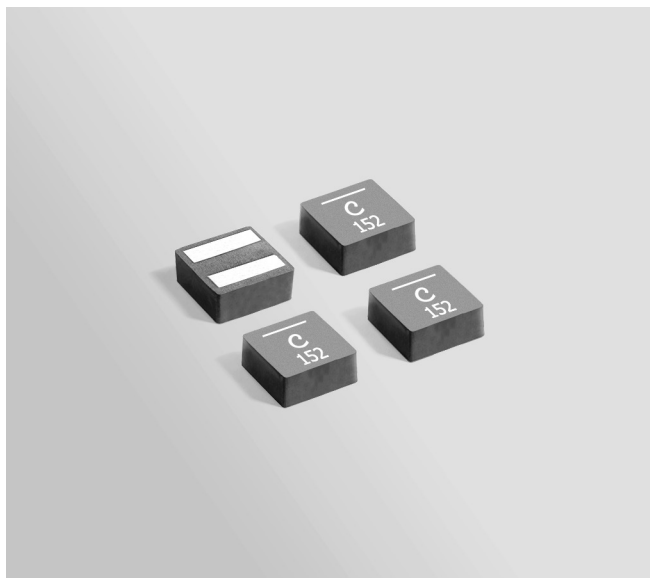


# Shielded Power Inductor KA5013-AE



- High current and very low DCR
- Soft saturation makes them ideal for VRM/VRD applications.

**Core material** Composite

**Environmental** RoHS compliant, halogen free

**Terminations** RoHS compliant tin-silver over copper. Other terminations available at additional cost.

**Weight** 0.16 g

**Ambient temperature**  $-40^{\circ}\text{C}$  to  $+125^{\circ}\text{C}$  with Irms current

**Maximum part temperature**  $+165^{\circ}\text{C}$  (ambient + temp rise)

**Storage temperature** Component:  $-40^{\circ}\text{C}$  to  $+165^{\circ}\text{C}$ .

Tape and reel packaging:  $-40^{\circ}\text{C}$  to  $+80^{\circ}\text{C}$

**Resistance to soldering heat** Max three 40 second reflows at  $+260^{\circ}\text{C}$ , parts cooled to room temperature between cycles

**Moisture Sensitivity Level (MSL)** 1 (unlimited floor life at  $<30^{\circ}\text{C}$  / 85% relative humidity)

**Packaging** 1000/7" reel; 3500/13" reel Plastic tape: 12 mm wide, 0.23 mm thick, 8 mm pocket spacing, 2.1 mm pocket depth

**PCB washing** Tested to MIL-STD-202 Method 215 plus an additional aqueous wash. See [Doc787\\_PCB\\_Washing.pdf](#).

Part number <sup>1</sup>	Inductance <sup>2</sup> $\pm 20\%$ ( $\mu\text{H}$ )	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
KA5013-AE_	1.5	29.0	31.9	50	8.0	5.0	7.0

1. When ordering, please specify **packaging** code:

**KA5013-AEC**

**Packaging: C** = 7" machine-ready reel. EIA-481 embossed plastic tape (1000 parts per full reel). Quantities less than full reel available: in tape (not machine ready) or with leader and trailer (\$25 charge).

**B** = Less than full reel. In an effort to simplify our part numbering system, Coilcraft is eliminating the need for multiple packaging codes. When ordering, simply change the last letter of your part number from B to C.

**D** = 13" machine-ready reel. EIA-481 embossed plastic tape. Factory order only, not stocked (3500 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  $25^{\circ}\text{C}$  ambient.

7. Electrical specifications at  $25^{\circ}\text{C}$ .

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

## Irms Testing

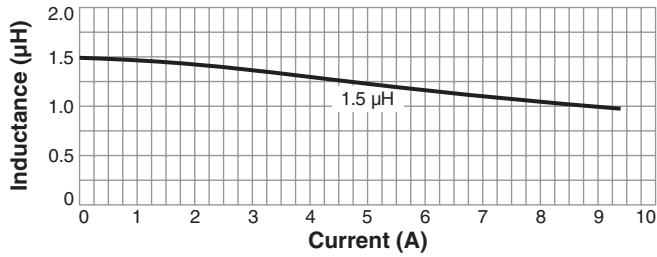
Irms testing was performed on 0.75 inch wide  $\times$  0.25 inch thick copper traces in still air.

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.

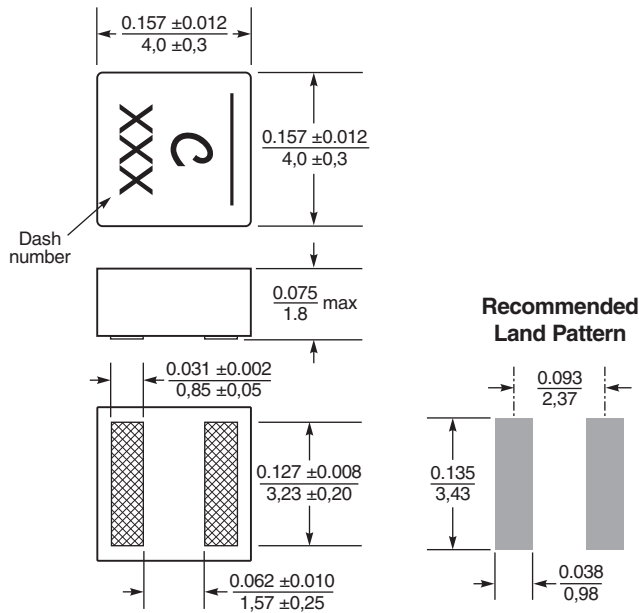
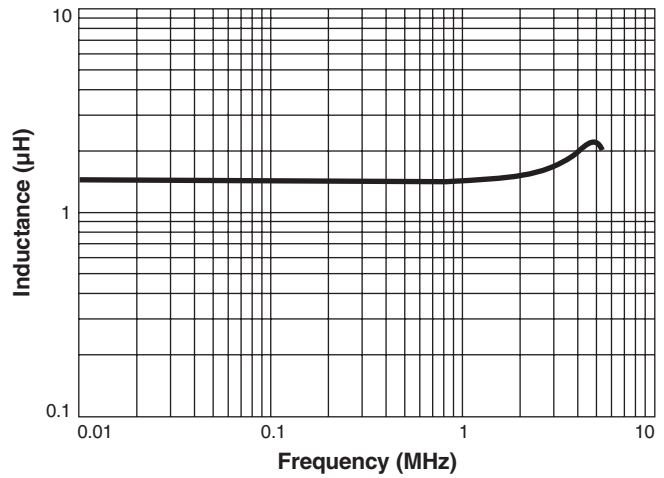


# Shielded Power Inductor – KA5013-AE

## L vs Current



## L vs Frequency



### Recommended Land Pattern

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



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