

FEATURES

- Available as "HR" (high reliability) screened per MIL-PRF-19500, JANTX level. Add "HR" suffix to base part number.
- Available as non-RoHS (Sn/Pb plating), standard, and as RoHS by adding "-PBF" suffix.

MAXIMUM RATINGS

Parameter	Symbol	Value	Unit
Working peak reverse voltage			
1N5807	V_{RWM}	50	V
1N5808		75	
1N5809		100	
1N5810		125	
1N5811		150	
Forward surge current ⁽¹⁾	I_{FSM}	125	A
Average rectified output current @ $T_L = 75^\circ\text{C}$ at 3/8" lead length ⁽²⁾	I_{O1}	6.0	A
Average rectified output current @ $T_A = 55^\circ\text{C}$ at 3/8" lead length ⁽³⁾	I_{O2}	3.0	A
Capacitance @ $V_R = 10\text{V}$, $f = 1\text{MHz}$, $V_{sig} = 50\text{mV(p-p)}$	C	60	pF
Reverse recovery time ⁽⁴⁾	t_{rr}	30	ns
Solder temperature @ 10 s	T_{SP}	260	$^\circ\text{C}$
Junction and storage temperature range	T_J, T_{stg}	-65 to +175	$^\circ\text{C}$
Thermal resistance junction to lead (L = 0.375")	$R_{\theta JL}$	22	$^\circ\text{C/W}$

Note 1: $T_A = 25^\circ\text{C}$ @ $I_O = 3.0\text{A}$ and V_{RWM} for 10 8.3ms surges at 1 minute intervals.

Note 2: I_{O1} is rated @ $T_L = 75^\circ\text{C}$ at 3/8" lead length. Derate at 60mA/ $^\circ\text{C}$ for T_L above 75 $^\circ\text{C}$.

Note 3: I_{O2} is derated at 25mA/ $^\circ\text{C}$ above $T_A = 55^\circ\text{C}$ for PC boards where thermal resistance from mounting point to ambient is sufficiently controlled where $T_{J(max)}$ 175 $^\circ\text{C}$ is not exceeded.

Note 4: $I_F = 1.0\text{A}$, $I_{RM} = 1.0\text{A}$, $I_{R(REC)} = 0.10\text{A}$. and $di/dt = 100\text{A}/\mu\text{s min}$.

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise specified)

Part number	Minimum breakdown voltage @ 100 μA	Maximum forward voltage @ 4A (8.3ms pulse)		Maximum reverse current @ V_{RWM}		Maximum surge current ⁽⁵⁾	Maximum reverse recovery time ⁽⁶⁾
	$V_{(BR)}$ Volts	V_{FM} Volts		I_R μA		Amps	t_{rr} 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
1N5808	85	0.875	0.800	5	525	125	30
1N5809	110	0.875	0.800	5	525	125	30
1N5810	135	0.875	0.800	5	525	125	30
1N5811	160	0.875	0.800	5	525	125	30

Note 5: $T_A = 25^\circ\text{C}$ @ $I_O = 3.0\text{A}$ and V_{RWM} for ten 8.3ms surges at 1 minute intervals.

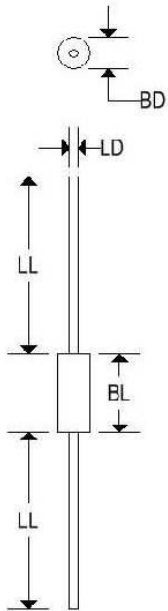
Note 6: $I_F = 1.0\text{A}$, $I_{RM} = 1.0\text{A}$, $I_{R(REC)} = 0.10\text{A}$ and $di/dt = 100\text{A}/\mu\text{s min}$.

1N5807-1N5811

HIGH EFFICIENCY RECTIFIERS

MECHANICAL CHARACTERISTICS

Case	Digi B
Marking	Alpha Numeric
Polarity	Cathode Band



	DIGI B			
	Inches		Millimeters	
	Min	Max	Min	Max
BD	-	0.145	-	3.680
BL	-	0.300	-	7.620
LD	0.037	0.043	0.940	1.092
LL	0.975	-	24.800	-

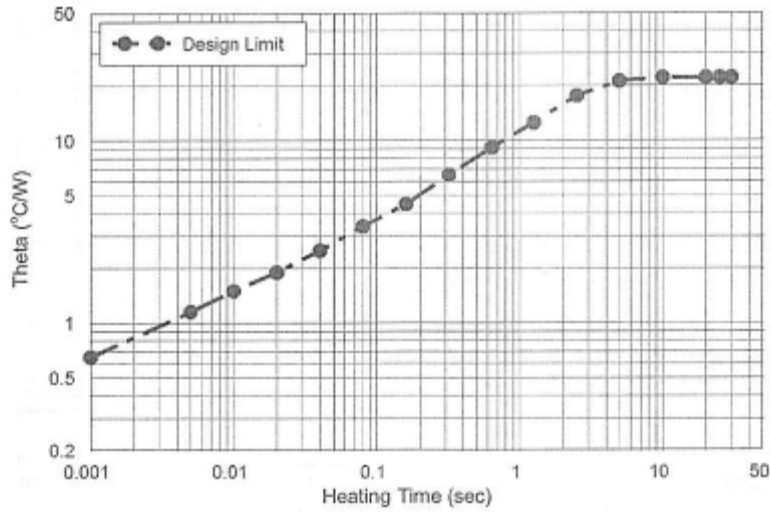


FIGURE 1
Maximum Thermal Impedance

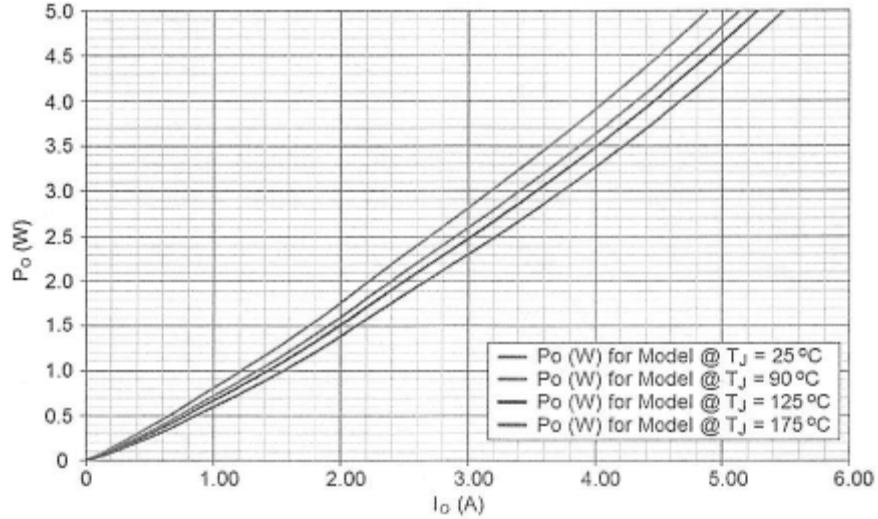


FIGURE 2
Rectifier Power vs. I_O (Average Forward Current)

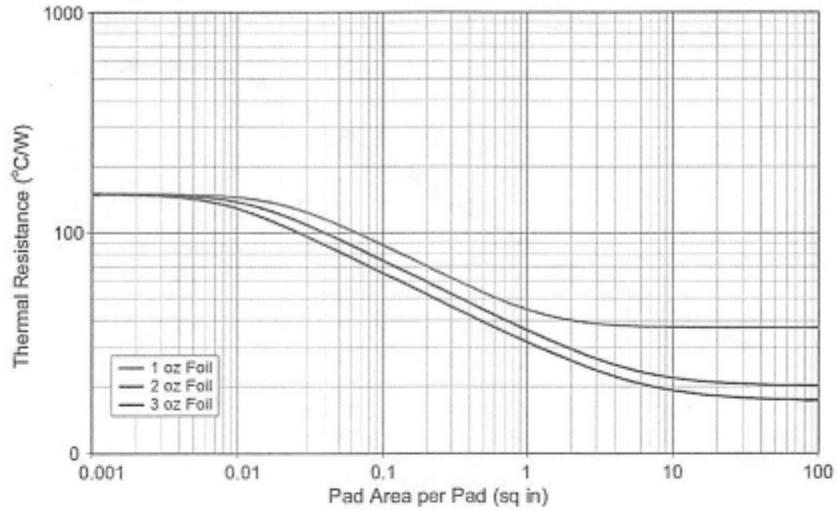


FIGURE 3
Thermal Resistance vs FR4 Pad Area At Ambient
PCB horizontal (for each pad) with 1, 2, and 3 oz copper

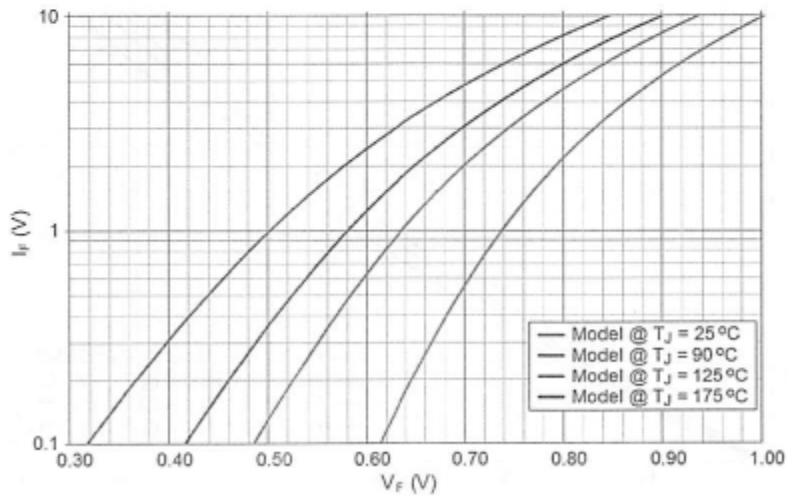


FIGURE 4
Forward Voltage vs Forward Current