

## 1. High Frequency Use (Non Magnetic Core) RF, RE, ND, NC, NA



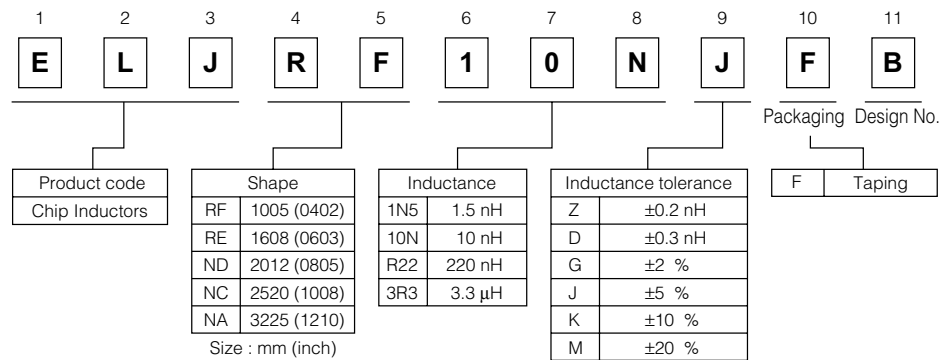
### ■ Features

- High frequency capability due to its non magnetic core.
- Capable of being Re-flow or flow soldered.
- Wide line-up from 1005 to 3225 case sizes.
- Good for mounting.

### ■ Recommended Applications

- RF circuitry for cellular phones and wireless communication equipment.

### ■ Explanation of Part Numbers



### ■ Storage Conditions

- Package : Normal temperature (−5 to 35 °C), normal humidity (85 %RH max.), shall not be exposed to direct sunlight and harmful gases and care should be taken so as not to cause dew.
- Operating Temperature : −20 to +85 °C

### ■ Storage Period

- Solderability may be reduced due to the conditions of high temperature and high humidity which causes the oxidation of tin-plated terminals. Even if storage conditions are within specified limits, solderability may be reduced with the passage of time. Therefore, please control the storage conditions and try to use the product within 6 months of receipt.

■ Packaging Methods                      Please see Page 127

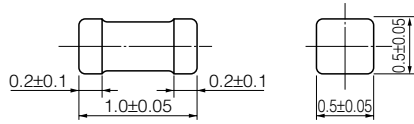
■ Soldering Conditions                    Please see Page 128

■ Safety Precautions                        Please see Page 129

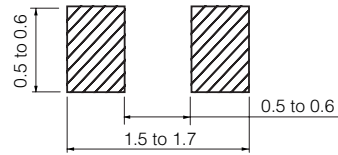
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■ RF Type 1005 (0402)

● Dimensions in mm (not to scale)



● Recommended Land Pattern in mm (not to scale)



■ Standard Packing Quantity

- 10000 pcs./Reel

■ Standard Parts (E12 series)

Part No.	Inductance			Q		SRF *1 (MHz) min.	R <sub>DC</sub> *2 (Ω) max.	DC Current (mA) max.
	(nH)	Tolerance (%)	Test Freq. (MHz)	min.	Test Freq. (MHz)			
ELJRF1N0□FB	1.0	D : ±0.3 nH Z : ±0.2 nH	100	8	100	6000	0.05	400
ELJRF1N2□FB	1.2					6000	0.06	400
ELJRF1N5□FB	1.5					6000	0.07	400
ELJRF1N8□FB	1.8					6000	0.08	400
ELJRF2N2□FB	2.2					6000	0.09	400
ELJRF2N7□FB	2.7					5500	0.10	400
ELJRF3N3□FB	3.3					5500	0.12	400
ELJRF3N9□FB	3.9					5200	0.15	360
ELJRF4N7□FB	4.7					4800	0.17	360
ELJRF5N6□FB	5.6					4600	0.19	340
ELJRF6N8□FB	6.8	J : ±5 % G : ±2 %	100	8	100	4000	0.30	320
ELJRF8N2□FB	8.2					3500	0.35	320
ELJRF10N□FB	10					2800	0.41	320
ELJRF12N□FB	12					2800	0.45	320
ELJRF15N□FB	15					2500	0.60	240
ELJRF18N□FB	18					2200	0.70	240
ELJRF22N□FB	22					2000	0.80	200
ELJRF27N□FB	27					1800	1.20	200
ELJRF33N□FB	33					1800	1.40	170
ELJRF39N□FB	39					1800	1.70	150
ELJRF47N□FB	47	1800	2.10	140				
ELJRF56N□FB	56	1500	2.50	130				
ELJRF68N□FB	68	1500	4.00	120				
ELJRF82N□FB	82	1400	4.50	110				
ELJRFR10□FB	100	1200	5.50	90				

□ : Symbol of Tolerance \*1 : Self Resonant Frequency \*2 : DC Resistance

■ Standard Parts (E24 series)

Part No.	Inductance			Q		SRF *1 (MHz) min.	R <sub>DC</sub> *2 (Ω) max.	DC Current (mA) max.
	(nH)	Tolerance (%)	Test Freq. (MHz)	min.	Test Freq. (MHz)			
ELJRF2N0□FB	2.0	D : ±0.3 nH Z : ±0.2 nH	100	8	100	6000	0.08	400
ELJRF2N4□FB	2.4					6000	0.09	400
ELJRF3N0□FB	3.0					5500	0.11	400
ELJRF3N6□FB	3.6					5300	0.14	380
ELJRF4N3□FB	4.3					5000	0.16	360
ELJRF5N1□FB	5.1					4700	0.18	350
ELJRF6N2□FB	6.2					4300	0.25	330
ELJRF7N5□FB	7.5					3700	0.33	320
ELJRF9N1□FB	9.1					3100	0.38	320
ELJRF11N□FB	11					2800	0.43	320
ELJRF13N□FB	13	J : ±5 % G : ±2 %	100	8	100	2600	0.53	280
ELJRF16N□FB	16					2300	0.65	240
ELJRF20N□FB	20					2100	0.75	220
ELJRF24N□FB	24					1900	1.00	200
ELJRF30N□FB	30					1800	1.30	190
ELJRF36N□FB	36					1800	1.60	160
ELJRF43N□FB	43					1800	1.90	150

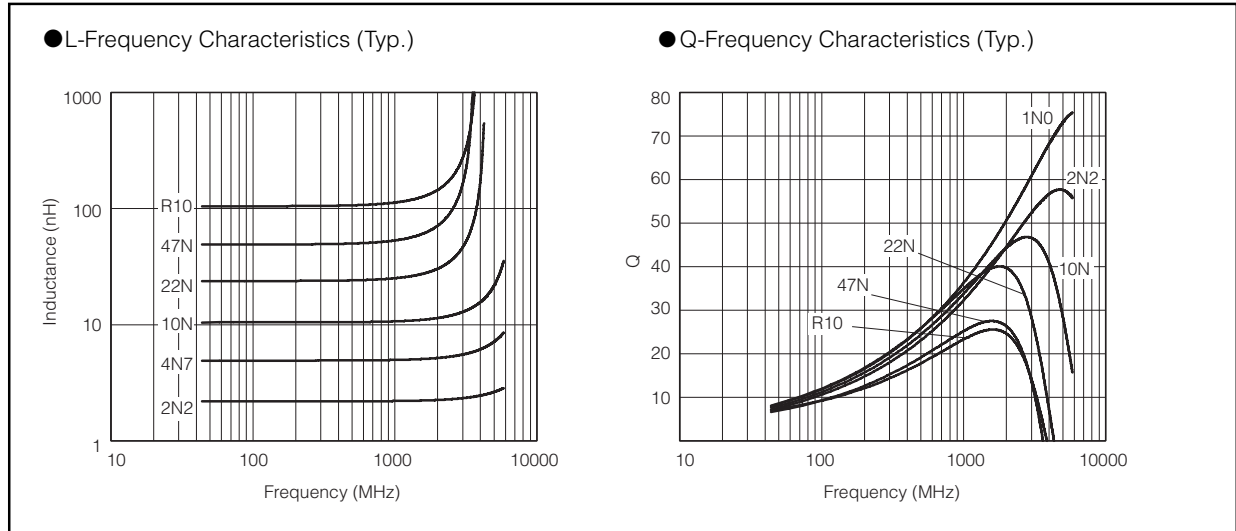
□ : Symbol of Tolerance \*1 : Self Resonant Frequency \*2 : DC Resistance

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00 Sep. 2010

### ■ ELJRF Type

#### ■ Typical Characteristics



#### ■ Reference Date

Part No	Inductance (nH)(Typ.)					Q(Typ.)				
	800MHz	900MHz	1.8GHz	2.0GHz	2.4GHz	800MHz	900MHz	1.8GHz	2.0GHz	2.4GHz
ELJRF1N0□FB	0.95	0.95	0.96	0.96	0.97	31.8	33.8	47.2	49.6	54.0
ELJRF1N2□FB	1.23	1.24	1.24	1.25	1.25	31.0	33.0	43.4	45.6	49.7
ELJRF1N5□FB	1.51	1.51	1.53	1.53	1.54	32.9	34.9	48.6	50.9	55.4
ELJRF1N8□FB	1.85	1.85	1.87	1.88	1.90	31.1	33.1	45.9	48.1	52.1
ELJRF2N2□FB	2.11	2.12	2.15	2.16	2.19	28.3	30.1	41.6	43.6	47.2
ELJRF2N7□FB	2.63	2.63	2.68	2.70	2.73	28.0	28.7	39.6	41.4	44.7
ELJRF3N3□FB	3.27	3.28	3.35	3.37	3.42	29.9	31.7	43.7	45.7	49.2
ELJRF3N9□FB	3.73	3.74	3.82	3.85	3.91	29.7	31.5	43.4	45.4	48.8
ELJRF4N7□FB	4.77	4.78	4.92	4.96	5.07	33.9	35.9	49.0	51.1	54.6
ELJRF5N6□FB	5.70	5.70	5.80	5.90	6.20	30.0	31.0	40.0	41.0	42.8
ELJRF6N8□FB	6.91	6.93	7.21	7.29	7.51	28.9	30.7	41.3	42.7	45.0
ELJRF8N2□FB	8.31	8.33	8.73	8.86	9.19	31.0	32.9	43.9	45.3	47.4
ELJRF10N□FB	10.21	10.25	10.77	10.94	11.37	29.8	31.6	42.1	43.5	45.6
ELJRF12N□FB	12.3	12.3	13.1	13.3	14.0	30.8	32.6	42.9	44.1	45.4
ELJRF15N□FB	15.3	15.4	16.5	16.9	17.9	28.8	30.4	39.5	40.4	41.2
ELJRF18N□FB	18.4	18.6	20.2	20.8	22.3	31.1	32.8	41.6	42.1	41.7
ELJRF22N□FB	23.7	23.9	27.5	28.8	32.5	31.3	32.9	39.6	39.4	37.2
ELJRF27N□FB	28.3	28.5	32.8	34.4	38.8	28.4	29.9	36.0	35.8	33.7
ELJRF33N□FB	34.6	35.1	43.4	46.8	57.5	28.4	29.7	33.7	32.9	29.2
ELJRF39N□FB	40.8	41.4	49.9	53.2	63.3	25.6	26.9	31.1	30.5	27.5
ELJRF47N□FB	49.6	50.3	62.1	66.8	81.8	22.7	23.8	26.9	26.2	23.2
ELJRF56N□FB	58.4	59.1	69.9	74.1	86.2	23.8	25.0	28.9	28.3	25.6
ELJRF68N□FB	71.9	72.9	90.4	97.5	119.9	22.3	23.3	25.4	24.3	20.4
ELJRF82N□FB	86.6	87.8	107.8	115.7	140.6	21.9	22.9	25.5	24.6	21.3
ELJRF10N□FB	105.5	106.8	128.2	136.5	161.3	21.0	21.9	25.0	24.4	21.9

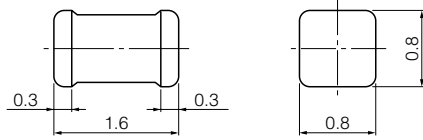
□ : Symbol of Tolerance

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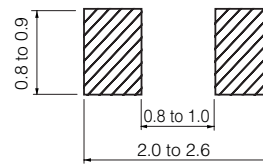
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■ RE Type 1608 (0603)

● Dimensions in mm (not to scale)



● Recommended Land Pattern in mm (not to scale)



■ Standard Packing Quantity

● 3000 pcs./Reel

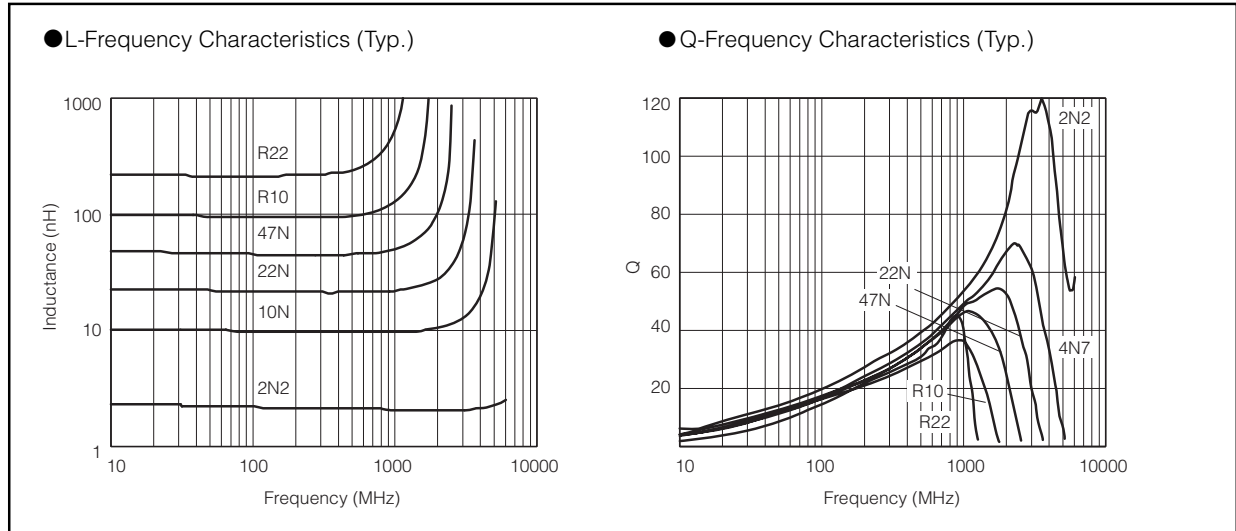
■ Standard Parts (E12 series)

Part No.	Inductance			Q		SRF *1 (MHz) min.	R <sub>DC</sub> *2 (Ω) max.	DC Current (mA) max.
	(nH)	Tolerance (%)	Test Freq. (MHz)	min.	Test Freq. (MHz)			
ELJRE1N0□FA	1.0	D : ±0.3 nH	Z : ±0.2 nH	100	100	6000	0.05	500
ELJRE1N2□FA	1.2					6000	0.06	500
ELJRE1N5□FA	1.5					6000	0.07	500
ELJRE1N8□FA	1.8					6000	0.08	500
ELJRE2N2□FA	2.2					6000	0.09	500
ELJRE2N7□FA	2.7					6000	0.10	500
ELJRE3N3□FA	3.3	J : ±5 %	G : ±2 %	100	100	5500	0.12	500
ELJRE3N9□FA	3.9					5500	0.15	450
ELJRE4N7□FA	4.7					4800	0.17	450
ELJRE5N6□FA	5.6					4600	0.18	430
ELJRE6N8□FA	6.8					3550	0.20	430
ELJRE8N2□FA	8.2					3500	0.28	400
ELJRE10N□FA	10					2800	0.32	400
ELJRE12N□FA	12					2800	0.35	400
ELJRE15N□FA	15					2500	0.41	350
ELJRE18N□FA	18					2300	0.45	350
ELJRE22N□FA	22					2000	0.50	300
ELJRE27N□FA	27					2000	0.55	300
ELJRE33N□FA	33	1800	0.60	300				
ELJRE39N□FA	39	1800	0.80	300				
ELJRE47N□FA	47	1800	0.95	250				
ELJRE56N□FA	56	1800	1.20	250				
ELJRE68N□FA	68	1500	1.30	250				
ELJRE82N□FA	82	1500	1.50	250				
ELJRER10□FA	100	1300	1.80	200				
ELJRER12□FA	120	25.2	25.2	1200	3.00	130		
ELJRER15□FA	150			1100	4.50	100		
ELJRER18□FA	180			1000	6.50	80		
ELJRER22□FA	220			900	7.50	70		

□ : Symbol of Tolerance \*1 : Self Resonant Frequency \*2 : DC Resistance

### ■ ELJRE Type

### ■ Typical Characteristics



### ■ Reference Date

Part No	Inductance (nH)(Typ.)					Q(Typ.)				
	800MHz	900MHz	1.8GHz	2.0GHz	2.4GHz	800MHz	900MHz	1.8GHz	2.0GHz	2.4GHz
ELJRE1N0□FA	1.01	1.01	0.99	0.98	0.98	71.2	76.8	116.8	129.6	155.8
ELJRE1N2□FA	1.19	1.19	1.18	1.17	1.17	65.1	69.8	102.7	113.9	136.9
ELJRE1N5□FA	1.41	1.41	1.39	1.39	1.38	52.7	56.2	79.6	88.0	103.3
ELJRE1N8□FA	1.86	1.86	1.84	1.84	1.84	55.9	59.6	86.7	97.5	117.0
ELJRE2N2□FA	2.10	2.09	2.07	2.07	2.07	48.6	51.3	74.8	83.6	98.6
ELJRE2N7□FA	2.59	2.59	2.58	2.59	2.60	48.6	51.3	71.1	78.1	89.9
ELJRE3N3□FA	3.09	3.08	3.08	3.09	3.11	49.6	52.7	78.5	88.6	105.8
ELJRE3N9□FA	3.61	3.61	3.63	3.65	3.69	50.2	53.0	70.5	77.1	87.0
ELJRE4N7□FA	4.42	4.42	4.48	4.52	4.60	46.3	49.4	69.4	76.6	86.1
ELJRE5N6□FA	5.39	5.39	5.49	5.55	5.66	49.5	52.8	75.4	84.0	94.3
ELJRE6N8□FA	6.59	6.60	6.79	6.89	7.08	49.3	52.8	78.1	86.7	97.0
ELJRE8N2□FA	7.97	7.99	8.33	8.51	8.83	49.0	52.4	75.4	82.6	89.1
ELJRE10N□FA	9.60	9.63	10.22	10.51	11.07	44.2	47.0	63.4	68.0	69.7
ELJRE12N□FA	11.7	11.8	12.7	13.2	14.1	44.6	47.7	64.7	68.5	67.8
ELJRE15N□FA	14.6	14.6	16.2	17.1	18.7	42.4	45.4	58.4	59.5	56.9
ELJRE18N□FA	17.6	17.8	20.2	21.5	24.2	45.9	49.4	64.6	65.0	58.8
ELJRE22N□FA	21.7	21.9	26.0	28.3	33.3	43.0	45.8	54.2	52.2	43.8
ELJRE27N□FA	27.2	27.6	34.6	38.9	49.3	43.9	47.0	52.4	49.2	38.1
ELJRE33N□FA	33.3	33.9	45.5	53.2	75.2	41.8	44.4	45.2	39.3	26.2
ELJRE39N□FA	39.8	40.7	58.6	71.9	117.0	42.2	44.9	40.4	33.1	18.8
ELJRE47N□FA	48.3	49.6	79.8	107.1	260.7	42.6	45.3	34.1	24.0	8.8
ELJRE56N□FA	59.2	61.1	112.8	176.3	735.5	42.0	44.5	25.1	15.2	0.8
ELJRE68N□FA	73.9	77.0	185.9	459.7		41.8	44.0	21.5	9.5	
ELJRE82N□FA	94.0	99.6	494.3			39.7	41.5	7.7		
ELJRER10□FA	115.2	123.5	2141.2			35.3	36.7	1.6		
ELJRER12□FA	143.4	156.9				35.2	35.7			
ELJRER15□FA	188.5	210.6				40.6	41.5			
ELJRER18□FA	242.9	280.4				39.0	39.8			
ELJRER22□FA	337.9	416.6				43.2	45.3			

□ : Symbol of Tolerance

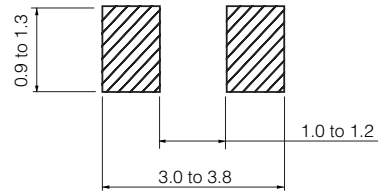
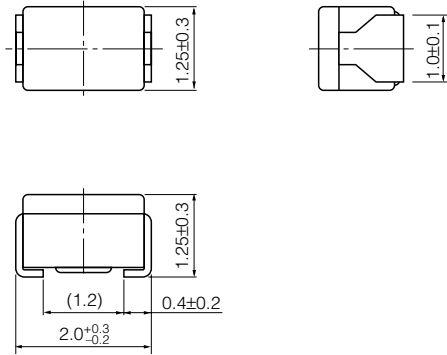
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■ ND Type 2012 (0805)

● Dimensions in mm (not to scale)

● Recommended Land Pattern in mm (not to scale)



■ Standard Packing Quantity

● 3000 pcs./Reel

■ Standard Parts

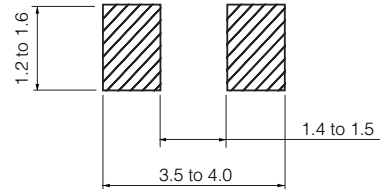
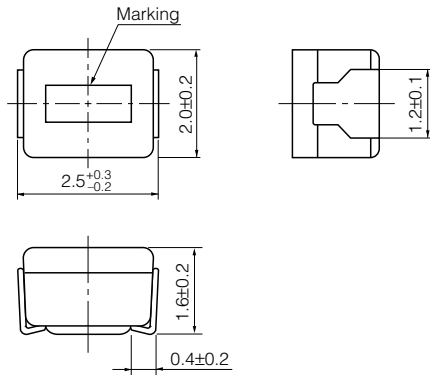
Part No.	Inductance			Q		SRF *1 (MHz) min.	R <sub>DC</sub> *2 (Ω) max.	DC Current (mA) max.				
	(nH)	Tolerance (%)	Test Freq. (MHz)	min.	Test Freq. (MHz)							
ELJND10N□F	10	K : ±10 %	100	10	100	3300	0.18	540				
ELJND12N□F	12					3300	0.24	535				
ELJND15N□F	15					3000	0.24	520				
ELJND18N□F	18					3000	0.29	480				
ELJND22N□F	22					2600	0.29	465				
ELJND27N□F	27			K : ±10 % or J : ±5 %		25.2	15	2500	0.34	455		
ELJND33N□F	33							2050	0.39	395		
ELJND39N□F	39							2000	0.41	390		
ELJND47N□F	47							1650	0.46	385		
ELJND56N□F	56							1550	0.51	360		
ELJND68N□F	68	25.2	10		25.2		1450	0.57	340			
ELJND82N□F	82						1100	0.63	330			
ELJNDR10□F	100						25.2	10	25.2	800	0.86	285
ELJNDR12□F	120									600	0.99	275
ELJNDR15□F	150									600	1.47	230
ELJNDR18□F	180			600		1.61				195		
ELJNDR22□F	220			500		1.84				170		
ELJNDR27□F	270			300		1.95				165		
ELJNDR33□F	330			200		2.16				160		
ELJNDR39□F	390			150		2.37				150		
ELJNDR47□F	470	150	2.56	145								
ELJNDR56□F	560	100	2.69	140								
ELJNDR68□F	680	100	3.02	130								
ELJNDR82□F	820	80	3.38	125								
ELJND1R0□F	1000	7.96	8	7.96	80	3.88	120					

□ : Symbol of Tolerance \*1 : Self Resonant Frequency \*2 : DC Resistance

■ NC Type 2520 (1008)

● Dimensions in mm (not to scale)

● Recommended Land Pattern in mm (not to scale)



■ Standard Packing Quantity

● 2000 pcs./Reel

■ Standard Parts

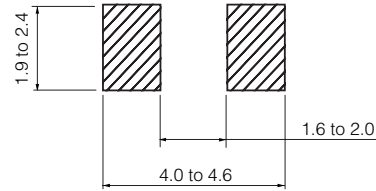
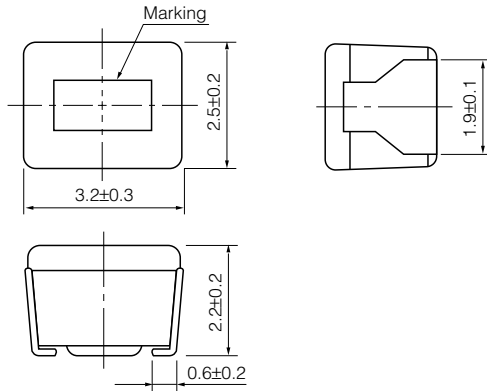
Part No.	Inductance			Q		SRF *1 (MHz) min.	R <sub>DC</sub> *2 (Ω) max.	DC Current (mA) max.				
	(nH)	Tolerance (%)	Test Freq. (MHz)	min.	Test Freq. (MHz)							
ELJNC10N□F	10	K : ±10 %	100	10	100	2500	0.32	280				
ELJNC12N□F	12					2200	0.34	270				
ELJNC15N□F	15					1800	0.38	255				
ELJNC18N□F	18					1550	0.40	250				
ELJNC22N□F	22					1350	0.43	240				
ELJNC27N□F	27					1150	0.47	230				
ELJNC33N□F	33	K : ±10 % or J : ±5 %	100	15	100	1000	0.51	220				
ELJNC39N□F	39					890	0.55	215				
ELJNC47N□F	47					770	0.59	205				
ELJNC56N□F	56					670	0.63	200				
ELJNC68N□F	68					590	0.68	190				
ELJNC82N□F	82					520	0.73	185				
ELJNCR10□F	100					K : ±10 % or J : ±5 %	25.2	10	25.2	460	0.80	175
ELJNCR12□F	120									400	0.87	170
ELJNCR15□F	150									340	0.98	160
ELJNCR18□F	180									300	1.05	155
ELJNCR22□F	220									260	1.15	145
ELJNCR27□F	270									230	1.25	140
ELJNCR33□F	330	200	1.37	135								
ELJNCR39□F	390	180	1.47	130								
ELJNCR47□F	470	160	1.58	125								
ELJNCR56□F	560	145	1.70	120								
ELJNCR68□F	680	130	1.85	110								
ELJNCR82□F	820	100	2.10	100								

□ : Symbol of Tolerance \*1 : Self Resonant Frequency \*2 : DC Resistance

### ■ NA Type 3225 (1210)

● Dimensions in mm (not to scale)

● Recommended Land Pattern in mm (not to scale)



### ■ Standard Packing Quantity

● 2000 pcs./Reel

### ■ Standard Parts

Part No.	Inductance			Q		SRF *1 (MHz) min.	R <sub>bc</sub> *2 (Ω) max.	DC Current (mA) max.
	(nH)	Tolerance (%)	Test Freq. (MHz)	min.	Test Freq. (MHz)			
ELJNA47N□F	47	M : ±20 %	100	10	100	680	0.20	450
ELJNA56N□F	56					600	0.22	420
ELJNA68N□F	68					540	0.25	400
ELJNA82N□F	82					500	0.27	380
ELJNAR10□F	100					450	0.30	360
ELJNAR12□F	120					25.2	10	25.2
ELJNAR15□F	150	350	0.72	230				
ELJNAR18□F	180	320	0.81	220				
ELJNAR22□F	220	280	0.90	210				
ELJNAR27□F	270	250	1.0	200				
ELJNAR33□F	330	K : ±10 % or J : ±5 %	1	13	220			
ELJNAR39□F	390				200	1.2	180	
ELJNAR47□F	470				180	1.4	175	
ELJNAR56□F	560				160	1.5	170	
ELJNAR68□F	680				150	1.7	155	
ELJNAR82□F	820				135	1.9	145	
ELJNA1R0□F	1000	J : ±5 %	1	13	7.96	120	2.1	125
ELJNA1R2□F	1200					110	2.3	120
ELJNA1R5□F	1500					95	2.7	115
ELJNA1R8□F	1800					85	3.0	110
ELJNA2R2□F	2200					80	3.2	110
ELJNA2R7□F	2700					70	3.6	105
ELJNA3R3□F	3300					62	4.2	100
ELJNA3R9□F	3900					57	4.4	95
ELJNA4R7□F	4700					52	7.7	70
ELJNA5R6□F	5600					46	8.7	65
ELJNA6R8□F	6800					42	10	60
ELJNA8R2□F	8200					38	11	60

□ : Symbol of Tolerance \*1 : Self Resonant Frequency \*2 : DC Resistance

Design and specifications are each subject to change without notice. Ask factory for the current technical specifications before purchase and/or use. Should a safety concern arise regarding this product, please be sure to contact us immediately.

00 Sep. 2010