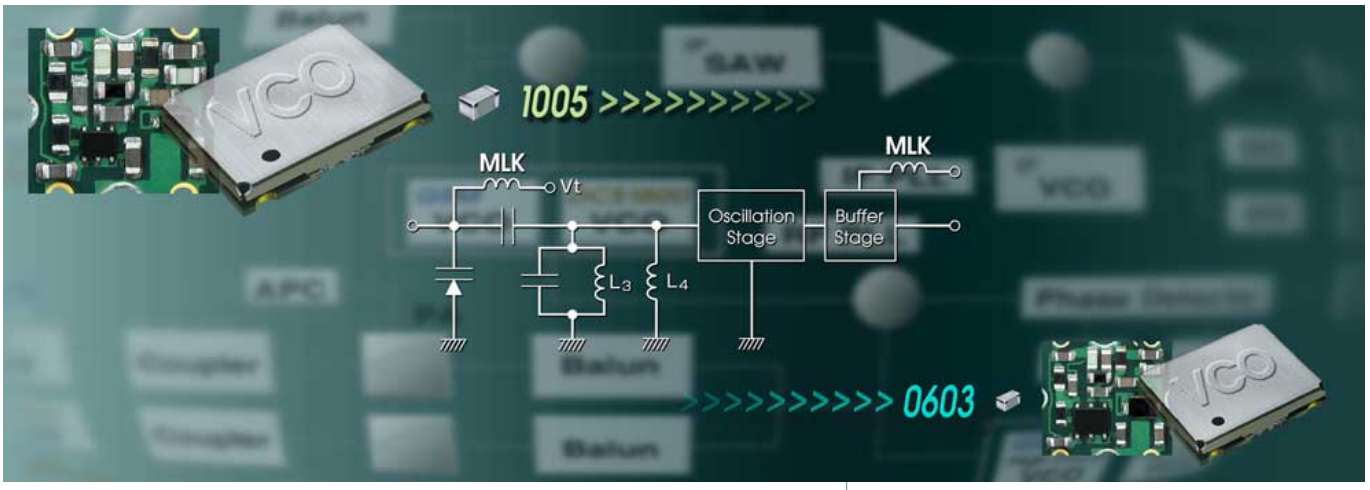


Multilayer Chip Inductors For High-frequency Circuits And Modules,

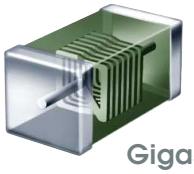
MLK0603 series

Conforming to RoHS Directive

Conformity to RoHS Directive: This means that, in conformity with EU Directive 2002/95/EC, lead, cadmium, mercury, hexavalent chromium, and specific bromine-based flame retardants, PBB and PBDE, have not been used, except for exempted applications.

The 0603 type - the smallest in the industry, and the most advanced in the MLK series, with numerous achievements in its use as a high Q element optimal for signal-processing circuits in the 1-2GHz band in mobile communication devices such as RF amplifiers, mixers, VCO, PLL synthesizers - is available in 19 varieties covering 1-33nH, responding to the cutting-edge design needs of small digital devices.

With further fine-tuned super-fine lamination technology, allowing no misalignment - even of micron-order, mass-production technology of condensed "Gigaspira™ Multilayer structure", of greater precision than ever, inside the super-small 0603 chip where the area of internal conductor pattern can be reduced to 1/3 of the 1005 type, has been established.

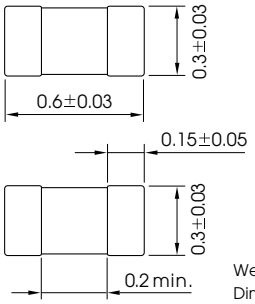


Gigaspira™ multilayer structure

Original GHz-band-ready structure overcoming the limitations of the conventional structures.

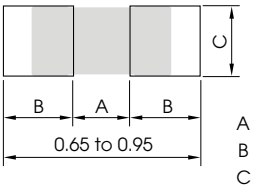
Cutting-edge hyper specifications and outstanding circuit condensation effects are offered too - not to mention diverse modules for mobile telephones of the next generation; small device RF modules such as DVC, digital still cameras, and PDA devices; and CCD modules, as well as downsizing the design of Bluetooth modules integrated in those devices.

Shapes and dimensions



Weight : 0.2 mg
Dimensions in mm

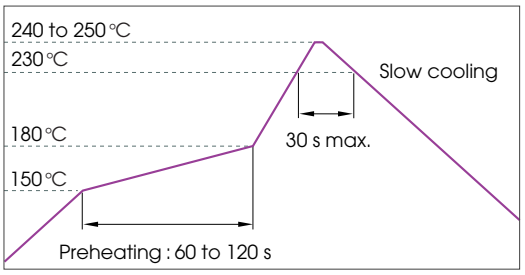
Recommende PC board pattern
(Reflow process)



A : 0.25 to 0.35
B : 0.2 to 0.3
C: 0.25 to 0.35
Dimensions in mm

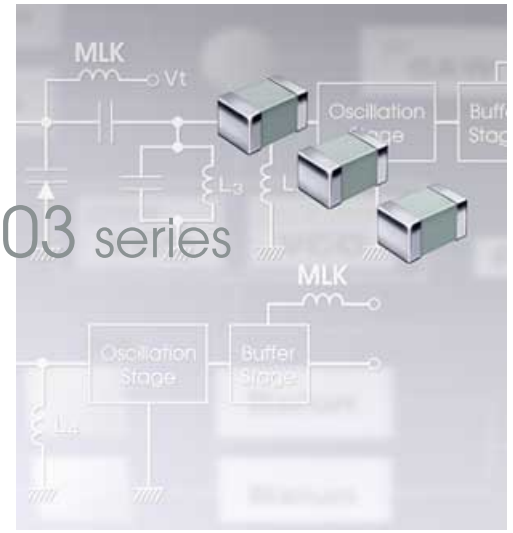
Recommended soldering conditions

Lead-free solder/High-temperature reflow process



Basic characteristics

Typical data



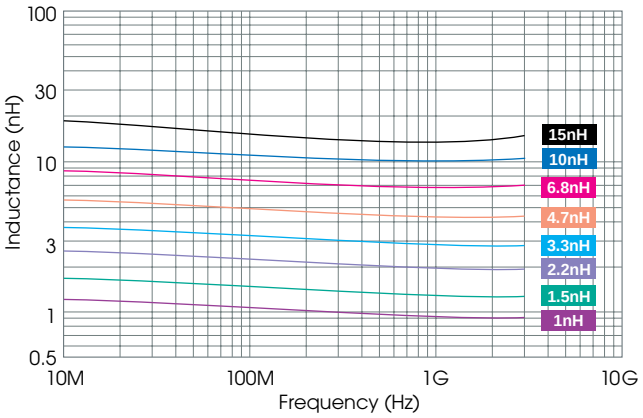
MLK0603 series

Temperature range

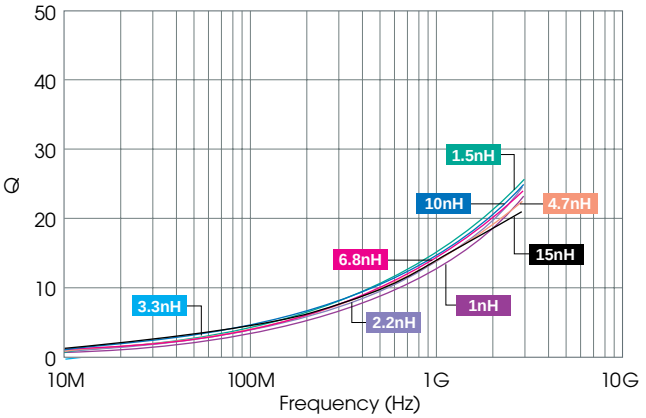
Operating	−55 to +125 °C
Storage*	−55 to +125 °C

*Individual product

Inductance vs. frequency characteristics



Q vs. frequency characteristics



Typical Electrical Characteristics

Part No.	Inductance (nH) at 100MHz	Q at 100MHz	at 300MHz	at 1GHz	Self-resonance frequency (GHz)	DC resistance (ohm)	Rated current (mA)
MLK0603L1N0S	1.0±0.3nH	3 typ.	7 typ.	13 typ.	12 min. / 17.1 typ.	0.2 max. / 0.13 typ.	300 max.
MLK0603L1N2S	1.2±0.3nH	4 typ.	8 typ.	14 typ.	11min. / 15.2 typ.	0.25 max. / 0.14 typ.	300 max.
MLK0603L1N5S	1.5±0.3nH	4 typ.	8 typ.	14 typ.	9.5 min. / 14.8 typ.	0.3 max. / 0.15 typ.	300 max.
MLK0603L1N8S	1.8±0.3nH	4 typ.	8 typ.	14 typ.	8.5 min. / 12.7 typ.	0.35 max. / 0.18 typ.	300 max.
MLK0603L2N2S	2.2±0.3nH	4 typ.	8 typ.	14 typ.	8 min. / 11.7 typ.	0.4 max. / 0.21 typ.	300 max.
MLK0603L2N7S	2.7±0.3nH	4 typ.	8 typ.	14 typ.	7.5 min. / 10.7 typ.	0.45 max. / 0.24 typ.	300 max.
MLK0603L3N3S	3.3±0.3nH	4 typ.	8 typ.	14 typ.	7 min. / 10.2 typ.	0.5 max. / 0.26 typ.	200 max.
MLK0603L3N9S	3.9±0.3nH	4 typ.	8 typ.	14 typ.	6.5 min. / 9.5 typ.	0.55 max. / 0.3 typ.	200 max.
MLK0603L4N7S	4.7±0.3nH	5 typ.	8 typ.	14 typ.	6 min. / 9 typ.	0.6 max. / 0.34 typ.	200 max.
MLK0603L5N6S	5.6±0.3nH	5 typ.	8 typ.	15 typ.	5.7 min. / 8.5 typ.	0.7 max. / 0.38 typ.	200 max.
MLK0603L6N8J	6.8±5%	5 typ.	9 typ.	15 typ.	5.5 min. / 7.9 typ.	0.8 max. / 0.49 typ.	200 max.
MLK0603L8N2J	8.2±5%	5 typ.	9 typ.	15 typ.	5 min. / 7.6 typ.	0.9 max. / 0.51 typ.	200 max.
MLK0603L10NJ	10±5%	5 typ.	9 typ.	15 typ.	4.7 min. / 7.3 typ.	1 max. / 0.59 typ.	200 max.
MLK0603L12NJ	12±5%	5 typ.	9 typ.	15 typ.	4.3 min. / 6.8 typ.	1.1 max. / 0.7 typ.	200 max.
MLK0603L15NJ	15±5%	5 typ.	8 typ.	14 typ.	4 min. / 6.1 typ.	1.2 max. / 0.86 typ.	200 max.
MLK0603L18NJ	18±5%	5 typ.	8 typ.	14 typ.	3.7 min. / 5.5 typ.	1.4 max. / 0.92 typ.	100 max.
MLK0603L22NJ	22±5%	5 typ.	8 typ.	14 typ.	3.5 min. / 5 typ.	1.6 max. / 0.98 typ.	100 max.
MLK0603L27NJ	27±5%	5 typ.	8 typ.	13 typ.	3.0 min. / 4.5 typ.	1.8 max. / 1.1 typ.	100 max.
MLK0603L33NJ	33±5%	5 typ.	8 typ.	13 typ.	2.8 min. / 4.2 typ.	2.0 max. / 1.3 typ.	100 max.

Measuring instruments
L,Q : HP4291A+16197A / SRF : HP8720C / Rdc : YOKOGAWA TYPE7561 / Idc : The value where the temperature of the inductor increases by 20°C