

**NEW!**

# Shielded Power Inductors – KTA5050



- Small and compact package size – only 5.6 x 5.2 x 5.2 mm
- Low inductance for fast transient response and high power in multi-phase solution
- Soft saturation with high current rating
- Exceptionally low power losses
- AEC-Q200 qualified

**Core material** Composite

**Environmental** RoHS compliant, halogen free

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

**Weight** 0.79 g

**Operating voltage:** 100 V<sup>7</sup>

**Ambient temperature** –40°C to +125°C with (40°C rise) Irms current.

**Maximum part temperature** +165°C (ambient + temp rise).

**Storage temperature** Component: –55°C to +165°C.  
Tape and reel packaging: –55°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)

**PCB washing** Tested to MIL-STD-202 Method 215 plus an additional aqueous wash.

Part number <sup>1</sup>	Inductance <sup>2</sup> ±20% (nH)	DCR (mOhms) <sup>3</sup>		SRF typ <sup>4</sup> (MHz)	Isat (A) <sup>5</sup>			Irms (A) <sup>6</sup>	
		typ	max		10% drop	20% drop	30% drop	20°C rise	40°C rise
KTA5050-650MEC	65	0.50	0.60	480	53.0	89.0	134.0	43.1	59.6
KTA5050-101MEC	100	0.50	0.60	270	37.0	60.5	84.5	43.1	59.6
KTA5050-221MEC	220	1.0	1.2	175	26.0	42.0	59.0	31.3	41.9
KTA5050-381MEC	380	1.7	2.0	140	22.0	35.0	48.0	23.5	32.0
KTA5050-601MEC	600	2.65	3.05	105	16.6	27.0	37.0	18.6	25.6

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

**KTA5050-601MEC**

**Termination: E=** Halogen free component. RoHS compliant tin-silver (96.5/3.5) over copper terminations.

**Packaging: C** = 7" machine-ready reel. EIA-481 embossed plastic tape (250 per full reel). Quantities less than full reel available: in tape (not machine ready) or with leader and trailer (\$25 charge).

**D** = 13" machine-ready reel. EIA-481 embossed plastic tape (1000 per full reel). Factory order only, not stocked.

2. Inductance tested at 1 MHz, 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 25°C that causes an inductance drop of 30% (typ) from its value without current.

[Click for temperature derating information.](#)

6. Current that causes the specified temperature rise from 25°C ambient. This information is for reference only and does not represent absolute maximum ratings. Temperature rise is highly dependent on many factors including pcb land pattern, trace size, air flow, and proximity to other components. Therefore temperature rise should be verified in application conditions. [Click for temperature derating information.](#)

7. Voltage capability varies by part number and in many cases may be higher than the listed voltage.

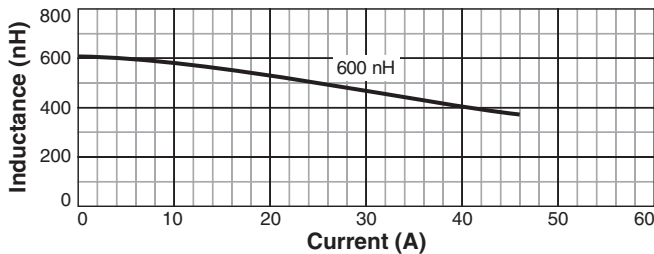
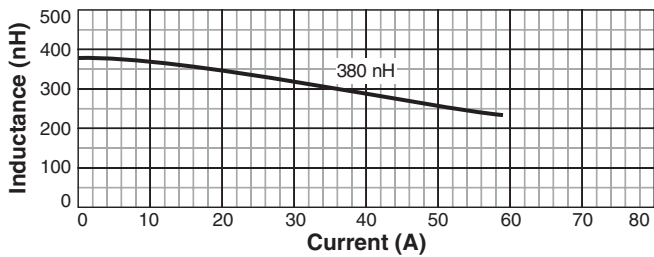
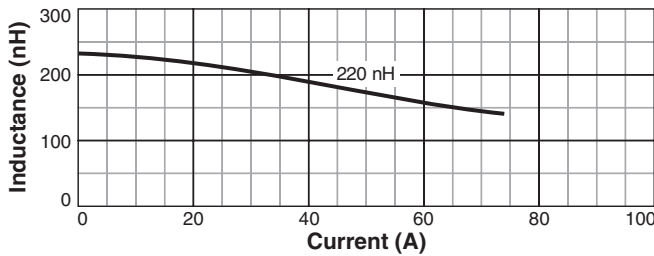
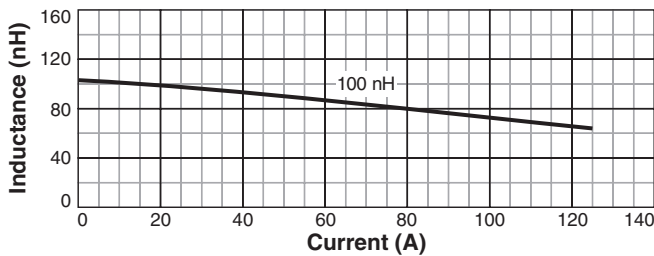
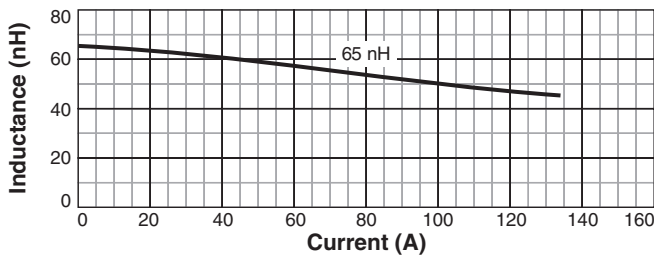
8. Electrical specifications at 25°C.

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



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## L vs Current



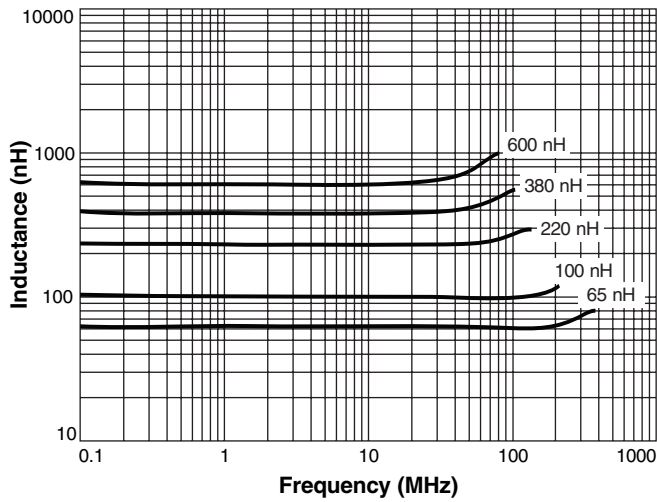
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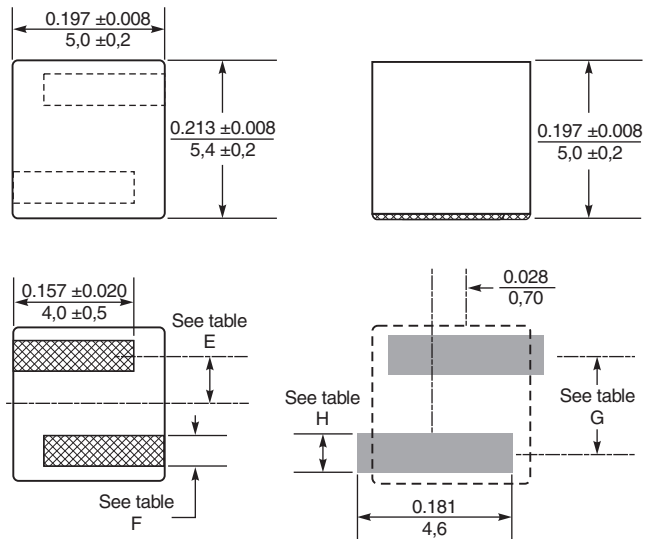


# Shielded Power Inductors – KTA5050

## Typical L vs Frequency



## Dimensions



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

## Recommended Land Pattern

Dash	E min	E max	F min	F max	G typ	H typ	
650	0.050	0.066	0.055	0.067	0.116	0.071	in
	1,27	1,67	1,40	1,70	2,94	1,80	mm
101	0.050	0.066	0.055	0.067	0.116	0.071	in
	1,27	1,67	1,40	1,70	2,94	1,80	mm
221	0.059	0.075	0.039	0.051	0.134	0.055	in
	1,50	1,90	1,00	1,30	3,40	1,40	mm
381	0.061	0.077	0.031	0.043	0.138	0.047	in
	1,55	1,95	0,80	1,10	3,50	1,20	mm
601	0.063	0.079	0.024	0.035	0.142	0.039	in
	1,60	2,00	0,60	0,90	3,60	1,00	mm

**Packaging** 250/7" reel; 1000/13" reel Plastic tape: 16 mm wide, 0.4 mm thick, 12 mm pocket spacing, 5.35 mm pocket depth