



# SMT Power Inductors – DO2010



- Smallest power inductor, only 2 mm square and 1 mm high
- Can handle up to 0.51 A of saturating current

**Designer's Kit C399** contains 5 of each part

**Core material** Ferrite

**Core and winding loss** See [www.coilcraft.com/coreloss](http://www.coilcraft.com/coreloss)

**Terminations** RoHS compliant matte tin over nickel over silver-platinum-glass frit. Other terminations available at additional cost.

**Weight** 11 mg

**Ambient temperature** -40°C to +85°C with Irms current, +85°C to +125°C with derated current

**Storage temperature** Component: -40°C to +125°C.

Tape and reel 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

**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** 1000/7" reel; 3500/13" reel Plastic tape: 12 mm wide, 0.23 mm thick, 4 mm pocket spacing, 1.19 mm pocket depth

**PCB washing** Tested with pure water or alcohol only. For other solvents, see Doc787\_PCB\_Washing.pdf.

Part number <sup>1</sup>	Inductance ±20% <sup>2</sup> (µH)	DCR max <sup>3</sup> (Ohms)	SRF typ <sup>4</sup> (MHz)	Isat <sup>5</sup> (A)	Irms <sup>6</sup> (A)
DO2010-123ML_	12	1.84	35	0.51	0.39
DO2010-153ML_	15	2.14	30	0.47	0.36
DO2010-223ML_	22	2.80	25	0.42	0.32
DO2010-333ML_	33	4.10	20	0.34	0.25
DO2010-473ML_	47	6.00	16	0.28	0.21
DO2010-683ML_	68	8.80	13	0.23	0.16
DO2010-104ML_	100	15.7	11	0.18	0.13
DO2010-224ML_	220	38.0	8.0	0.10	0.08

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

#### DO2010-123MLC

**Termination:** L = RoHS compliant matte tin over nickel over silver-platinum-glass frit

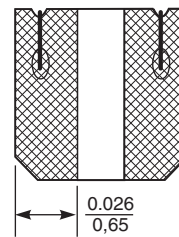
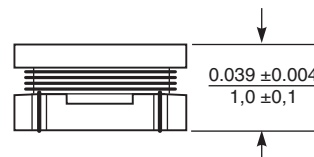
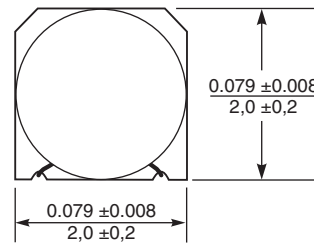
**Special order:** T = RoHS tin-silver-copper (95.5/4/0.5) or S = non-RoHS tin-lead (63/37).

**Packaging:** C = 7" machine-ready reel. EIA-481 embossed plastic tape (1000 parts per full reel).

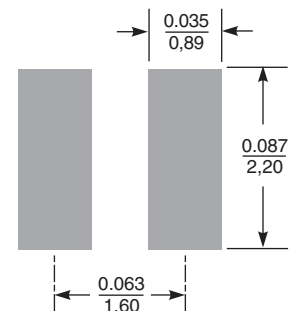
**B** = Less than full reel. In tape, but not machine ready. To have a leader and trailer added (\$25 charge), use code letter C instead.

**D** = 13" machine-ready reel. EIA-481 embossed plastic tape. Factory order only, not stocked (3500 parts per full reel).

- Inductance tested at 100 kHz, 0.1 Vrms.
  - DCR measured on a micro-ohmmeter.
  - SRF measured using Agilent/HP 4191A or equivalent.
  - DC current at which the inductance drops 10% (typ) from its value without current.
  - Current that causes a 40°C temperature rise from 25°C ambient.
  - Electrical specifications at 25°C.
- Refer to Doc 362 "Soldering Surface Mount Components" before soldering.



#### Recommended Land Pattern



Dimensions are in  $\frac{\text{inches}}{\text{mm}}$



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Document 413-1 Revised 12/27/10

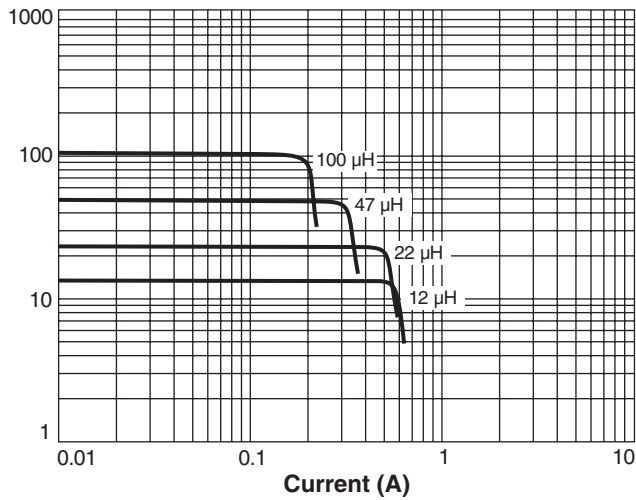
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This product may not be used in medical or high risk applications without prior Coilcraft approval. Specification subject to change without notice. Please check web site for latest information.

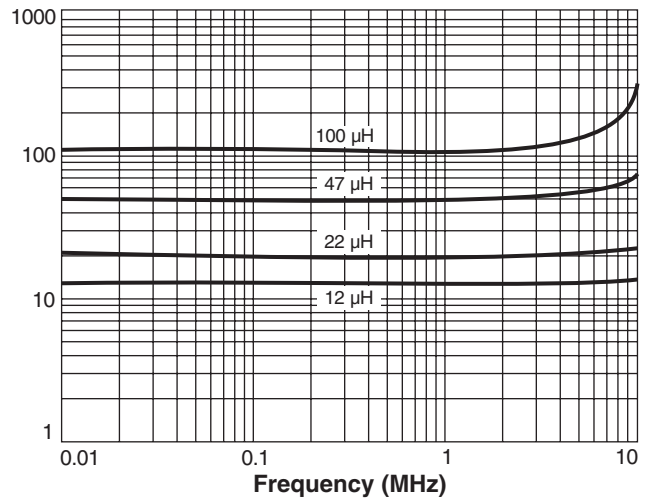


# SMT Power Inductors – DO2010 Series

## Typical L vs Current



## Typical L vs Frequency



## Typical Current Derating

