



# HIGH TEMPERATURE

# Shielded Power Inductors – XAL1010



- High current – up to 98.8 A
- Very low DCR – 0.33 mOhms
- Soft saturation makes them ideal for VRM/VRD applications.

**Core material** Composite

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

**Environmental** RoHS compliant, halogen free

**Terminations** RoHS compliant tin-silver (96.5/3.5) over copper. Other terminations available at additional cost.

**Weight** 5.7 – 6.3 g

**Ambient temperature** –40°C to +125°C with Irms current, +125°C to +165°C with derated current.

**Storage temperature** Component: –40°C to +165°C.

Tape & 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** 300/13" reel Plastic tape: 24 mm wide, 0.4 mm thick, 16 mm pocket spacing, 10.21 mm pocket depth

**PCB washing** Only pure water or alcohol recommended

Part number <sup>1</sup>	Inductance <sup>2</sup> ±20% (µH)	DCR (mOhms) <sup>3</sup>		SRF typ <sup>4</sup> (MHz)	Isat <sup>5</sup> (A)	Irms (A) <sup>6</sup>	
		typ	max			20°C rise	40°C rise
XAL1010-221ME_	0.22	0.45	0.50	115	98.8	41.0	55.5
XAL1010-451ME_	0.45	0.65	0.72	66	70.5	40.0	53.0
XAL1010-681ME_	0.68	0.87	0.96	53	62.0	36.0	48.0
XAL1010-102ME_	1.0	1.00	1.10	42	55.0	32.0	43.5
XAL1010-152ME_	1.5	1.60	1.76	33	36.6	31.0	40.5
XAL1010-222ME_	2.2	2.55	2.80	22	34.0	24.5	32.0
XAL1010-332ME_	3.3	3.70	4.10	21	27.4	18.2	25.0
XAL1010-472ME_	4.7	5.20	5.70	19	25.4	17.5	24.0
XAL1010-562ME_	5.6	6.30	6.93	16	23.6	15.7	21.2
XAL1010-682ME_	6.8	8.10	8.90	14	21.8	14.0	18.5
XAL1010-822ME_	8.2	11.70	12.90	12	18.3	12.9	17.1
XAL1010-103ME_	10	13.40	14.75	11	17.5	11.5	15.5
XAL1010-153ME_	15	16.90	18.60	9	15.5	9.9	13.8

## Irms Testing

Irms testing was performed on 0.75 inch wide × 0.25 inch thick copper traces in still air.

Temperature rise is highly dependent on many factors including pcb land pattern, trace size, and proximity to other components. Therefore temperature rise should be verified in application conditions.

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

XAL1010-153MED

**Termination:** E = RoHS compliant tin-silver over copper.

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

**Packaging:** D = 13" machine-ready reel. EIA-481 embossed plastic tape (300 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 D instead.

2. Inductance tested at 100 kHz, 0.1 Vrms, 0 Adc.

3. DCR measured on a micro-ohmmeter.

4. SRF measured using Agilent/HP 4395A or equivalent.

5. DC current at which the inductance drops 30% (typ) from its value without current.

6. Current that causes the specified temperature rise from 25°C ambient.

7. Electrical specifications at 25°C.

Refer to Doc 362 "Soldering Surface Mount Components" before soldering.



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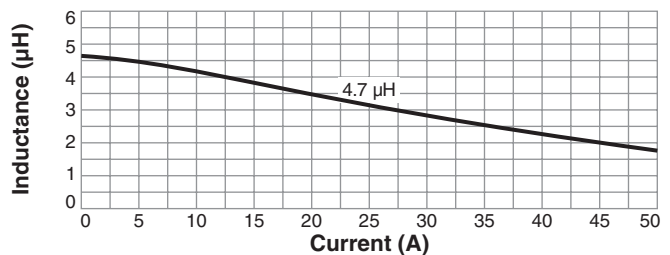
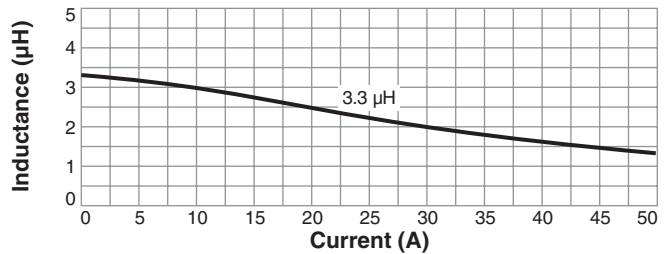
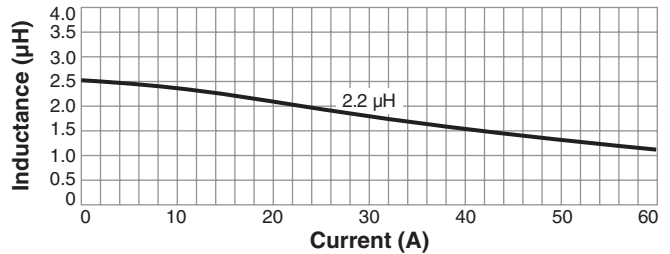
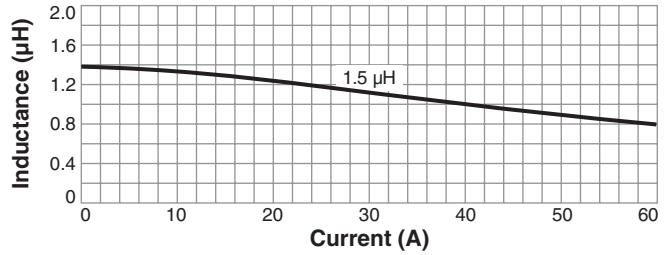
This product may not be used in medical or high risk applications without prior Coilcraft approval. Specification subject to change without notice. Please check web site for latest information.

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## Shielded Power Inductors – XAL1010

### Typical L vs Current

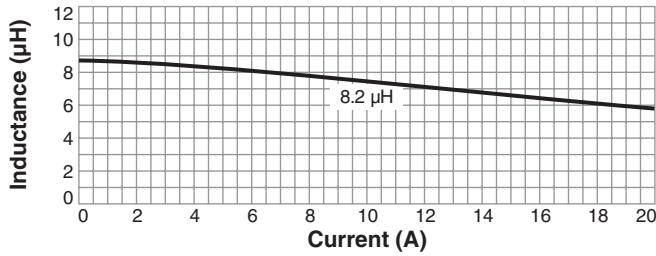
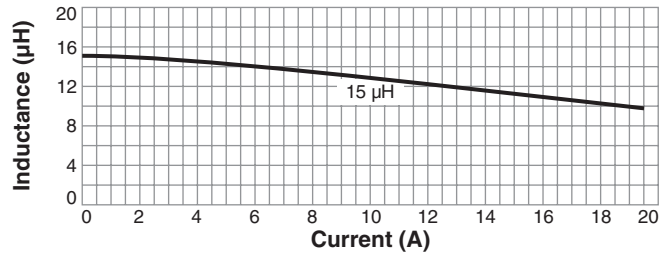
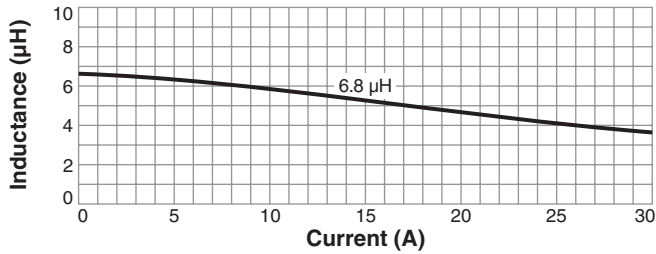
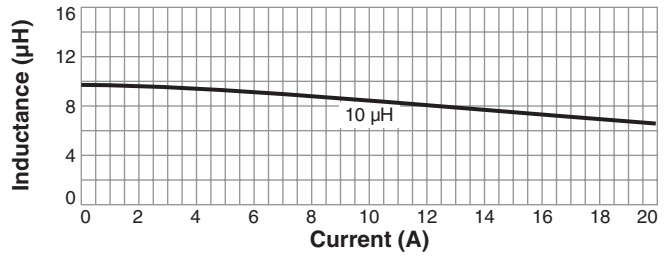


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## Shielded Power Inductors – XAL1010

### Typical L vs Current



# HIGH TEMPERATURE



## Shielded Power Inductors – XAL1010

### Typical L vs Frequency

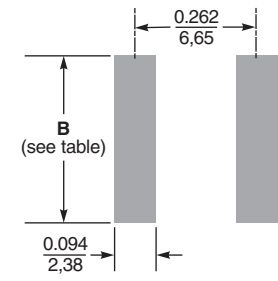


Dash number	A ±0.016 in ±0.40 mm (in / mm)	B (in / mm)
-221	0.394 / 10	0.445 / 11.31
-451	0.394 / 10	0.445 / 11.31
-681	0.394 / 10	0.445 / 11.31
-102	0.394 / 10	0.445 / 11.31
-152	0.386 / 9.8	0.421 / 10.71
-222	0.370 / 9.4	0.398 / 10.11
-332	0.354 / 9.0	0.374 / 9.51
-472	0.354 / 9.0	0.374 / 9.51
-562	0.354 / 9.0	0.374 / 9.51
-682	0.346 / 8.8	0.362 / 9.21
-822	0.335 / 8.5	0.351 / 8.91
-103	0.335 / 8.5	0.351 / 8.91
-153	0.335 / 8.5	0.351 / 8.91

### Irms Derating



### Recommended Land Pattern



Dimensions are in inches / mm

## Данный компонент на территории Российской Федерации

### Вы можете приобрести в компании MosChip.

Для оперативного оформления запроса Вам необходимо перейти по данной ссылке:

<http://moschip.ru/get-element>

Вы можете разместить у нас заказ для любого Вашего проекта, будь то серийное производство или разработка единичного прибора.

В нашем ассортименте представлены ведущие мировые производители активных и пассивных электронных компонентов.

Нашей специализацией является поставка электронной компонентной базы двойного назначения, продукции таких производителей как XILINX, Intel (ex.ALTERA), Vicor, Microchip, Texas Instruments, Analog Devices, Mini-Circuits, Amphenol, Glenair.

Сотрудничество с глобальными дистрибьюторами электронных компонентов, предоставляет возможность заказывать и получать с международных складов практически любой перечень компонентов в оптимальные для Вас сроки.

На всех этапах разработки и производства наши партнеры могут получить квалифицированную поддержку опытных инженеров.

Система менеджмента качества компании отвечает требованиям в соответствии с ГОСТ Р ИСО 9001, ГОСТ РВ 0015-002 и ЭС РД 009

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