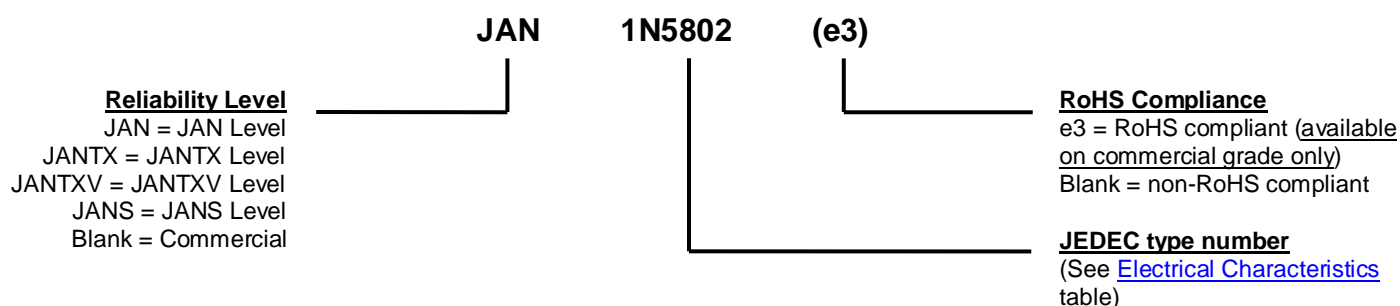


MECHANICAL and PACKAGING

- 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: 340 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

	BREAKDOWN VOLTAGE (MIN.) @ 100 μ A $V_{(BR)}$	MAXIMUM FORWARD VOLTAGE @ 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)	THERMAL IMPEDANCE @ $t_H = 10$ ms $Z_{\theta JX}$ (Note 3)
TYPE	Volts	Volts		μ A		Amps	ns	$^{\circ}$ C/W
		$I_F = 1.0$ A	$I_F = 2.5$ A	25 $^{\circ}$ C	125 $^{\circ}$ C			
1N5802	60	0.875	0.975	1	175	35	25	4.0
1N5804	110	0.875	0.975	1	175	35	25	4.0
1N5806	160	0.875	0.975	1	175	35	25	4.0

- NOTES:**
1. $T_A = 2.5^{\circ}\text{C}$ @ $I_O = 1.0$ A and V_{RWM} for ten 8.3 ms surges at 1 minute intervals (I_{FSM} surge is also a maximum rating).
 2. $I_F = 0.5$ A, $I_{RM} = 0.5$ A, $I_{R(REC)} = .05$ A (t_{rr} reverse recovery time is also a maximum rating).
 3. For the complete thermal impedance curve over a broad range of heating times, see [Figure 1](#).

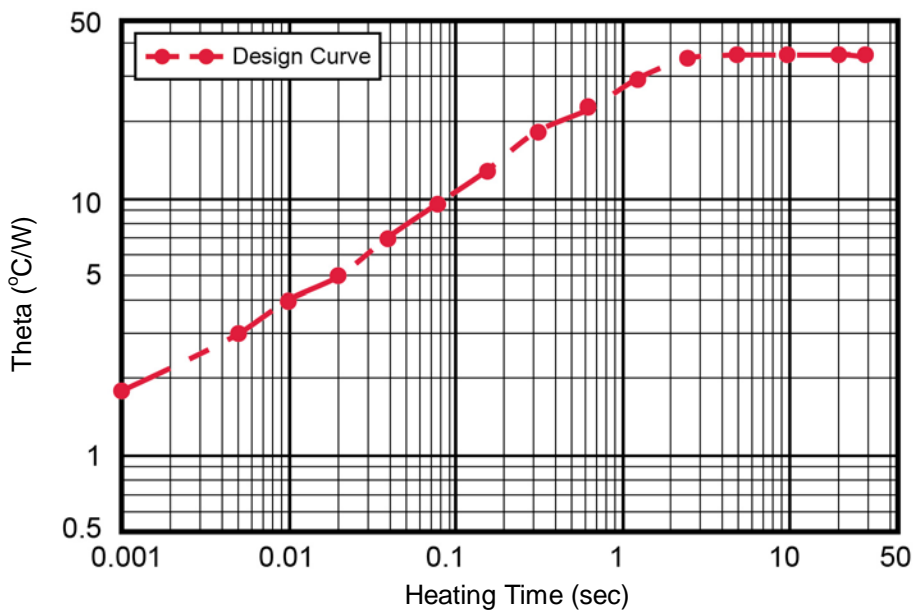
GRAPHS


FIGURE 1
Maximum Thermal Impedance

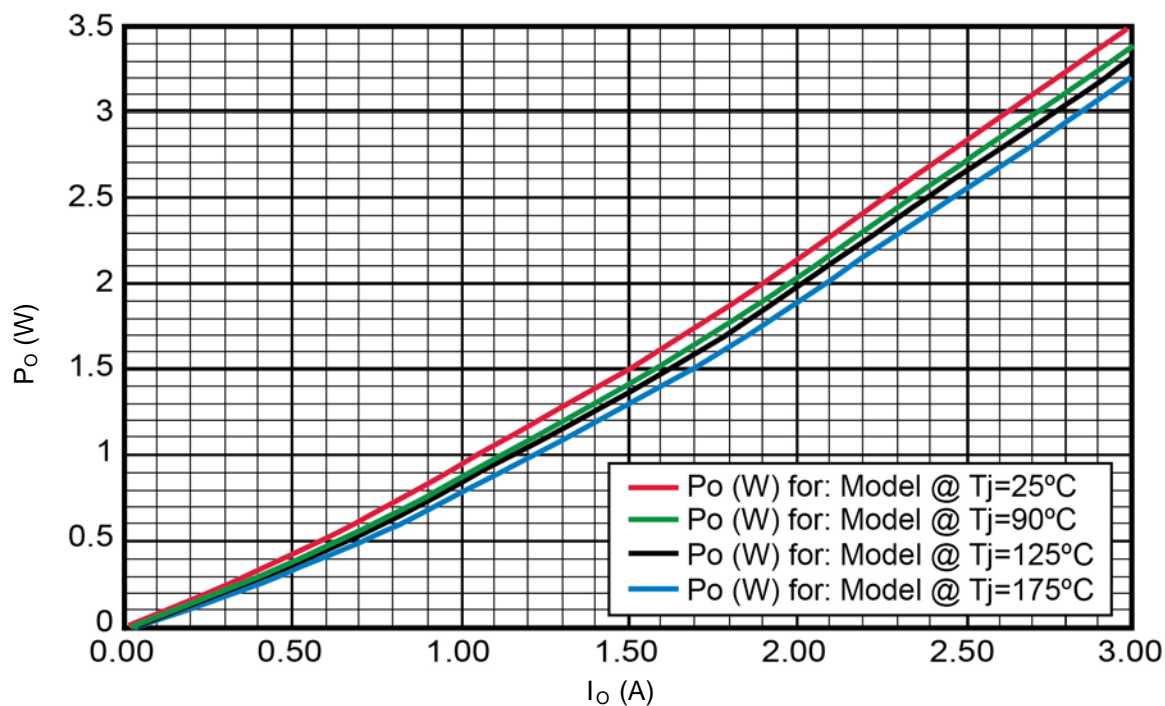
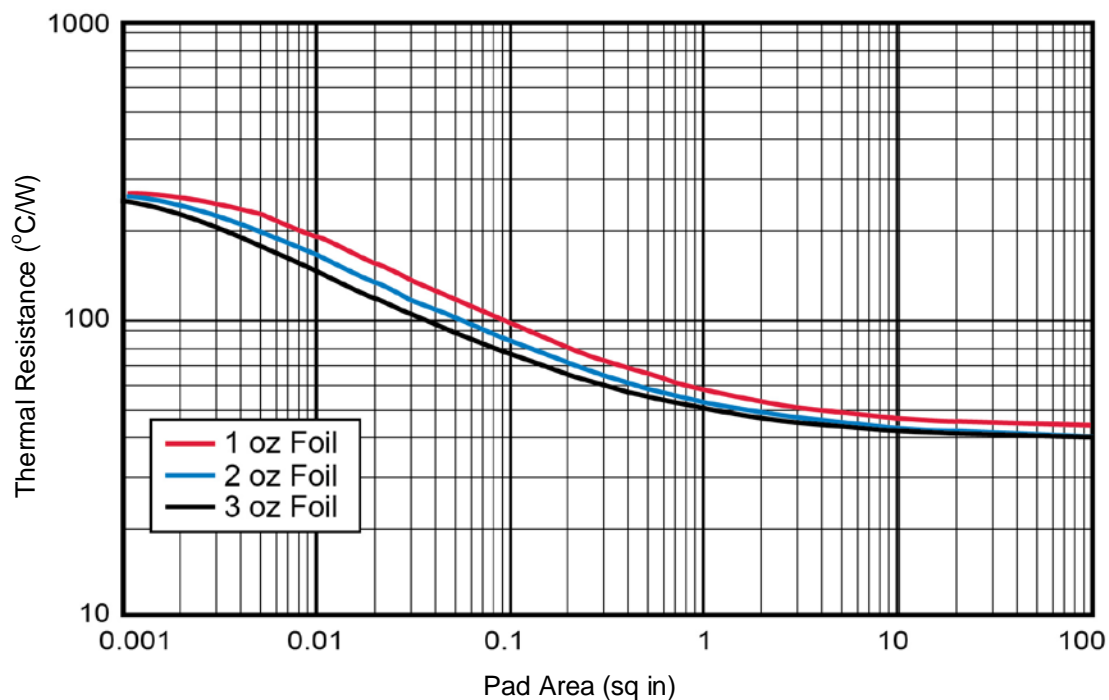
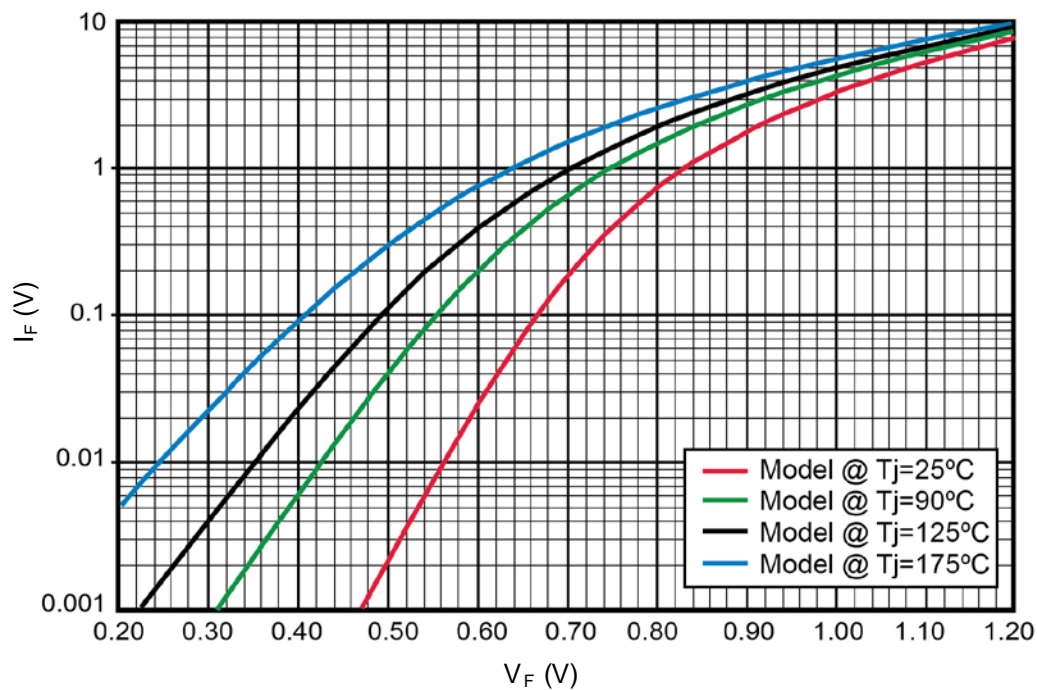


FIGURE 2
Rectifier Power vs I_O (Average Forward Current)

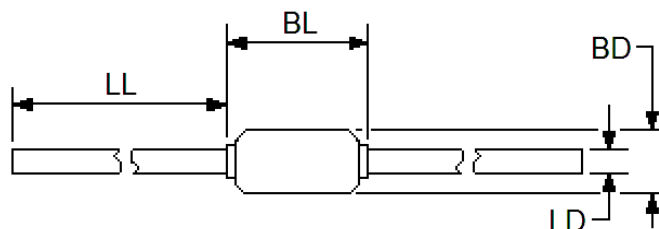
GRAPHS (continued)

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 Φ x symbology.

Ltr	DIMENSIONS				Notes
	INCH		MILLIMETERS		
	Min	Max	Min	Max	
BD	.065	.085	1.65	2.16	4
BL	.125	.250	3.18	6.35	3
LD	.027	.032	0.69	0.81	3
LL	.700	1.30	17.78	33.02	