THT POWER INDUCTORS

Power Cube Inductors - PG0220NL Series







Height: 8mm Max

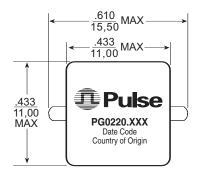
Footprint: 15.5mm x 11mm Max

Current Rating: up to 50Apk

Inductance Range: 0.14μH to 2.25μH

Electrical Specifications @ 25° C — Operating Temperature - 40° C to + 125° C 1										
Part ⁸ Number	Inductance @Irated² (μΗ ΤΥΡ)	Irated ³ (A)	DCR (mΩ)		Inductance @0Apc	Saturation⁴ Current	Heating⁵ Current loc	" Z "	Core Loss ⁶ Factor	
			TYP	MAX	(μH ±15%)	Isat (A)	(A)	(REF)	(K1)	(K2)
PG0220.151NL	0.14	38.7	0.70	0.80	0.15	50	38.7	.063/1.6	1.14E-09	17.27
PG0220.281NL	0.25	38.7	0.70	0.80	0.28	45	38.7	.063/1.6	1.14E-09	32.24
PG0220.351NL	0.32	25.5	1.66	1.85	0.35	45	25.5	.051/1.3	1.14E-09	28.79
PG0220.451NL	0.41	25.5	1.66	1.85	0.45	35	25.5	.051/1.3	1.14E-09	37.01
PG0220.601NL	0.54	20.2	2.50	2.80	0.60	35	20.2	.043/1.1	1.14E-09	38.38
PG0220.801NL	0.72	20.2	2.50	2.80	0.80	25	20.2	.043/1.1	1.14E-09	51.18
PG0220.102NL	0.90	16.5	3.80	4.10	1.00	20	16.5	.039/1.0	1.14E-09	52.34
PG0220.132NL	1.17	16.5	3.80	4.10	1.30	20	16.5	.039/1.0	1.14E-09	68.04
PG0220.152NL	1.35	15.3	4.50	4.80	1.50	18	15.3	.039/1.0	1.14E-09	66.43
PG0220.182NL	1.62	15.3	4.50	4.80	1.80	18	15.3	.039/1.0	1.14E-09	79.72
PG0220.222NL	1.98	14.0	5.30	5.50	2.20	16	14.0	.039/1.0	1.14E-09	84.44
PG0220.252NL	2.25	14.0	5.30	5.50	2.50	16	14.0	.039/1.0	1.14E-09	95.95

Mechanical Schematic

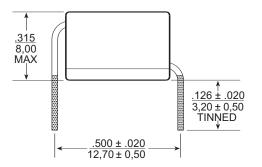


Weight4 grams TYP Tray90/tray

20

Dimensions: Inches mm

Unless otherwise specified, all tolerances are ± .010



Ø Z REF.

SUGGESTED PAD LAYOUT

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Notes from Tables

- 1. The temperature of the component (ambient plus temperature rise) must be within the specified operating temperature range.
- Inductance at Irated is a typical inductance value for the component taken at rated current.
- The rated current listed is the lower of the saturation current @ 25°C or the heating current.
- 4. The saturation current, Isat, is the current at which the component inductance drops by 10% (typical) at an ambient temperature of 25°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.
- 5. The heating current, IDC, is the DC current required to raise the component temperature by approximately 40°C. The heating current is determined by mounting the component on a typical PCB and applying current for 30 minutes. The temperature is measured by placing the thermocouple on top of the unit under test. Take note that the component's performance varies depending on the system condition. It is suggested that the component

be tested at the system level, to verify the temperature rise of the component during system operation.

6. Core loss approximation is based on published core data:

Core Loss = K1 * $(f)^{1.48}$ * $(K2\Delta I)^{1.97}$ Where: Core Loss = in Watts f = switching frequency in kHz

K1 & K2 = core loss factors

ΔI = delta I across the component in Ampere

K2ΔI = one half of the peak to peak flux density

across the component in Gauss

- 7. Unless otherwise specified, all testing is made at 100kHz, 0.1VAC.
- 8. 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.

Typical Inductance vs DC Bias Current Characteristics

