






SMT POWER INDUCTORS

Flat Coils - PG0377 Series



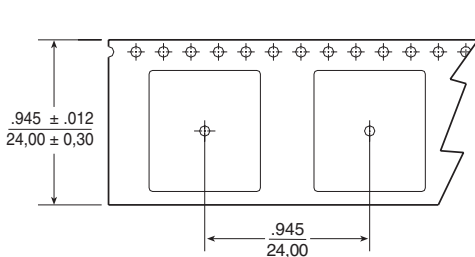
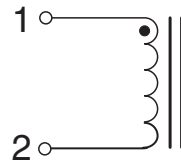
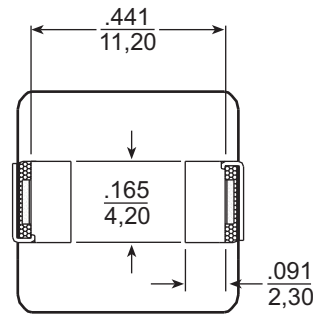
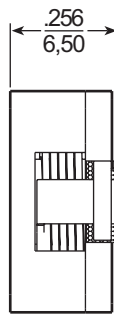
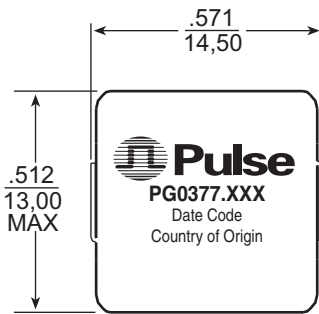
-  **Height:** 6.5mm Max
-  **Footprint:** 14.5mm x 13.0mm Max
-  **Current Rating:** up to 35A
-  **Inductance Range:** 0.16μH to 2.65μH
-  **RoHS Compliant:** Refer to Note 9

Electrical Specifications @ 25°C — Operating Temperature -40°C to +95°C¹

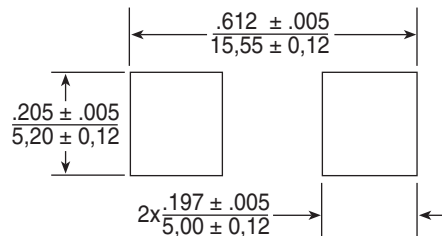
Part ^{8,9} Number	Inductance ² @I _{rated} (μH TYP)	I _{rated} ³ (A)	DCR (mΩ)		Inductance @0A _{dc} (μH ±20%)	Saturation ⁴ Current I _{sat} (A)	Heating ⁵ Current I _{hc} (A)	Core Loss ⁶ Factor		Capacitance ¹⁰ (pF TYP)
			TYP	MAX				K1	K2	
PG0377.181	0.16	48	0.40	0.50	0.18	60	48	1.68E-9	22.3	20
PG0377.401	0.38	35	0.75	0.80	0.45	48	35	1.68E-9	33.5	24
PG0377.801	0.75	31	1.20	1.30	0.80	38	31	1.68E-9	42.5	25
PG0377.142	1.32	26	2.00	2.10	1.40	28	26	1.68E-9	57.8	26
PG0377.202	1.90	21	2.80	2.90	2.00	24	21	1.68E-9	67.6	31
PG0377.282	2.65	17	4.10	4.20	2.80	20	17	1.68E-9	80.1	36

Mechanical

Schematic



TAPE & REEL LAYOUT



SUGGESTED PAD LAYOUT

Weight.....5.5 grams
Tape & Reel300/reel

Dimensions: Inches
mm
Unless otherwise specified,
all tolerances are ± .010
0,25

SMT POWER INDUCTORS

Flat Coils - PG0377 Series



Notes from Tables

1. The temperature of the component (ambient plus temperature rise) must be within the standard operating temperature range.
2. Inductance at I_{rated} 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:

$$\text{Core Loss} = K1 * (f)^{1.035} * (K2\Delta I)^{2.263}$$

Where: **Core Loss** = in Watts

f = switching frequency in kHz

K1 & K2 = core loss factors

ΔI = delta I across the component in Ampere

K2 ΔI = one half of the peak to peak flux density across the component in Gauss

7. Unless otherwise specified, all testing is made at 100kHz, 0.1V_{ac}.
8. Optional Tape & Reel packaging can be ordered by adding a "T" suffix to the part number (i.e. PG0377.401 becomes PG0377.401T). Pulse complies to industry standard tape and reel specification EIA481.
9. RoHS compliant parts are available. Order RoHS compliant parts by adding the suffix "NL" to the part number (i.e. PG0377.401 becomes PG0377.401NL and PG0377.401T becomes PG0377.401NLT).
10. The capacitance of the inductor is a typical value measured at 100kHz, 0.1V_{rms} using the HP Impedance Analyzer 4192A between the inductor terminals and the exposed portion of the E-core (Fig.1).
11. **DIELECTRIC WITHSTAND VOLTAGE:** 150V_{DC} between the inductor terminals and the exposed portion of the E-core (Fig.1).
12. **INSULATION RESISTANCE:** 500k Ω MIN, when measured from the inductor terminals to the exposed portion of the E-core (Fig.1).

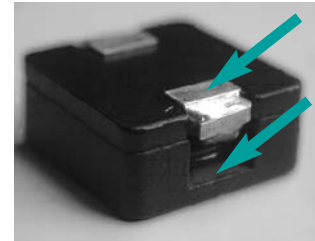
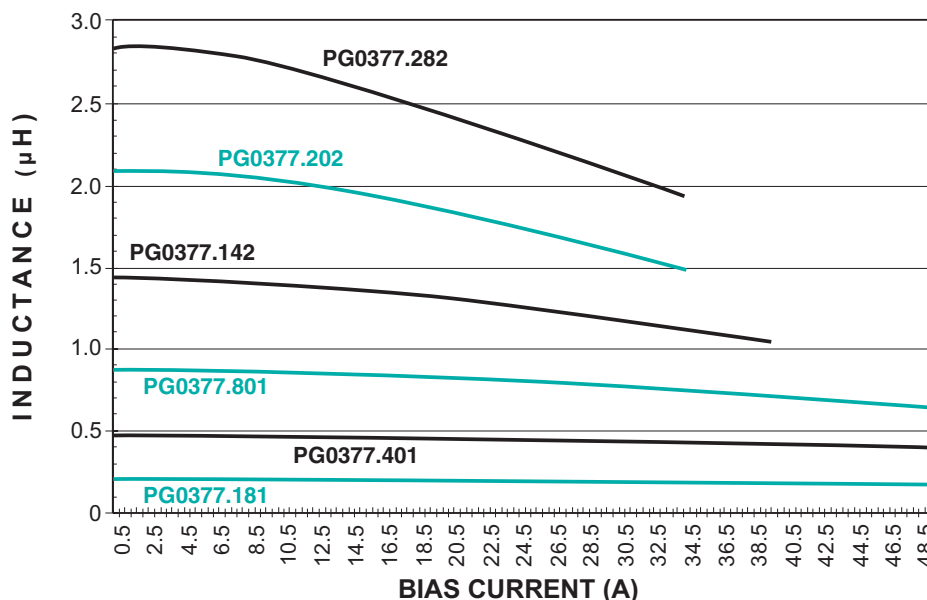


Figure 1

Inductance vs Current Characteristics

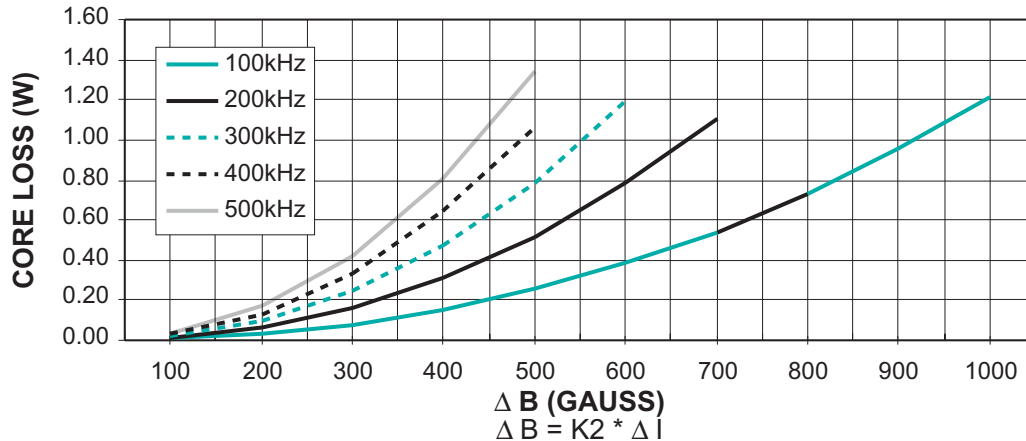


SMT POWER INDUCTORS

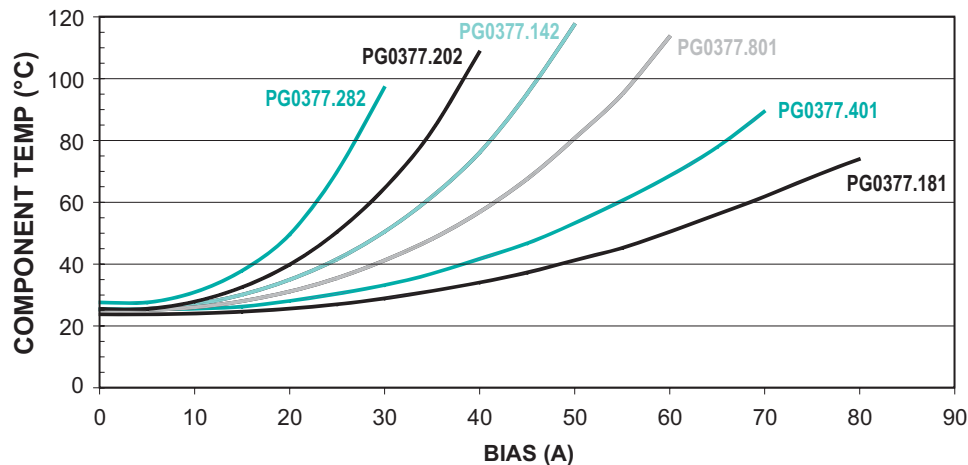
Flat Coils - PG0377 Series



Typical Core Loss vs Peak Flux Density



Typical Component Temperature vs DC Bias Current



For More Information:

Pulse Worldwide Headquarters

12220 World Trade Dr.
San Diego, CA 92128
U.S.A.

www.pulseeng.com

TEL: 858 674 8100

FAX: 858 674 8262

Pulse Europe

Einsteinstrasse 1
D-71083 Herrenberg
Germany

Tel: 49 7032 7806 116

Fax: 49 7032 7806 135

Pulse China Headquarters

No. 1
Industrial District
Changan, Dongguan
China

Tel: 86 769 85538070

Fax: 86 769 85538870

Pulse North China

Room 1503
XinYin Building
No. 888 YiShan Rd.
Shanghai 200233
China

Tel: 86 21 54643211/2

Fax: 86 21 54643210

Pulse South Asia

150 Kampong Ampat
#07-01/02
KA Centre
Singapore 368324

Tel: 65 6287 8998

Fax: 65 6280 0080

Pulse North Asia

No. 26
Kao Ching Rd.
Yang Mei Chen
Taoyuan Hsien
Taiwan, R. O. C.

Tel: 886 3 4641811

Fax: 886 3 4641911

Performance warranty of products offered on this data sheet is limited to the parameters specified. Data is subject to change without notice. Other brand and product names mentioned herein may be trademarks or registered trademarks of their respective owners.

© Copyright, 2006. Pulse Engineering, Inc. All rights reserved.

www.pulseeng.com

P634.C (1/07)