

Murata Manufacturing Co., Ltd.

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各位

~ Realizing the Industry's Highest Q ~ Commercialization of a large inductance model for an ultra small film type chip coil

[B o d y] Murata Manufacturing Co., Ltd. has commercialized a large inductance model for film type ultra small chip coil at 0.6x0.3x0.3mm (EIA Code: 0201 size), ideal for high frequency circuits used in compact mobile equipment such as mobile phones. A very high Q (*1) value at inductance range of 68nH~120nH was realized in the ultra small 0201 size through re-evaluation of the internal structuring and using Murata's own cutting-edge micro-fabrication to form an optimal coil for very small products. Increasing the maximum inductance of the 0201 size chip coil from 56nH to 120nH will contribute to expansion of the scope of applications as well as the production of smaller and thinner electronic equipment. Murata's latest processing technology was applied in order to realize the industry's highest class in terms of high Q in high frequency range, as well as stable inductance in spite of the small 0201 size. Currently, the inductance tolerance is $\pm 5\%$. We will strive to add to the current lineup with new models of tighter tolerance.

*No substance banned by the RoHS (*2) directive is used in this product range.

[Background] With the advance and trend towards more smaller, multi-functional mobile communication equipment including mobile phones, the total number of components used is on the increase. Furthermore, as this type of equipment becomes increasingly smaller in size and profile then the downsizing of chip coils will be necessary. Additionally, the high frequency region in small mobile communication equipment requires a high Q in a high frequency range in order to suppress signal attenuation.

[Terminology] *1 Q (Quality factor):
 Value representing the sharpness of resonance. Good inductors have higher Q, in other words sharper resonances.
 *2 RoHS Directive:
 Directives to prohibit the use of lead, mercury, cadmium, hexavalent chromium, PBBs and PBDEs in electrical and electronic equipment.

[Feature]

- Ultra small/thin size (0.6x0.3x0.3mm)
- Provides the industry's highest Q and stable inductance in a high frequency range at 0201 size
- inductance range: 68~120nH
- inductance tolerance: $\pm 5\%$

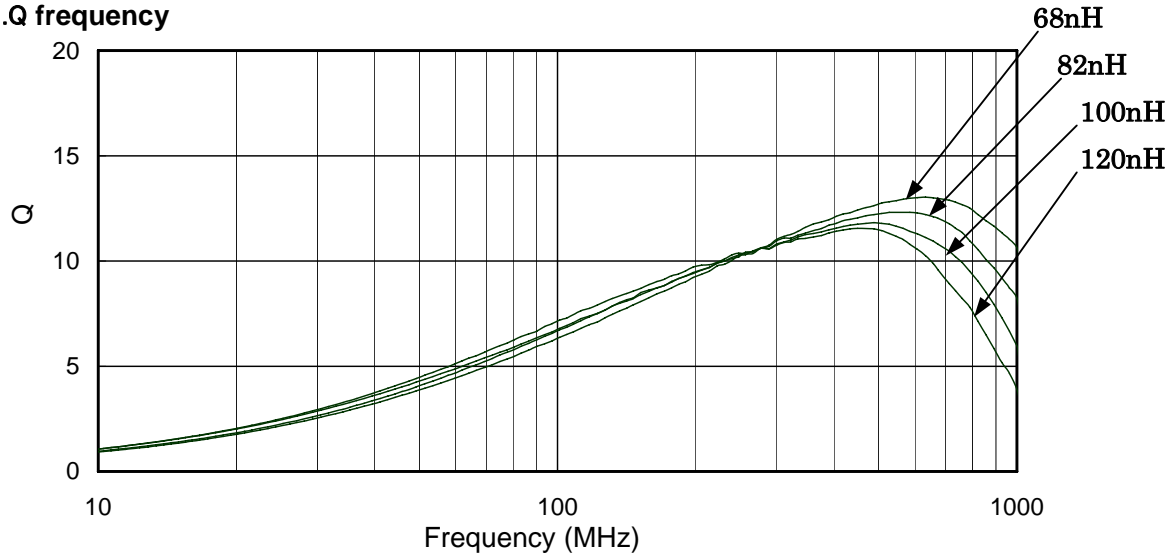
- [Applications]**
- RF Module for Mobile phone (PA, ANT, VCO, SAW etc.)
 - Mobile phone (GSM/CDMA/PDC etc.)
 - Digital TV Tuner
 - W-LAN
 - Bluetooth® (Bluetooth is Registered trademark of Bluetooth SIG)
 - RF Circuits

[Part Number and Specification]

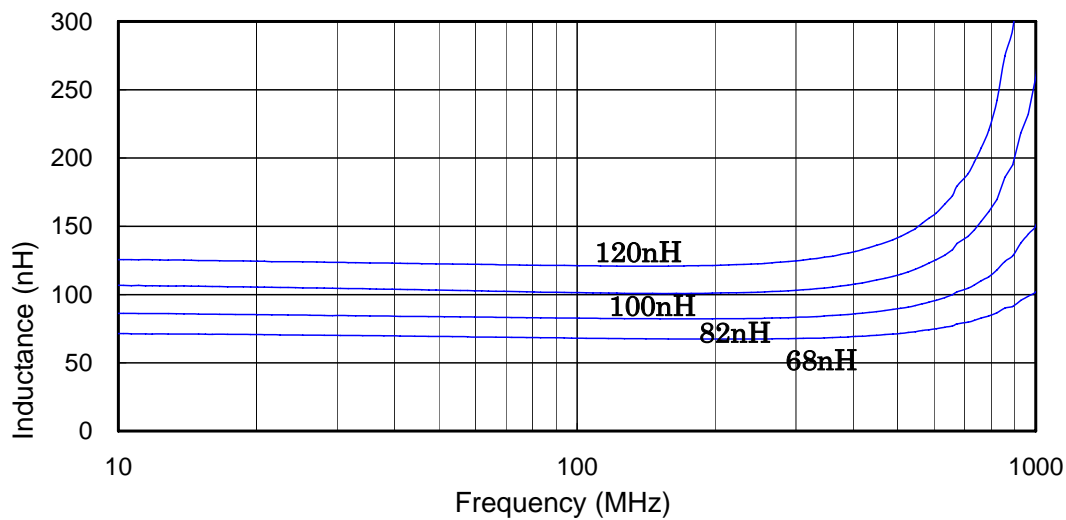
Parts Number	inductance			Q		DC Resistance (Ω) (Typ.)	Rated Current (mA)	Self-resonant frequency (MHz) (Min)
	(nH)	tolerance	Measurement Frequency (MHz)	(Typ.)	Measurement Frequency (MHz)			
LQP03TN68NJ02	68	$\pm 5\%$	300	11	300	4.8	50	1100
LQP03TN82NJ02	82			11		5.8	50	1000
LQP03TNR10J02	100			11		6.3	40	900
LQP03TNR12J02	120			11		8.1	40	800

[Characteristics]

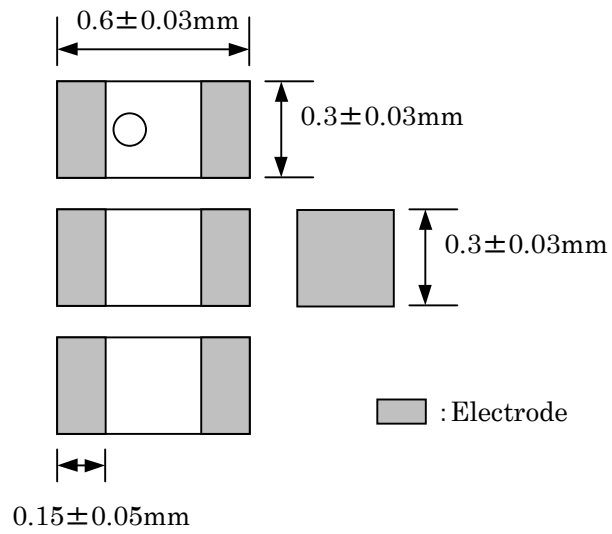
1. Q frequency



2. Inductance



[External Dimensional Diagram]



(in mm)

[Production] 500 million units per month in September 2007

[Sample Price] 4 YEN per unit

[P a t e n t s] Eleven patents pending