SMT POWER INDUCTORS
Wire Wound - PA2050.XXXNL Series

Pulse
A TECHNITROL COMPANY

RoHS COMPLIANT

- **Height:** 12.2mm Max
- **Footprint:** 22.2mm x 19.1mm Max
- **Current Rating:** Over 22Apk
- **Inductance Range:** 5.8µH to 57µH
- **DCR Tolerance:** ±4%

Electrical Specifications @ 25°C — Operating Temperature -40°C to +130°C [1]

Part [6] Number	Inductance @0ADC (µH ±10%)	Inductance @Irated (µH TYP)	Irated[1] (ADC)	DCR (mΩ ±8%)	Saturation[2] Current Isat (A TYP)		Heating[3] Current IDC (A TYP)	Core Loss Factor K2
					25°C	100°C		
PA2050.582NL	5.8	5.8	14.4	4.4	22	17	14.4	155
PA2050.782NL	7.8	7.8	13.3	5.1	18	16	13.3	181
PA2050.103NL	10.2	10.2	12.5	5.8	16	15	12.5	206
PA2050.163NL	16.0	16.0	9.9	9.1	12	11	9.9	258
PA2050.193NL	19.4	19.4	8.5	12.6	11	10	8.5	284
PA2050.233NL	23.0	23.0	8.0	13.7	9.8	8	8.1	310
PA2050.273NL	27.0	26.2	7.8	14.9	9	8	7.8	335
PA2050.313NL	31.4	30.6	6.7	20.2	8.4	8	6.7	361
PA2050.363NL	36.0	35.2	6.0	21.6	8	6	6.5	387
PA2050.393NL	38.9	37.5	6.0	18.8	6.3	6	6.2	482
PA2050.413NL	41.0	40.0	6.0	23.1	7.3	6	6.2	413
PA2050.583NL	57.8	57.8	5.0	34.5	6.2	5	5.1	490

NOTES:

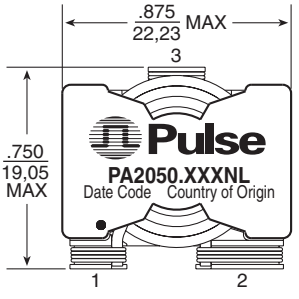
1. The rated current as listed is either the saturation current or the heating current depending on which value is lower.
2. The saturation current is the typical current which causes the inductance to drop by 20% at the stated ambient temperatures (25°C and 100°C). This current is determined by placing the component in the specified ambient environment and applying a short duration pulse current (to eliminate self-heating effects) to the component.
3. The heating current is the DC current which causes the part temperature to increase by approximately 40°C.
4. In high volt*time applications, additional heating in the component can occur due to core losses in the inductor which may neccessitate derating the current in order to limit the temperature rise of the component. To determine the approximate total losses (or temperature rise) for a given application, the coreloss and temperature rise formula can be used:

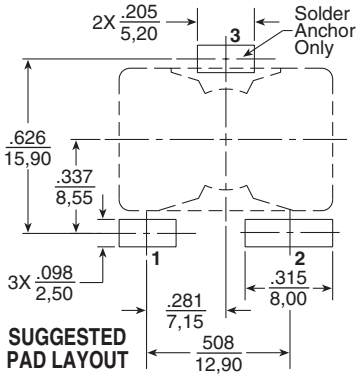
   ΔB (Gauss) = K2 * ΔI

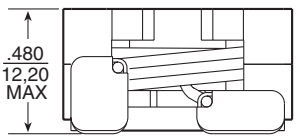
   Core Loss (W) = 1.5E-13 * (Freq_kHz)$^{1.63}$ * ΔB$^{2.62}$

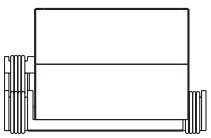
5. The temperature of the component (ambient plus temperature rise) must be within the stated operating temperature range.

Mechanical

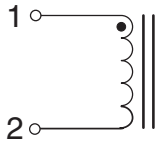






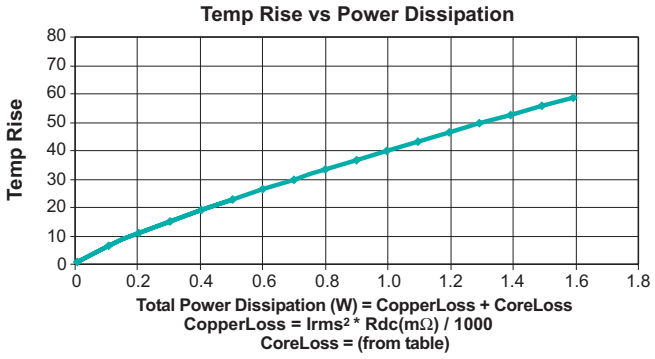


Schematic



Dimensions: Inches / mm

Unless otherwise specified, all tolerances are ± .010 / 0,25



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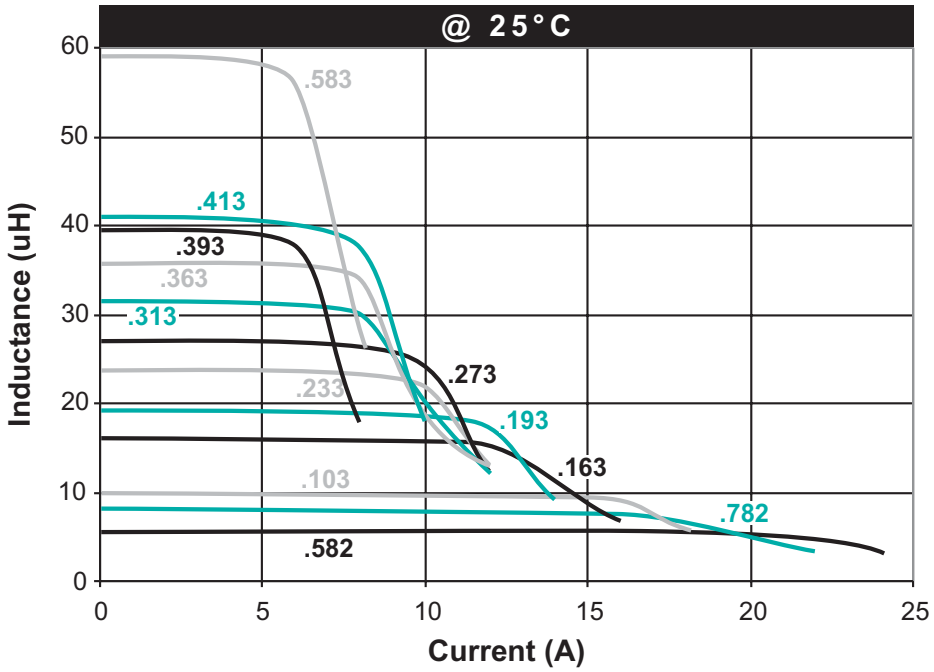
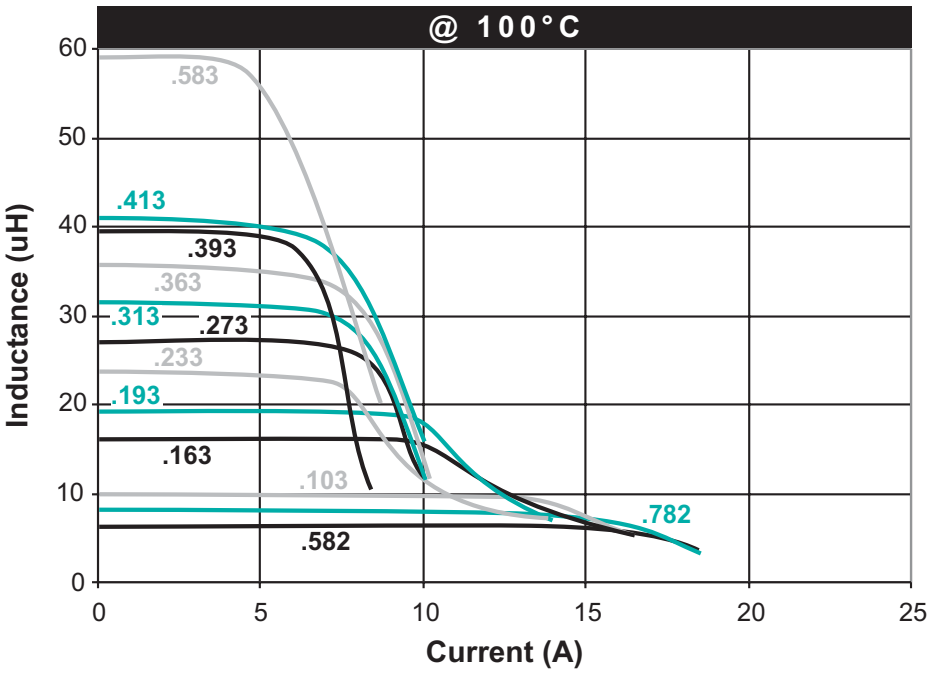
Inductance vs Current Characteristics





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