



# HIGH TEMPERATURE

# Shielded Power Inductors – XAL7070



- High current and very low DCR
- AEC-200 Grade 1 qualified (–40°C to +125°C ambient)
- Soft saturation makes them ideal for VRM/VRD applications.

**Core material** Composite

**Environmental** RoHS compliant, halogen free

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

**Weight** 1.9 – 2.1g

**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 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** 150/7" reel, 750/13" reel Plastic tape: 16 mm wide, 0.3 mm thick, 12 mm pocket spacing, 7.21 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
XAL7070-161ME_	0.16	0.75	0.83	207	78.0	30.5	36.1
XAL7070-301ME_	0.30	1.06	1.17	135	55.6	26.1	33.4
XAL7070-551ME_	0.55	1.42	1.56	89	43.0	23.5	29.0
XAL7070-651ME_	0.65	1.75	1.93	74	40.0	21.0	26.5
XAL7070-801ME_	0.80	2.08	2.29	67	37.8	20.8	25.8
XAL7070-102ME_	1.0	2.55	2.81	64	34.8	20.0	25.0
XAL7070-122ME_	1.2	3.10	3.41	43	31.2	16.2	21.6
XAL7070-182ME_	1.8	4.05	4.46	43	25.0	15.8	21.0
XAL7070-222ME_	2.2	5.73	6.33	35	19.6	13.2	17.8
XAL7070-332ME_	3.3	8.56	9.42	32	19.4	11.5	15.1
XAL7070-472ME_	4.7	12.96	14.26	26	15.2	10.5	13.6
XAL7070-562ME_	5.6	13.67	15.03	21	13.0	8.5	11.4
XAL7070-682ME_	6.8	17.84	19.62	20	12.8	6.8	9.2

## 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 **packaging** code:

**XAL7070-682MEC**

**Packaging:** C = 7" machine-ready reel. EIA-481 embossed plastic tape (150 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.

D = 13" machine-ready reel. EIA-481 embossed plastic tape. Factory order only, not stocked (750 parts per full reel).

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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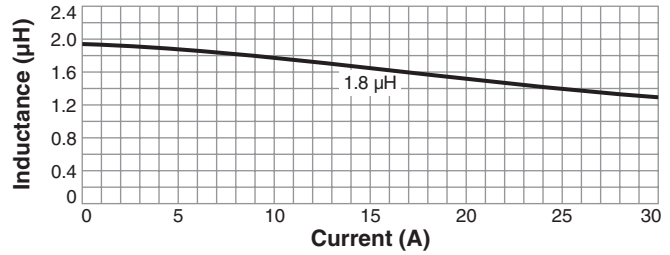
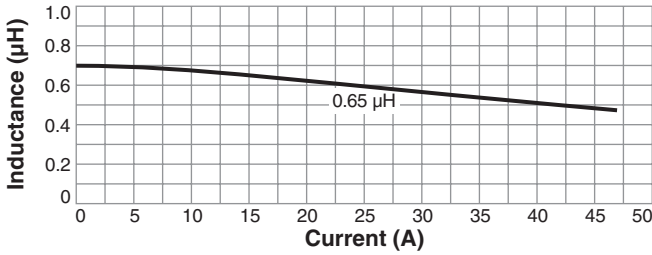
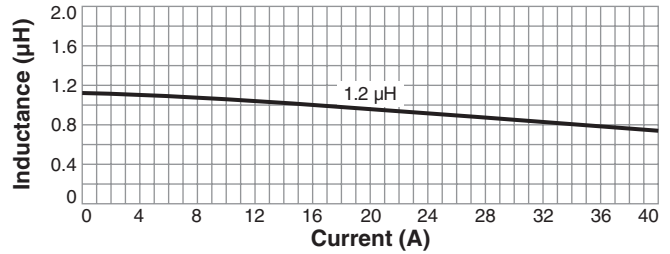
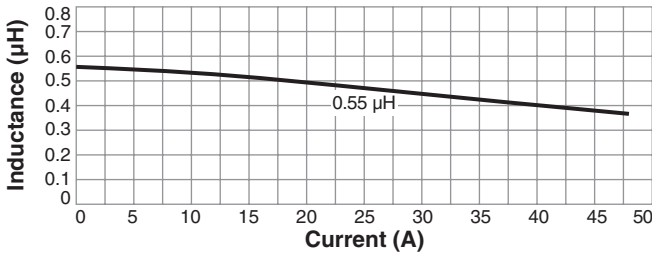
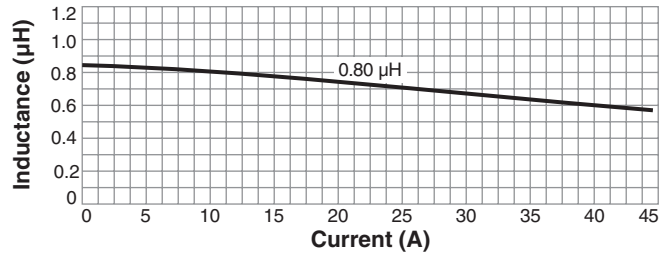
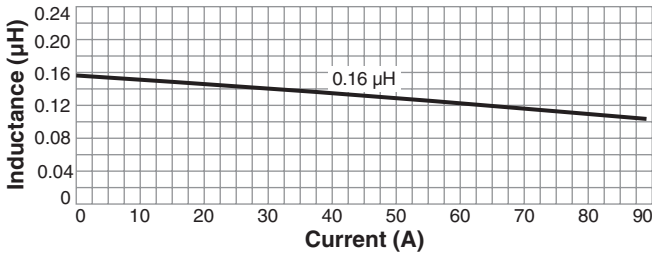
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### L vs Current



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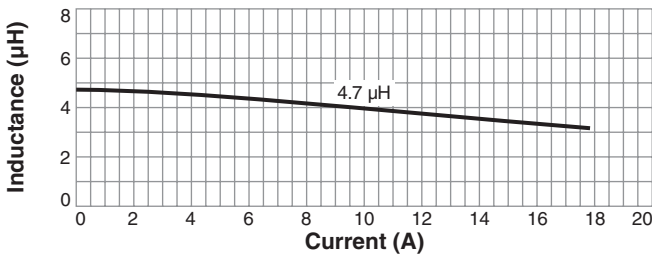
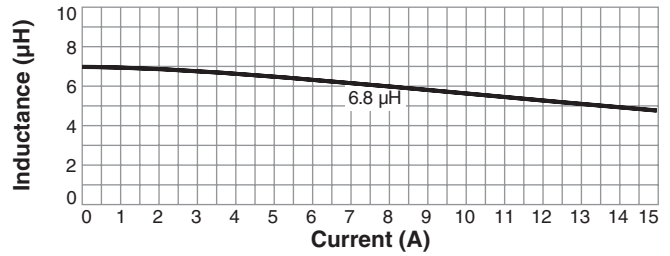
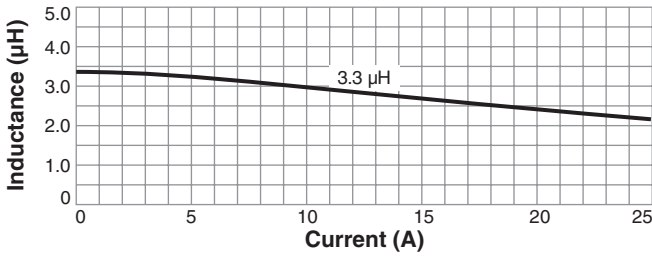
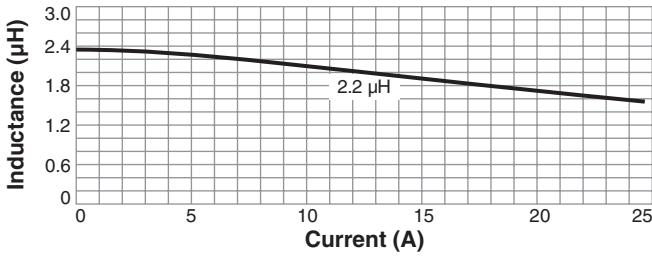
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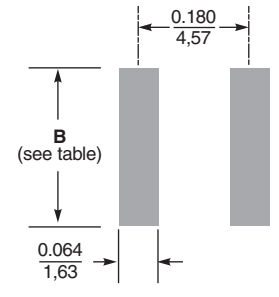
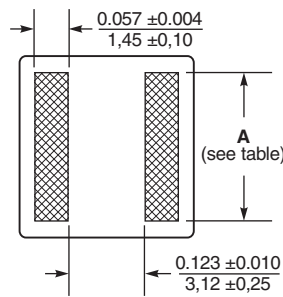
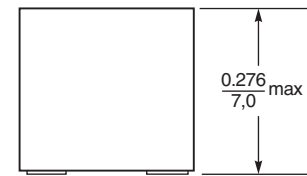


## Shielded Power Inductors – XAL7070

### Typical L vs Frequency



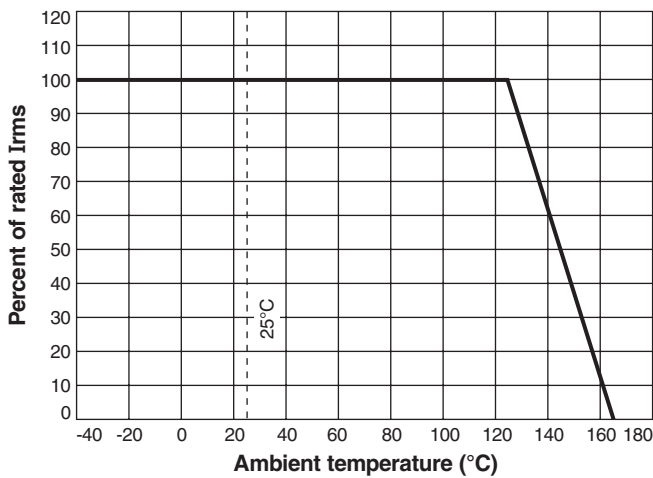
Dash number	A ±0.008 in ±0.20 mm (in / mm)	B (in / mm)
-161	0.257 / 6.53	0.281 / 7.13
-301	0.257 / 6.53	0.281 / 7.13
-551	0.257 / 6.53	0.281 / 7.13
-651	0.257 / 6.53	0.281 / 7.13
-801	0.257 / 6.53	0.281 / 7.13
-102	0.249 / 6.33	0.269 / 6.83
-122	0.249 / 6.33	0.269 / 6.83
-182	0.241 / 6.13	0.257 / 6.63
-222	0.234 / 5.93	0.245 / 6.23
-332	0.234 / 5.93	0.245 / 6.23
-472	0.226 / 5.73	0.234 / 5.93
-562	0.226 / 5.73	0.234 / 5.93
-682	0.226 / 5.73	0.234 / 5.93



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

### Recommended Land Pattern

### Irms Derating



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Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

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- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



#### Как с нами связаться

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