SMT POWER INDUCTORS
Flat Coils - PG0077NL and PG0084NL Series

Pulse
A TECHNITROL COMPANY

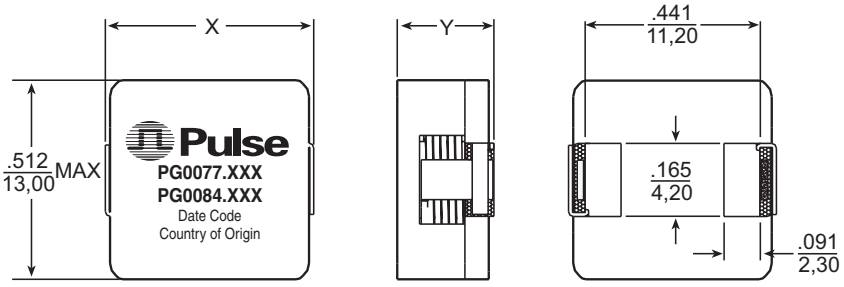
RoHS COMPLIANT

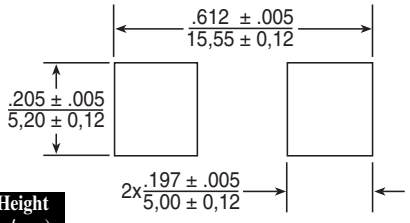
- **Height:** 6.5mm Max (PG0077) and 4.40mm Max (PG0084)
- **Footprint:** 14.5mm x 13.0mm Max
- **Current Rating:** up to 45A
- **Inductance Range:** 0.38µH to 2.65µH

Electrical Specifications @ 25°C — Operating Temperature -40°C to +95°C [1]

Part[8,9] Number	Inductance[2] @Irated (µH TYP)	Irated[3] (A)	DCR (mΩ) TYP	DCR (mΩ) MAX	Inductance @0ADC (µH ±20%)	Saturation[4] Current Isat (A)	Heating[5] Current IDC (A)	Core Loss[6] Factor K1	Core Loss[6] Factor K2
PG0077.401NL	0.34	45	0.75	0.80	0.45	48	45	1.68E-9	33.5
PG0077.801NL	0.68	35	1.20	1.30	0.80	38	35	1.68E-9	42.5
PG0077.142NL	1.16	27	2.00	2.10	1.40	28	27	1.68E-9	57.8
PG0077.202NL	1.66	23	2.80	2.90	2.00	24	23	1.68E-9	67.6
PG0077.282NL	2.32	19	4.10	4.20	2.80	20	19	1.68E-9	80.1
PG0084.351NL	0.28	40	1.30	1.80	0.35	40	61	1.27E-9	28.7
PG0084.651NL	0.52	32	2.30	2.80	0.65	32	45	1.27E-9	38.1
PG0084.112NL	0.88	24	3.60	4.20	1.10	24	34	1.27E-9	50.1

Mechanical

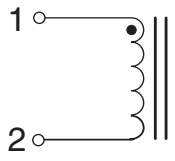




SUGGESTED PAD LAYOUT

Part Number	Max. Length "X" (in./mm)	Max. Height "Y" (in./mm)	Max. Height "Z" (in./mm)
PG0077.401	.571/14,50	.256/6,50	.276/7,00
PG0077.801	.571/14,50	.256/6,50	.276/7,00
PG0077.142	.551/14,00	.256/6,50	.276/7,00
PG0077.202	.551/14,00	.256/6,50	.276/7,00
PG0077.282	.551/14,00	.256/6,50	.276/7,00
PG0084.351	.551/14,00	.173/4,40	.173/4,40
PG0084.651	.551/14,00	.173/4,40	.173/4,40
PG0084.112	.543/13,80	.173/4,40	.173/4,40

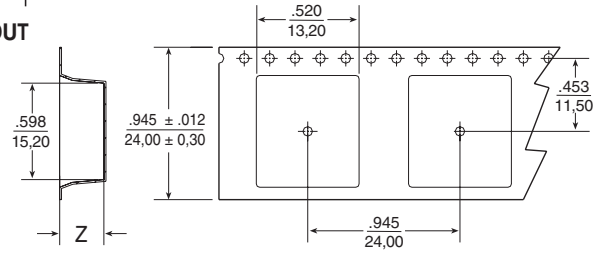
Schematic



	PG0077	PG0084
Weight	5.5 grams	3.5 grams
Tape & Reel	300/reel	400/reel

Dimensions: Inches / mm

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



TAPE & REEL LAYOUT

Notes from Tables

1. The temperature of the component (ambient plus temperature rise) must be within the standard operating temperature range.
2. Inductance at Irated is a typical inductance value for the component taken at rated current.
3. The rated current listed is the lower of the saturation current @ 25°C or the heating current.
4. The saturation current, I_{SAT}, is the current at which the component inductance drops by 20% (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, I_{DC}, 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 = $K1 * (f)^{1.035} * (K2\Delta I)^{2.263}$

   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. Optional Tape & Reel packaging can be ordered by adding a "**T**" suffix to the part number (i.e. PG0077.401NL becomes PG0077.401NL**T**). Pulse complies to industry standard tape and reel specification EIA481.
9. 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.

Inductance vs Current Characteristics