SMT POWER INDUCTORS

Military/Aerospace Grade

PRELIMINARY DATASHEET

- Variety of package sizes available
- Epoxy- bonded core and leads
- Storage Temperature: -55°C to +155°C
- Tin/Lead Finish: Sn63/Pb37

Electrical Specification @ 25°C, Operating Temperature:-55°C to +155°C

Part Number	Inductance @ Irated (µH)	Irated (A)	DCR (mΩ)		Inductance @ 0ADC (µH)	Reference ET (Volt-µsec)	Flux Density Factor (K1)	Core Loss Factor (K2)	Temp. Rise Factor (K3)	Package
			TYP	MAX						
PL3059	50	2.60	113.05	133	72.9	10.5	0.19	4.52E-10	67.9	LCI-50
PL3060	114	0.94	365	405	167	10	0.23	1.39E-10	148.0	LCI-30
PL3061	4.9	7.80	10.54	12.4	7.9	3.04	0.67	3.35E-10	85.7	LCI-44

NOTES:

1. Reference values are for an inductor with a 55°C temperature rise. The core loss is 10% of the copper loss at the ET listed and 500kHz.
2. Core does not saturate abruptly. The ET and DC current are limited by the desired inductance and temperature rise.
3. In high volt-time applications, additional heating in the component can occur due to core losses in the inductor which may necessitate derating the current in order to limit the temperature rise of the component. In order to determine the approximate total losses (or temperature rise) for a given application, both copper and core losses should be taken into account.

Estimated Temperature Rise:

$$\text{Trise} = K3 * (\text{Coreloss(W)} + \text{Copperloss(W)})^{.833} \text{ (C)}$$

$$\text{CopperLoss} = \text{Irms}^2 * \text{DCR\_Typical (m}\Omega) / 1000$$

$$\text{CoreLoss} = K2 * (\text{Freq\_kHz})^{1.26} * (\Delta B)^{2.11}$$

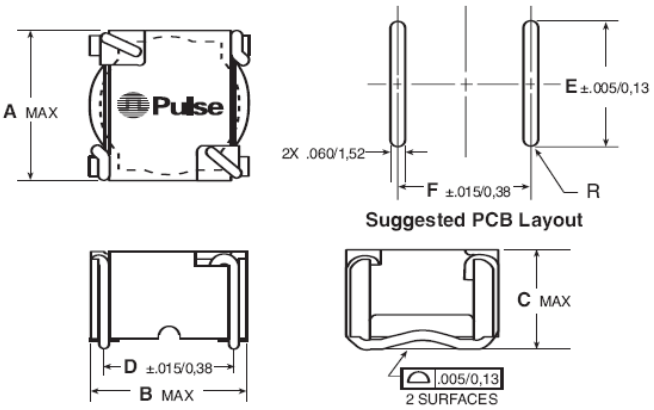
$$\Delta B = K1 * \text{Volt-µsec} * 100$$

4. Optional Tape & Reel packaging can be ordered by adding a "**T**" suffix to the part number (i.e. PL3059 becomes PL3059T).
5. The "**NL**" suffix indicates an RoHS-compliant part number. Non-NL suffixed parts are not necessarily RoHS compliant, but are electrically and mechanically equivalent to NL versions. If a part number does not have the "**NL**" suffix, but an RoHS compliant version is required, please contact Pulse for availability.
6. The temperature of the component (ambient plus temperature rise) must be within the stated operating temperature range.

Mechanical

PL30XX

Low Current Inductors (LCI)

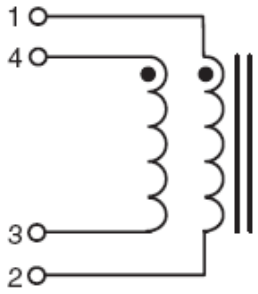


PKG	A	B	C	D	E	F
LCI-30	.435 / 11,05	.440 / 11,18	.360 / 9,14	.350 / 8,89	.400 / 10,16	.360 / 9,14
LCI-44	.600 / 15,24	.620 / 15,75	.390 / 9,91	.500 / 12,70	.550 / 13,97	.500 / 12,70
LCI-50	.670 / 17,02	.700 / 17,78	.390 / 9,91	.580 / 14,73	.620 / 15,75	.590 / 14,99

Dimensions: Inches / mm

Schematic

PL30XX



For More Information

Pulse North America Headquarters
Two Pearl Buck Court
Bristol, PA 19007
U.S.A.
Tel: 215 781 6400
Fax: 215 781 6403

Pulse Europe
Einsteinstrasse 1
D-71083 Herrenberg
Germany
Tel: 49 7032 7806 0
Fax: 49 7032 7806 135

Pulse China Headquarters
B402, Shenzhen Academy of Aerospace Technology Bldg.
10th Kejinan Road
High-Tech Zone
Nanshan District
Shenzen, PR China
518057
Tel: 86 755 33966678
Fax: 86 755 33966700

Pulse North China
Room 2704/2705
Super Ocean Finance Ctr. 2067 Yan An Road West
Shanghai 200336
China
Tel: 86 21 62787060
Fax: 86 2162786973

Pulse South China
135 Joo Seng Road
#03-02
PM Industrial Bldg
Singapore 368363
Tel: 65 6287 8998
Fax: 65 6287 8998

Pulse North Asia
3F, No 198
Zhongyuan Road
Zhongli City
Taoyuan County 320
Taiwan R.O.C
Tel: 886 3 4356768
Fax: 886 3 4356823 (Pulse)
Fax: 886 3 4356820 (FRE)