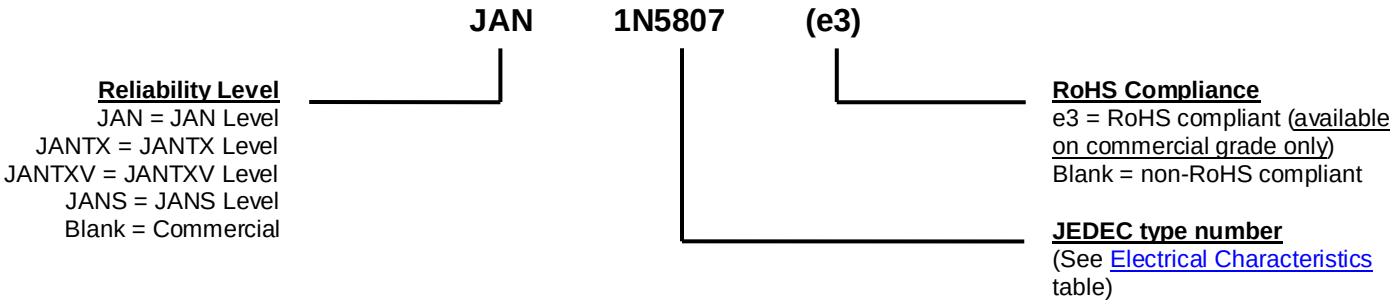
MECHANICAL and PACKAGING

- CASE: Hermetically sealed voidless 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: 750 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 ºC unless otherwise stated

	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)
TYPE		Volts		µA			
	Volts	25 °C	125 °C	25 °C	125 °C	Amps	ns
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 °C @ I_O = 3.0 A and V_{RWM} for ten 8.3 ms surges at 1 minute intervals.
2. I_F = 1.0 A, I_{RM} = 1.0 A, $I_{R(REC)}$ = 0.10 A and di/dt = 100 A/µs min.

GRAPHS

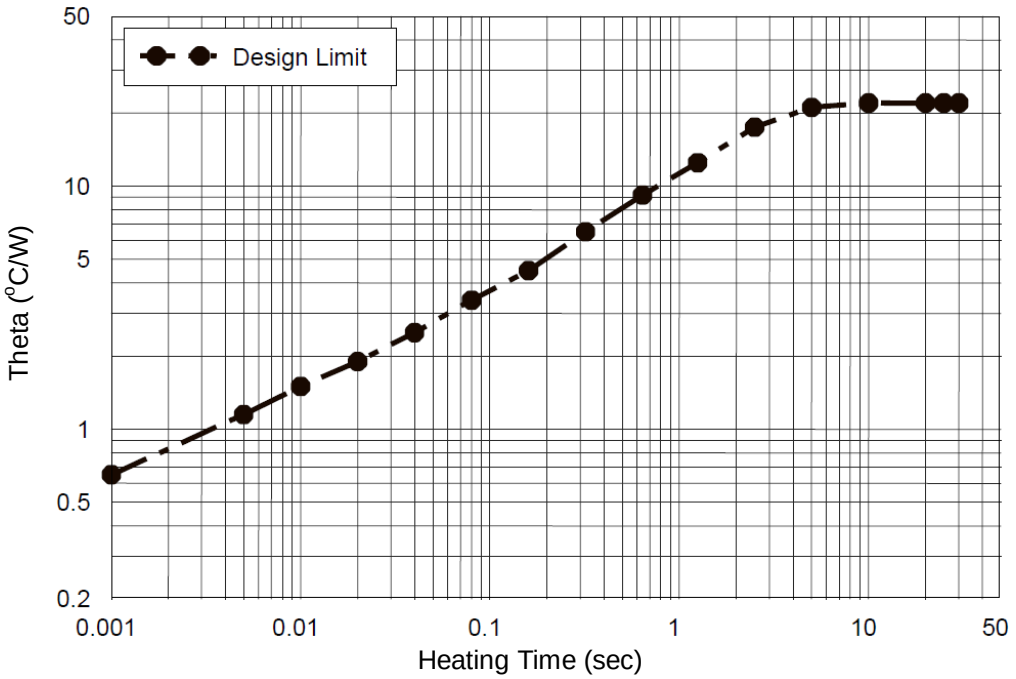


FIGURE 1
Maximum Thermal Impedance

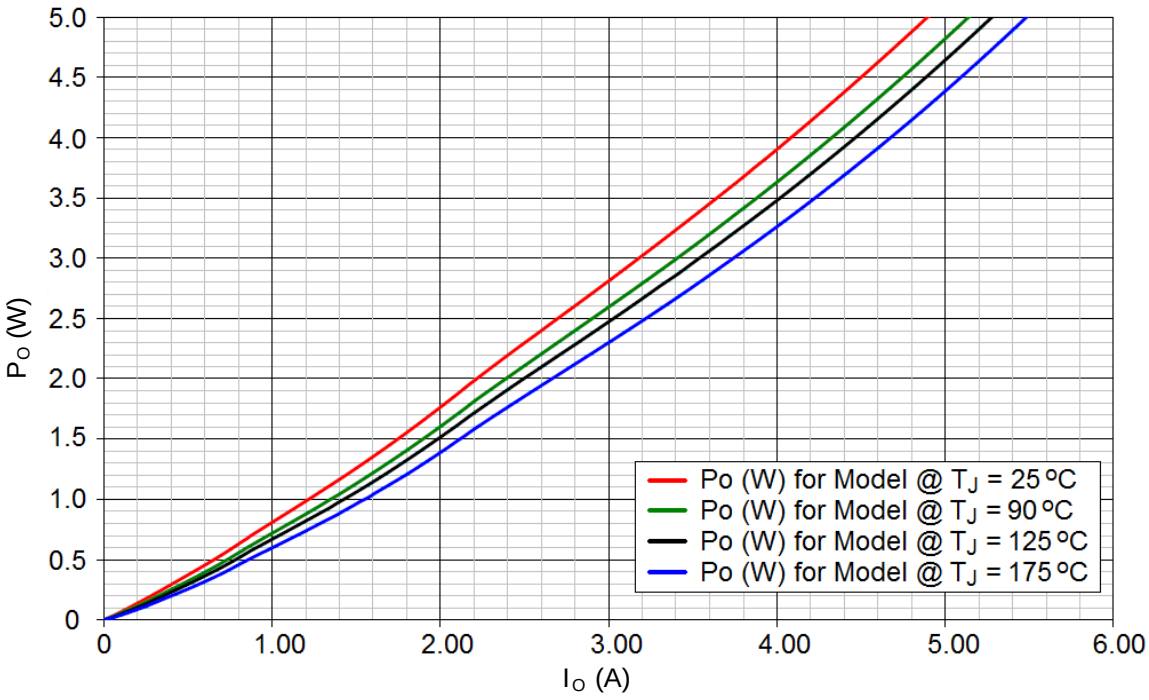


FIGURE 2
Rectifier Power vs I_O (Average Forward Current)

GRAPHS (continued)

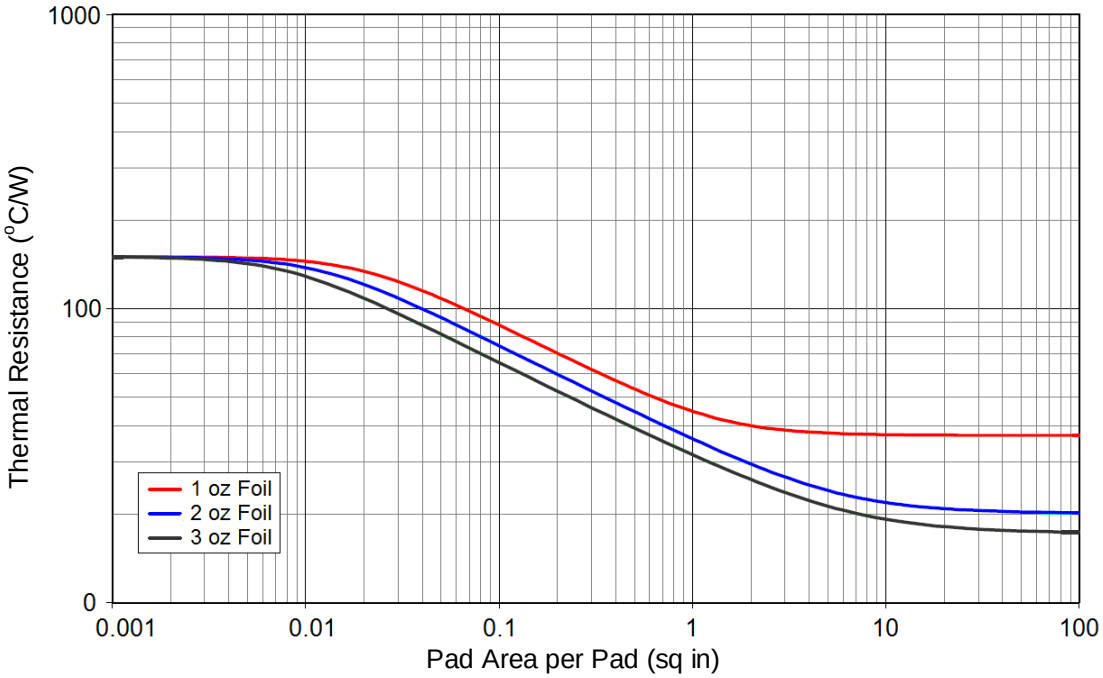


FIGURE 3

Thermal Resistance vs FR4 Pad Area At Ambient

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

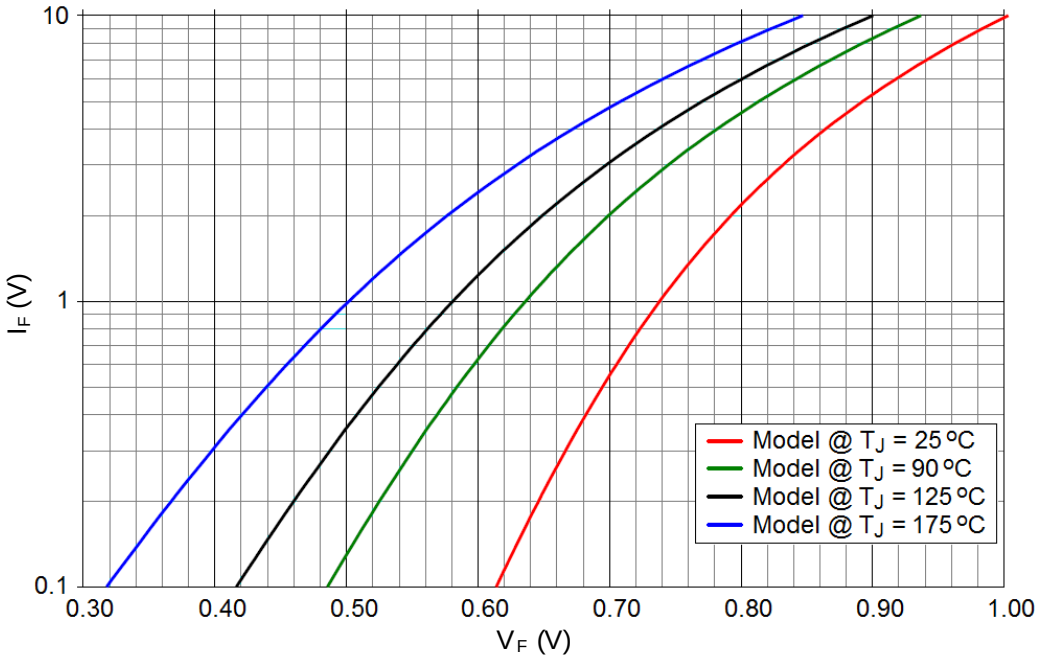
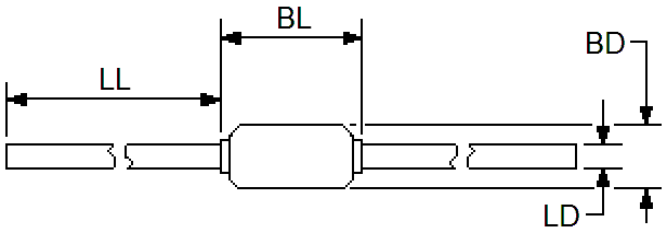


FIGURE 4

Forward Voltage vs Forward Current

PACKAGE DIMENSIONS



NOTES:

1. Dimensions are in inches.
2. Millimeters are given for general information only.
3. 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.
4. Dimension BD shall be measured at the largest diameter.
5. In accordance with ASME Y14.5M, diameters are equivalent to Φx symbology.

Ltr	DIMENSIONS				Notes
	INCH		MILLIMETERS		
	Min	Max	Min	Max	
BD	.115	.142	2.92	3.61	4
BL	.130	.300	3.30	7.62	3
LD	0.036	.042	0.91	1.07	3
LL	.900	1.30	22.86	33.02	

Lead Tolerance = +.002 - .003 in.
(Includes sections of the lead or fillet over which the lead diameter is uncontrolled.)