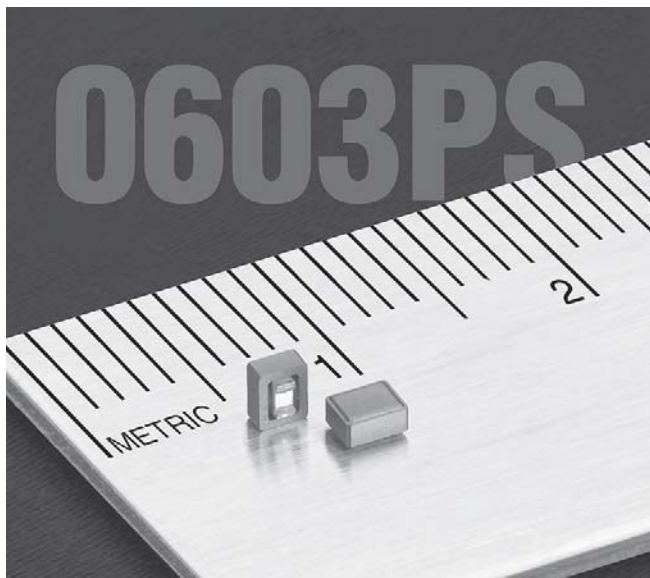




# Power Chip Inductors – 0603PS Series



- Shielded power chip inductors
- Excellent current handling for a part this size

For new designs, we recommend the EPL2010, EPL2014 or LPS3010 as an alternative to this series. They all offer better current handling, lower DCR and a lower profile. The EPL series also offers a smaller footprint. We will continue to manufacture and support the 0603PS.

## S-Parameter files

ON OUR WEB SITE OR CD

## SPICE models

ON OUR WEB SITE OR CD

Part number <sup>1</sup>	$L \pm 10\%^2$ ( $\mu\text{H}$ )	$Q_{\text{min}}^3$ at 1MHz	DCR <sup>4</sup> max (Ohms)	SRF <sup>5</sup> typ (MHz)	Isat <sup>6</sup> (A)	Irms <sup>7</sup> (A)
0603PS-781KL_	0.78	15	0.24	475	0.55	1.30
0603PS-102KL_	1.0	15	0.26	390	0.40	1.00
0603PS-182KL_	1.8	15	0.54	155	0.39	0.70
0603PS-222KL_	2.2	15	0.75	245	0.33	0.60
0603PS-272KL_	2.7	15	0.75	127	0.33	0.55
0603PS-332KL_	3.3	15	0.88	72	0.32	0.50
0603PS-392KL_	3.9	15	1.00	72	0.27	0.48
0603PS-472KL_	4.7	15	1.08	64	0.26	0.47
0603PS-562KL_	5.6	15	1.23	51	0.25	0.41
0603PS-682KL_	6.8	15	1.37	39	0.23	0.40
0603PS-822KL_	8.2	20	1.43	30	0.22	0.39
0603PS-103KL_	10	20	1.60	30	0.21	0.38
0603PS-153KL_	15	20	1.92	22	0.16	0.35
0603PS-223KL_	22	20	2.96	16	0.13	0.27
0603PS-333KL_	33	20	5.63	12	0.10	0.20
0603PS-473KL_	47	20	5.69	12	0.10	0.18

1. When ordering, please specify **termination** and **packaging** codes:

0603PS-473K L C

**Termination:** L = RoHS compliant silver-palladium-platinum-glass frit.  
Special order: T = RoHS tin-silver-copper (95.5/4/0.5)  
or S = non-RoHS tin-lead (63/37).

**Packaging:** C = 7" machine-ready reel. EIA-481 embossed plastic tape (2000 parts per full reel).  
B = Less than full reel. In tape, but not machine ready.  
To have a leader and trailer added (\$25 charge), use code letter C instead.

D = 13" machine-ready reel. EIA-481 embossed plastic tape (7500 parts per full reel).

2. Inductance measured at 100 kHz, 0.1 Vrms, using a Coilcraft SMD-A fixture in an Agilent/HP 4263B LCR meter.
  3. Q measured on an Agilent/HP 4291 with an Agilent/HP 16193 test fixture.
  4. DCR measured on a micro-ohmmeter and a Coilcraft CCF840 test fixture.
  5. SRF measured using an Agilent/HP 8753D network analyzer and a Coilcraft SMD-D test fixture.
  6. DC current at which the inductance drops 10% (typ) from its value without current.
  7. Current that causes a 40°C temperature rise from 25°C ambient.
  8. Electrical specifications at 25°C.
- Refer to Doc 362 "Soldering Surface Mount Components" before soldering.

# Coilcraft®

Specifications subject to change without notice.  
Please check our website for latest information.

Document 266-1 Revised 08/17/09

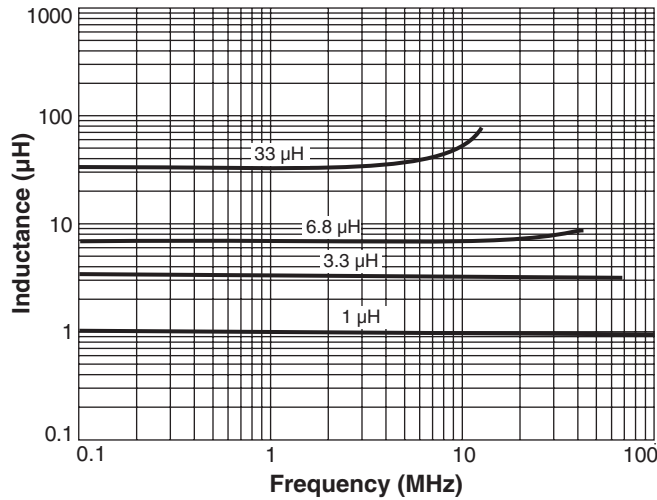
1102 Silver Lake Road Cary, Illinois 60013 Phone 847/639-6400 Fax 847/639-1469

E-mail [info@coilcraft.com](mailto:info@coilcraft.com) Web <http://www.coilcraft.com>

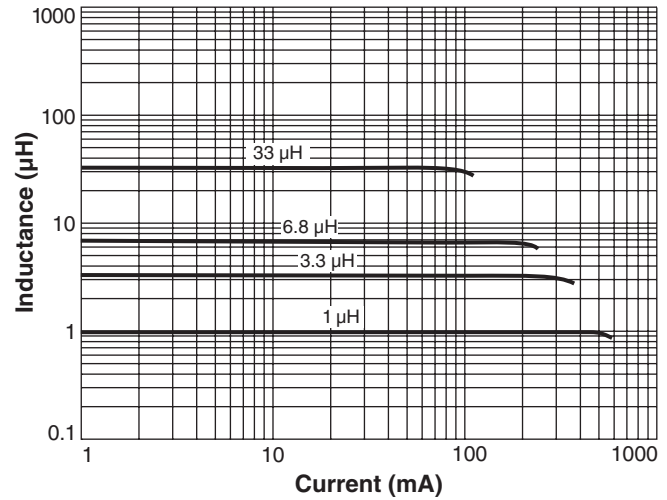


# Power Chip Inductors - 0603PS Series

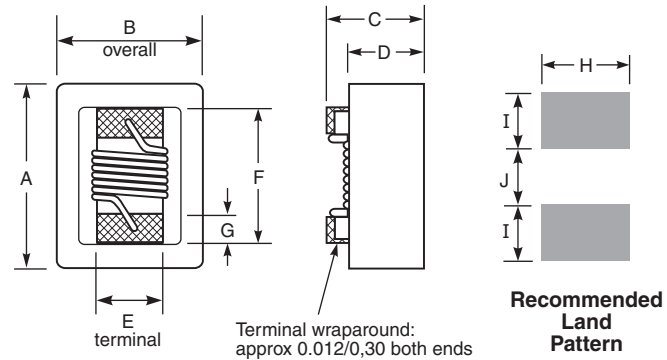
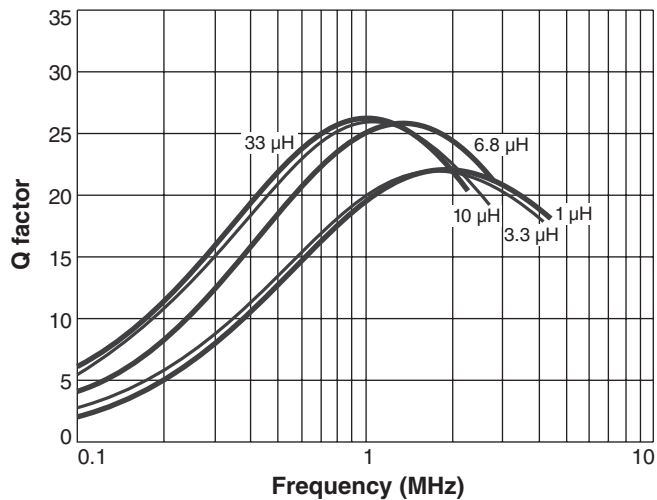
## Typical L vs Frequency



## Typical L vs Current

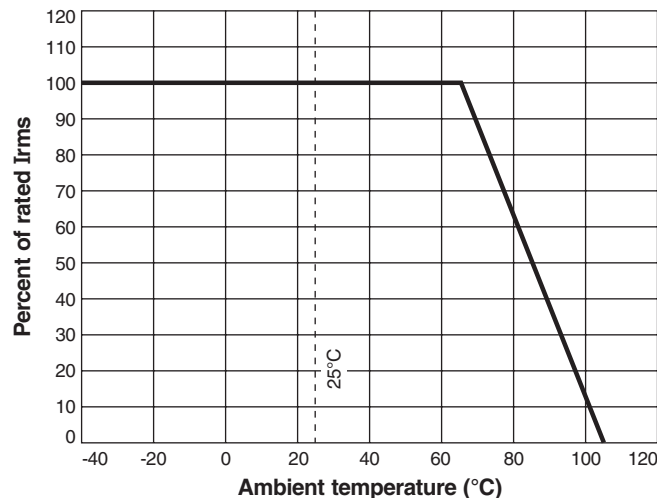


## Typical Q vs Frequency



A	B	C	D	E	F	G	H	I	J	
max	max	max								inches
0.102	0.082	0.071	0.049	0.030	0.060	0.013	0.040	0.025	0.025	
2,59	2,08	1,80	1,24	0,76	1,52	0,33	1,02	0,64	0,64	mm

## Irms Derating



- Core material** Ceramic/Ferrite
- Core and winding loss** See [www.coilcraft.com/coreloss](http://www.coilcraft.com/coreloss)
- Terminations** RoHS compliant silver-palladium-platinum-glass frit. Other terminations available at additional cost.
- Weight** 26.4 – 27.9 mg
- Ambient temperature** -40°C to +65°C with I<sub>rms</sub> current, +65°C to +105°C with derated current
- Storage temperature** Component: -40°C to +105°C. Packaging: -40°C to +80°C
- Resistance to soldering heat** Max three 40 second reflows at +260°C, parts cooled to room temperature between cycles
- Temperature Coefficient of Inductance (TCL)** +50 to +150 ppm/°C
- Moisture Sensitivity Level (MSL)** 1 (unlimited floor life at <30°C / 85% relative humidity)
- Failures in Time (FIT) / Mean Time Between Failures (MTBF)** 38 per billion hours / 26,315,789 hours, calculated per Telcordia SR-332
- Packaging** 2000/7" reel; 7500/13" reel Plastic tape: 8 mm wide, 0.23 mm thick, 4 mm pocket spacing, 1.8 mm pocket depth
- PCB washing** Only pure water or alcohol recommended



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Document 266-2 Revised 08/17/09

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