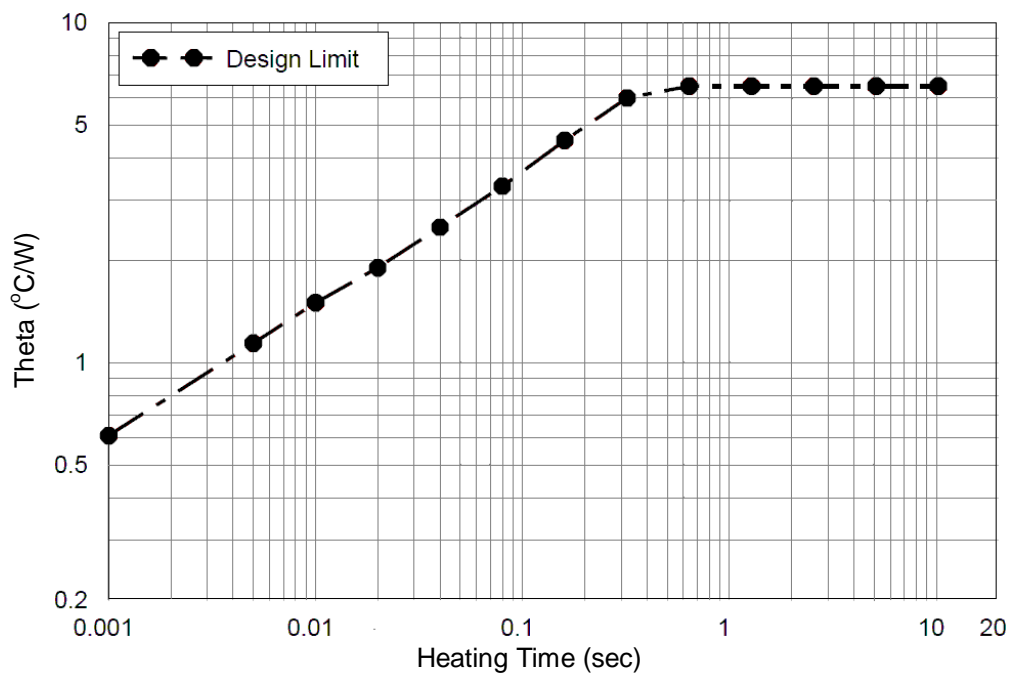
GRAPHS


FIGURE 1
Maximum Thermal Impedance

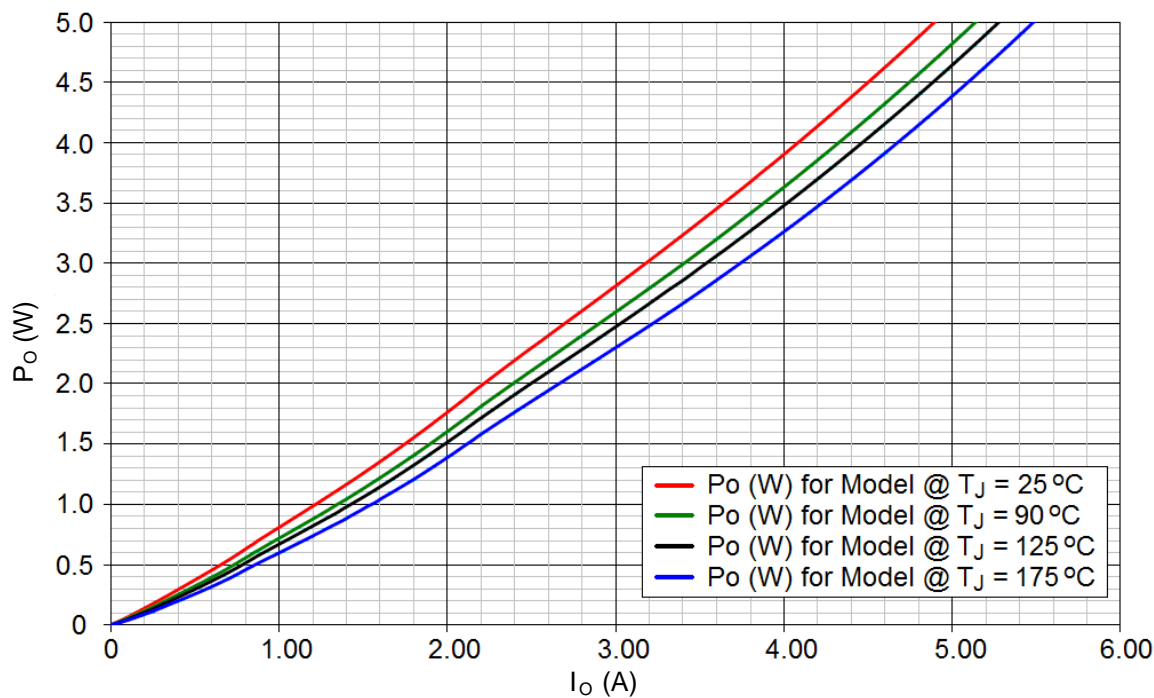
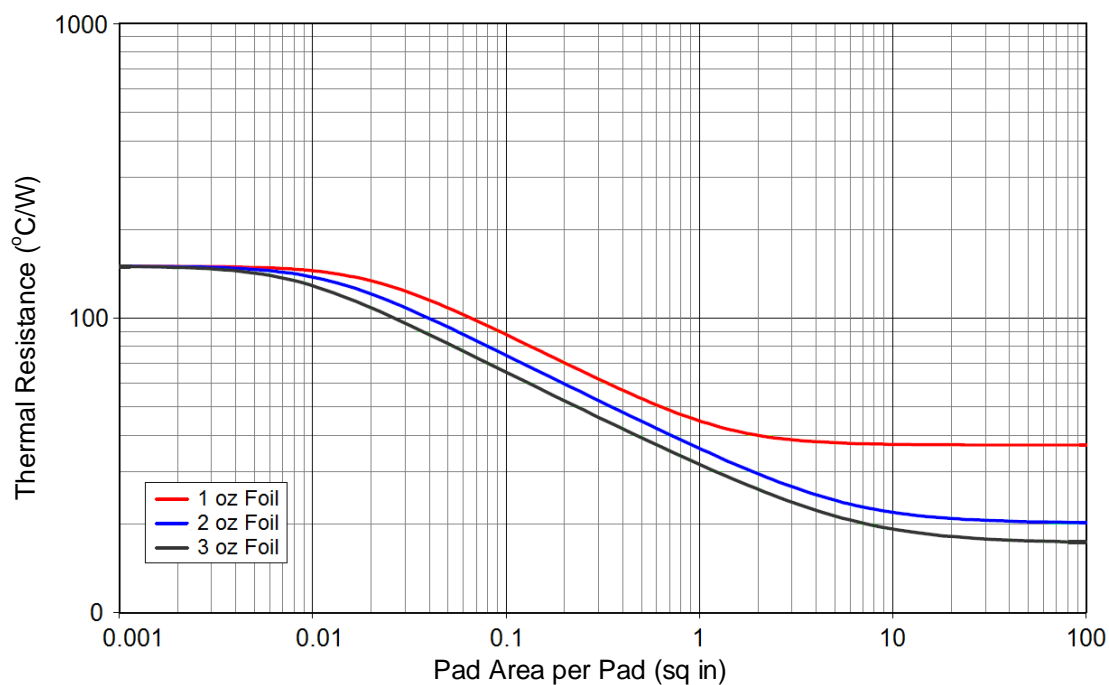
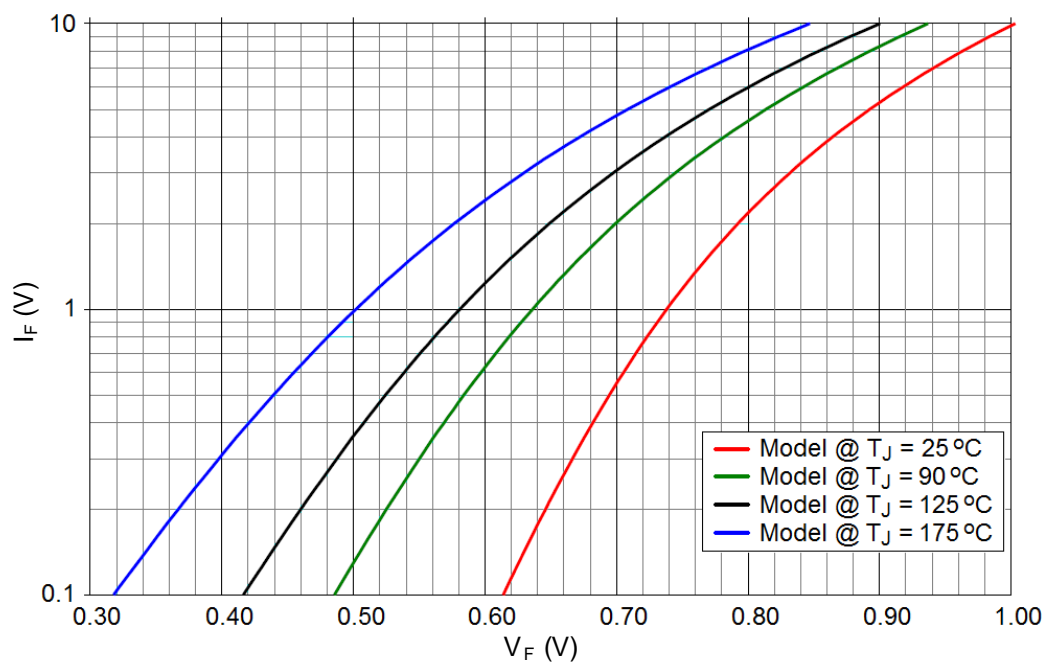


FIGURE 2
Rectifier Power vs I_O (Average Forward Current)

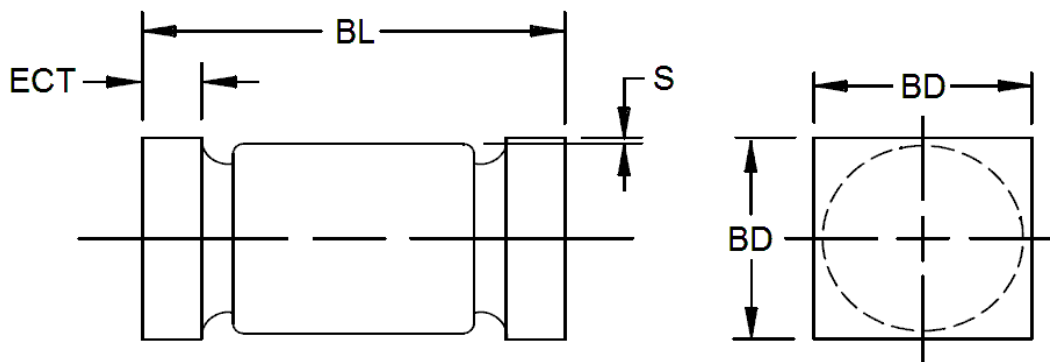
GRAPHS (continued)

FIGURE 3

Thermal Resistance vs FR4 Pad Area At Ambient

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

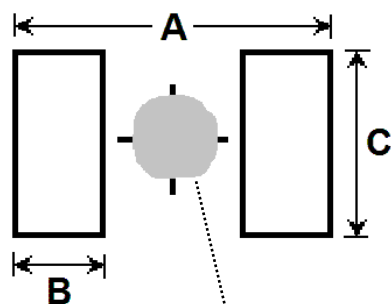

FIGURE 4

Forward Voltage vs Forward Current

PACKAGE DIMENSIONS

NOTES:

1. Dimensions are in inches.
2. Millimeters 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. Cathode marking to be either in color band, three dots spaced equally or a color dot on the face of the end tab.
6. Color dots will be .020 inch (0.51 mm) diameter minimum and those on the face of the end tab shall not lie within .020 inch (0.51 mm) of the mounting surface.
7. In accordance with ASME Y14.5M, diameters are equivalent to Φ x symbology.
8. On "URS" one end cap shall be square and the other end cap shall be round.

Ltr	DIMENSIONS				Notes
	INCH		MILLIMETERS		
	Min	Max	Min	Max	
BD	.137	.148	3.48	3.76	8
BL	.200	.225	5.08	5.72	
ECT	.019	.028	0.48	0.71	8
S	.003		0.08		

PAD LAYOUT


DIM	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.