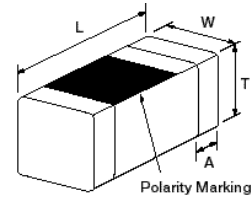
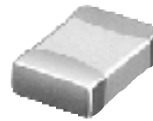


## Multilayer Chip Inductors

### DESCRIPTION

The LL2012-F Series is a miniature multilayer ceramic chip inductor in a standard 0805 package. Toko's proprietary laminated ceramic material provides high SRF, excellent Q, and superior reliability. These inductors are an ideal solution for signal shaping, or RF filtering for high frequency RF and wireless communication devices.

### DIMENSIONS

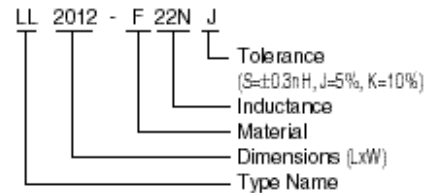


### FEATURES

- Inductance range: 1.5-470nH
- Temperature Coefficient: +250ppm/°C
- Temperature Range: -40°C +100°C
- Miniature size: 0805 footprint (2.0mm x 1.2mm)
- Laminated ceramic allows high SRF over 6 GHz
- Q: 50 Typical (at 800MHz)
- S-parameter data available upon request
- Packaged on tape and reel in 3,000 & 4,000 piece quantity

Type	L (mm)	W (mm)	T (mm)	A (mm)
LL2012	2.0±0.2	1.25±0.2	0.60±0.2 0.85±0.3 1.00±0.3 1.10±0.3	0.5±0.3

### PART NUMBERING



### STANDARD PART NUMBERS

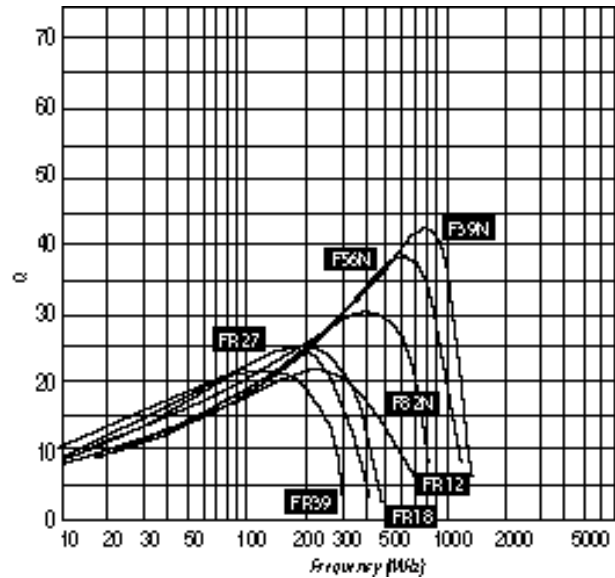
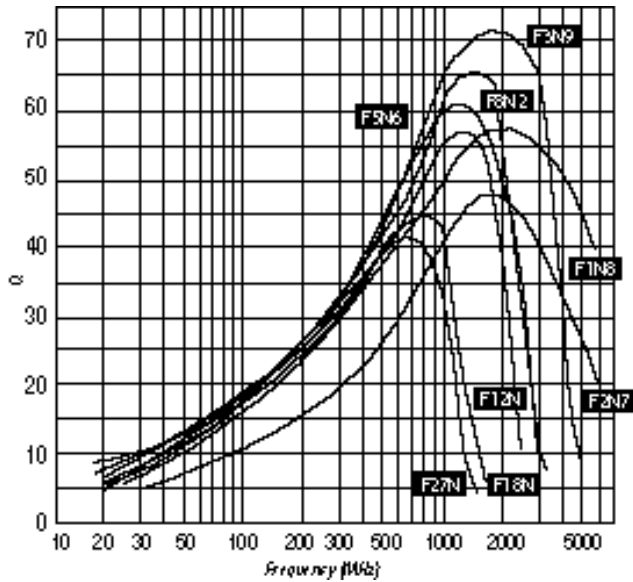
TOKO Part Number	Lo (nH)	L Tol. (%)	Q 100MHz (typ) (1)	Q 800MHz (typ) (1)	SRF MHz (typ) (2)	RDCΩ (max) (3)	IDC mA (max)	Height T (mm)	Qty/reel
LL2012-F1N88	1.5	S	13	40	>8000	0.10	300	0.60±0.2	4000
LL2012-F1N88	1.8	S	13	48	>8000	0.10	300	0.80±0.2	4000
LL2012-F2N28	2.2	S	13	48	>8000	0.10	300	0.60±0.2	4000
LL2012-F2N78	2.7	S	12	36	>8000	0.10	300	0.80±0.2	4000
LL2012-F3N3	3.3	S,K	13	55	>8000	0.13	300	0.60±0.2	4000
LL2012-F3N9	3.9	S,K	15	54	8400	0.18	300	0.80±0.2	4000
LL2012-F4N7	4.7	S,K	15	50	4500	0.20	300	0.60±0.2	4000
LL2012-F5N5	5.5	S,K	15	53	4000	0.23	300	0.80±0.2	4000
LL2012-F6N5	6.5	J,K	15	51	3650	0.25	300	0.60±0.2	4000
LL2012-F8N2	8.2	J,K	15	53	3000	0.28	300	0.80±0.2	4000
LL2012-F10N	10.0	J,K	15	45	2500	0.30	300	0.85±0.3	4000
LL2012-F12N	12.0	J,K	15	48	2450	0.35	300	0.85±0.3	4000
LL2012-F15N	15.0	J,K	17	48	2000	0.40	300	0.85±0.3	4000
LL2012-F18N	18.0	J,K	17	43	1750	0.45	300	0.85±0.3	4000
LL2012-F22N	22.0	J,K	17	47	1700	0.50	300	0.85±0.3	4000
LL2012-F27N	27.0	J,K	18	38	1650	0.55	300	0.85±0.3	4000
LL2012-F33N	33.0	J,K	18	35	1350	0.60	300	0.85±0.3	4000
LL2012-F39N	39.0	J,K	18	40	1300	0.65	300	0.85±0.3	4000
LL2012-F47N	47.0	J,K	18	33	1200	0.70	300	1.00±0.3	3000
LL2012-F56N	56.0	J,K	19	31	1150	0.75	300	1.00±0.3	3000
LL2012-F68N	68.0	J,K	19	28	1000	0.80	300	1.00±0.3	3000
LL2012-F82N	82.0	J,K	20	9	850	0.90	300	1.00±0.3	3000
LL2012-FR10	100	J,K	18	-	730	1.00	300	1.00±0.3	3000
LL2012-FR12	120	J,K	19	-	550	1.30	250	**1.10±0.3	3000
LL2012-FR15	150	J,K	20	-	550	1.50	250	**1.10±0.3	3000
LL2012-FR18	180	J,K	20	-	500	1.80	250	**1.10±0.3	3000
LL2012-FR22	220	J,K	20	-	450	2.00	200	**1.10±0.3	3000
LL2012-FR27	270	J,K	-	-	400	2.50	200	**1.10±0.3	3000
LL2012-FR33	330	J,K	-	-	350	3.00	150	**1.10±0.3	3000
LL2012-FR39	390	J,K	-	-	330	3.50	150	**1.10±0.3	3000
LL2012-FR47	470	J,K	-	-	300	4.00	100	**1.10±0.3	3000

\* Add tolerance to part number: S=±0.3nH, J = ±5%, K = ±10%  
 Testing Conditions: (1.) L,Q: HP4191A at 100MHz (2.) SRF: HP8753C (Test fixture 16091A) (3.) RDC: VP-2811A Panasonic  
 \*\* These parts have polarity/orientation marking

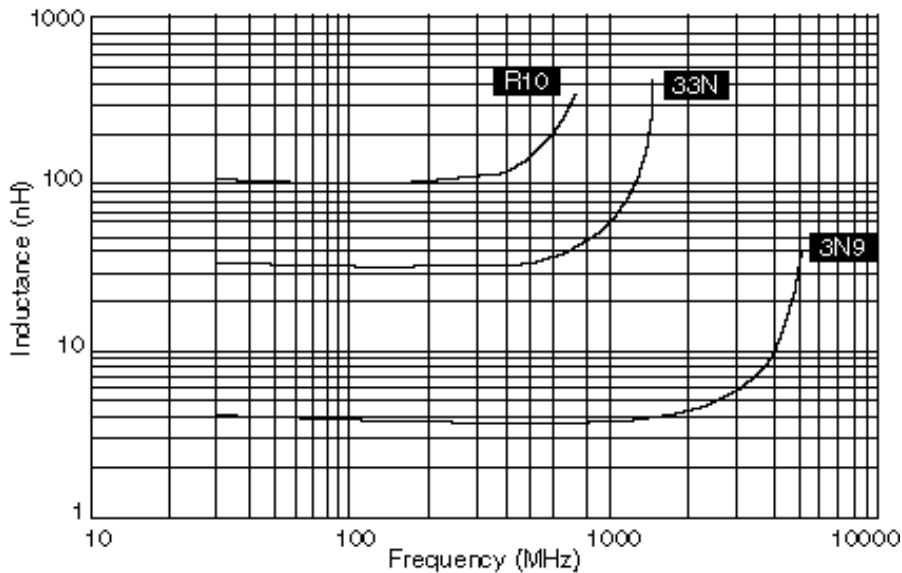
# LL2012-F Series

## ELECTRICAL CHARACTERISTICS

Q vs. Frequency



Inductance vs. Frequency



The information furnished by TOKO, Inc. is believed to be accurate and reliable. However, TOKO reserves the right to make changes or improvements in the design, specification or manufacture of its products without further notice. TOKO does not assume any liability arising from the application or use of any product or circuit described herein, nor for any infringements of patents or other rights of third parties which may result from the use of its products. No license is granted by implication or otherwise under any patent or patent rights of TOKO, Inc.



Toko America, Inc.  
 1250 Feehanville Drive, Mt. Prospect, IL 60056  
 Tel: (847) 297-0070 Fax: (847) 699-7864 Web: <http://www.tokoam.com>

### TOKO SALES LOCATIONS

**Midwest Regional Office**  
 Toko America, Inc.  
 1250 Feehanville Drive  
 Mount Prospect, IL 60056  
 Tel: (847) 297-0070  
 Fax: (847) 699-7864

**Western Regional Office**  
 Toko America, Inc.  
 2480 North First Street, Suite 260  
 San Jose, CA 95131  
 Tel: (408) 432-8281  
 Fax: (408) 943-9790

**Eastern Regional Office**  
 Toko America, Inc.  
 107 Mill Plain Road  
 Danbury, CT 06811  
 Tel: (203) 748-6871  
 Fax: (203) 797-1223