SMT POWER INDUCTORS
Toroid - POGO 25 Series
Ruggedized

iNRCORE FAMILY OF BRANDS

- Ruggedized header with POGO pins for secure board mounting
- Current Rating: up to 8.3ADC
- Inductance Range: up to 2.0μH to 336μH
- Operating Temperature: -40°C to +130°C
- Lead Finish: Sn63/Pb37
- Moisture Sensitivity Level: 1

Electrical Specifications @ 25°C

Part Number	Parallel Connection							Series Connection						
	Inductance @ Irated (μH)	Irated (A)	DCR (mΩ) TYP	Inductance @ 0 ADC (μH)	ET REF [2] (Volt-μsec)	100 Gauss ET100 (Volt-μsec)	1 Amp DC H1 (Orsted)	Inductance @ Irated (μH)	Irated (A)	DCR (mΩ) TYP	Inductance @ 0 ADC (μH)	ET REF [2] (Volt-μsec)	100 Gauss ET100 (Volt-μsec)	1 Amp DC H1 (Orsted)
POGO 25														
PL8600	2.0	8.30	8.0	2.2	7.31	1.20	5.43	7.0	4.16	16.0	8.75	14.61	2.41	10.86
PL8601	2.4	7.20	10.9	2.6	7.81	1.33	5.97	8.4	3.78	21.8	10.4	15.62	2.65	11.95
PL8602	5.0	5.20	19.0	5.5	11.72	1.93	8.69	17.9	2.60	38.0	22.45	23.43	3.86	17.38
PL8603	9.3	3.80	30	10.4	16.12	2.65	11.95	33.8	1.89	60	41.7	32.25	5.30	23.89
PL8604	14.1	3.10	45.5	15.7	19.73	3.25	14.66	50.9	1.54	91	62.8	39.46	6.51	29.32
PL8605	19.8	2.60	66.5	22.1	23.45	3.86	17.38	71.5	1.30	133	88.2	46.90	7.71	34.75
PL8606	29.3	2.20	101	32.8	28.50	4.70	21.18	106.1	1.07	202	131.0	57.00	9.40	42.36
PL8607	42.6	1.80	151	47.6	34.49	5.66	25.52	154.2	0.89	302	190.3	68.99	11.33	51.05
PL8608	61.3	1.50	222	67.5	40.85	6.75	30.41	218.9	0.74	444	270.2	81.70	13.50	60.82
PL8609	84.2	1.20	318	91.0	46.22	7.83	35.30	295.0	0.64	636	364.0	92.43	15.66	70.59

NOTES:

1. Add suffix "**NL**" for RoHS compliant version; i.e. PL8600 becomes **PL8600NL**. NL parts have 100% SN Lead Finish (MSL:4)
2. For Tape & Reel packaging, add "**T**" suffix at the end of the part number: i.e. **PL8600T.**
3. Temperature rise is 50°C in typical buck or boost circuits at 250kHz and with the reference ET applied to the inductor.
4. Total loss in the inductor is 380mWatts for a 50°C temperature rise above ambient.

Estimated Temperature Rise:

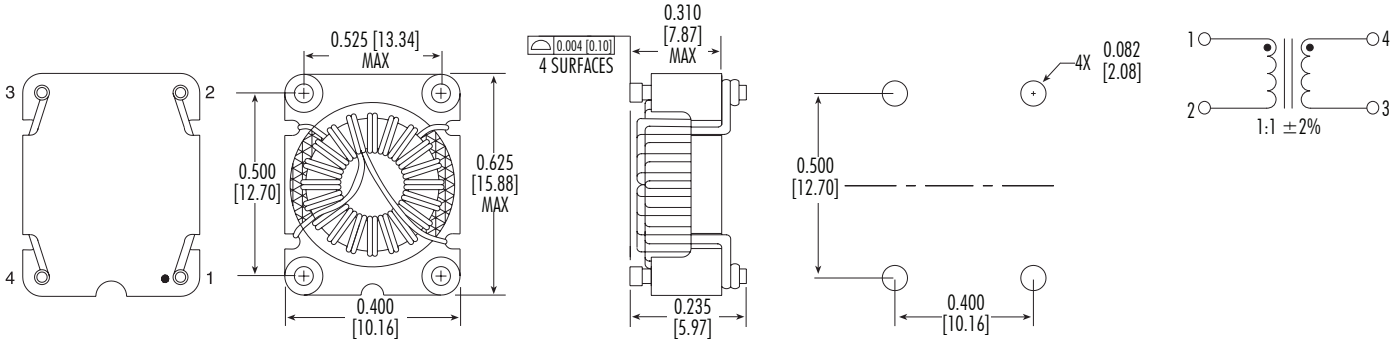
Trise = determine copper and core losses, divide by 380 and multiply by 50.
CopperLoss = IDC^2 X RN
CoreLoss = using frequency (f in Hertz) and operating flux density (B in Guass), calculate $6.11 \times 10^{-18} \times B^{2.7} \times f^{2.04}$
ΔB = calculate ET (Volt-μsec) for the application, divite by ET100 from the table, and multiply by 100.

Mechanicals

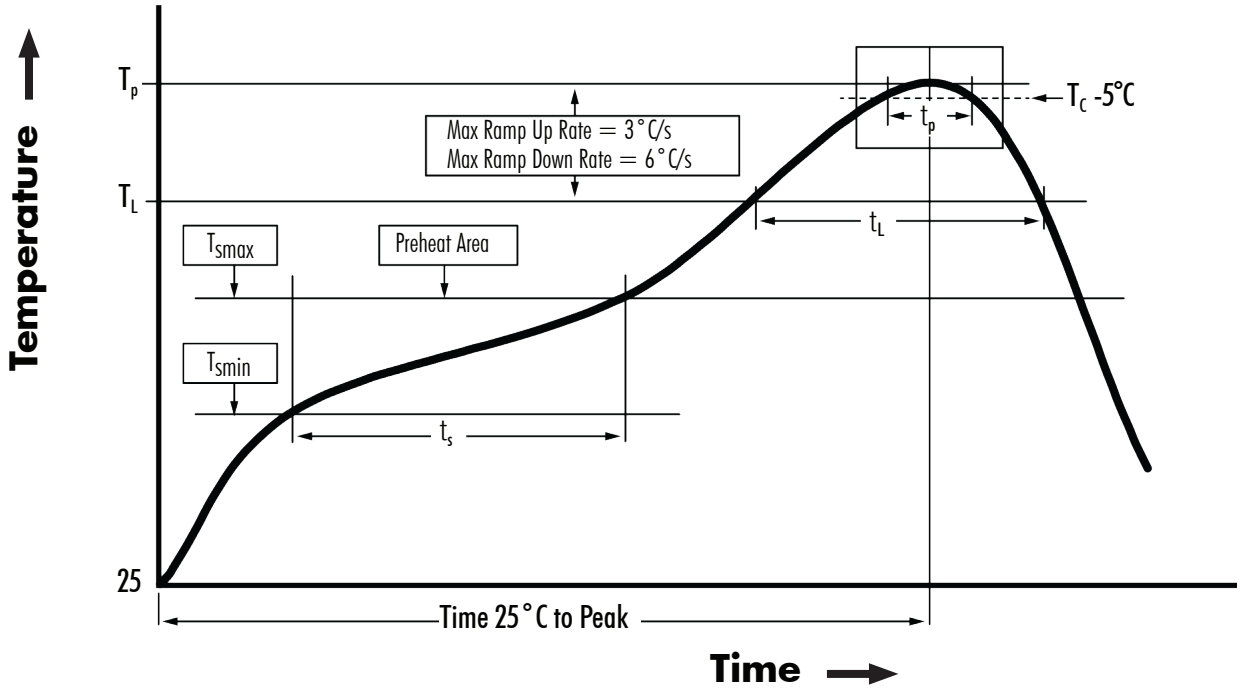
Electrical Schematics

PL86XX

Dimensions: inch [mm]
Tolerance (unless otherwise specified): ±0.010 [0.25]



Recommended Reflow Profile (Based on J-STD-020D)



T_{SMIN} (°C)	T_{SMAX} (°C)	T_L (°C)	T_P (°C MAX)	t_S (s)	t_L (s)	t_P (s MAX)	Ramp-up rate (T_L to T_P)	Ramp-down rate (T_P to T_L)	Time 25°C to peak temperature (s MAX)
100	150	183	235	60 - 120	60 - 150	20	3°C/s MAX	6°C/s MAX	360

NOTES:

1. All temperatures measured on the package leads.
2. Maximum number of reflow cycles not to exceed 2.

iNRCORE, LLC
311 Sinclair Road, Bristol, PA 19007-6812 USA
Tel: +1.215.781.6400 Fax: +1.215.781.6430
www.iNRCORE.com