

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



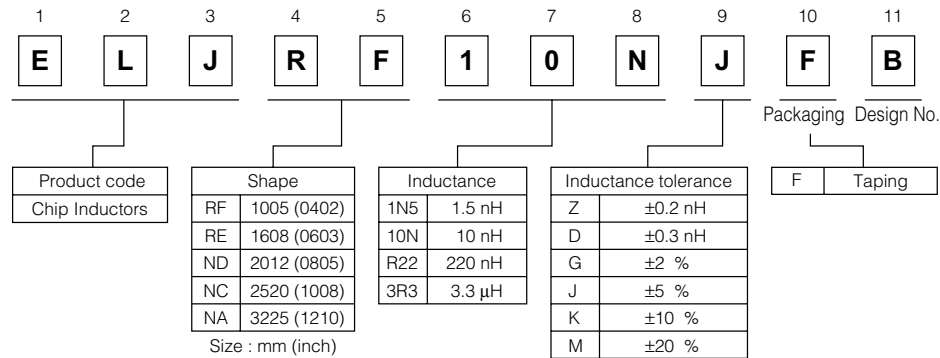
### ■ Features

- 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

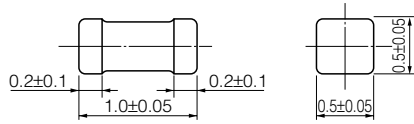
■ Safety Precautions Please see Page 129

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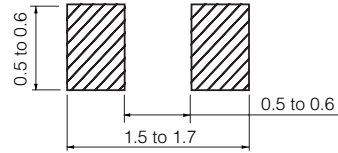
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■ RF Type 1005 (0402)

● 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				
ELJRF10□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

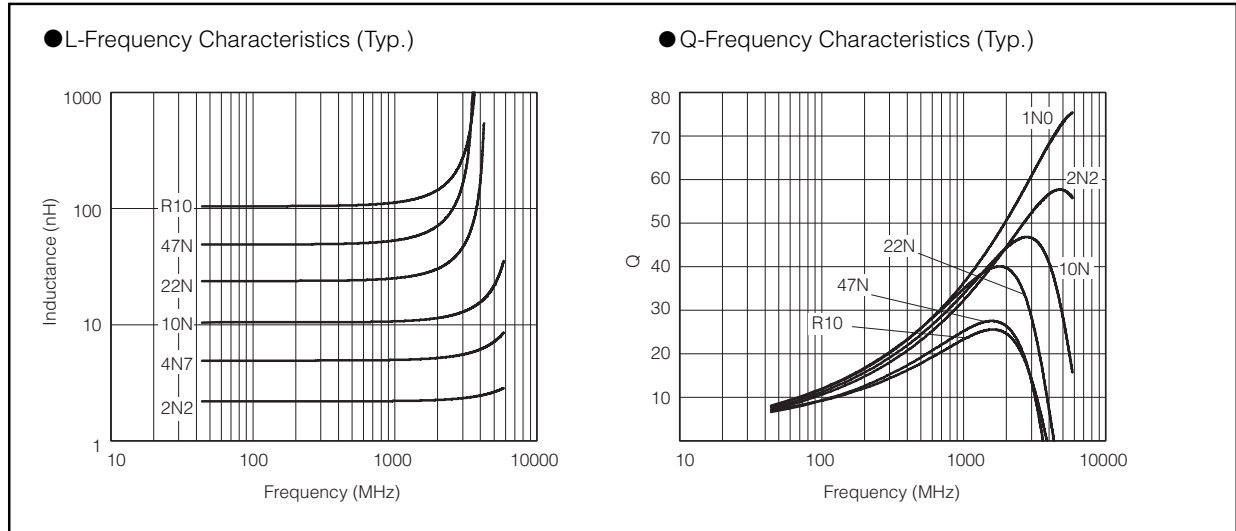
□ : Symbol of Tolerance \*1 : Self Resonant Frequency \*2 : DC Resistance

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### ■ 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
ELJRFR10□FB	105.5	106.8	128.2	136.5	161.3	21.0	21.9	25.0	24.4	21.9

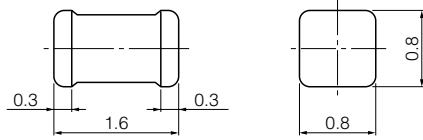
□ : Symbol of Tolerance

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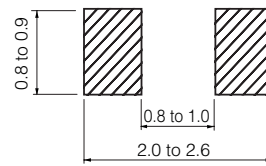
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■ RE Type 1608 (0603)

● Dimensions in mm (not to scale)



● Recommended Land Pattern in mm (not to scale)



■ Standard Packing Quantity

● 3000 pcs./Reel

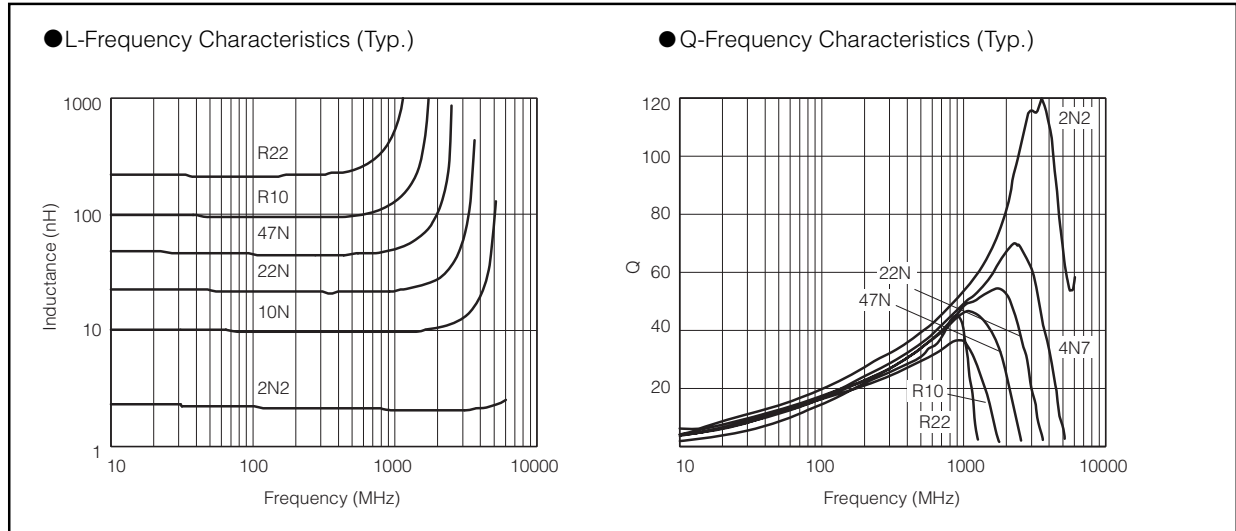
■ Standard Parts (E12 series)

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

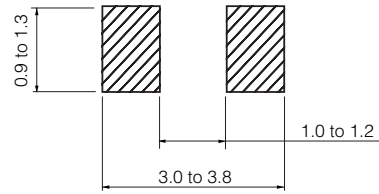
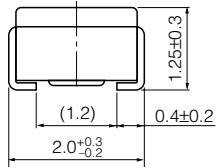
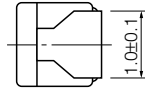
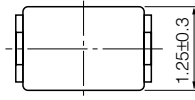
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■ ND Type 2012 (0805)

● Dimensions in mm (not to scale)

● Recommended Land Pattern in mm (not to scale)



■ Standard Packing Quantity

● 3000 pcs./Reel

■ Standard Parts

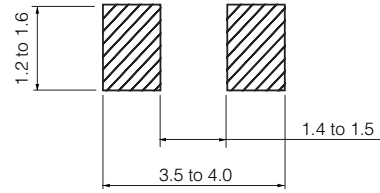
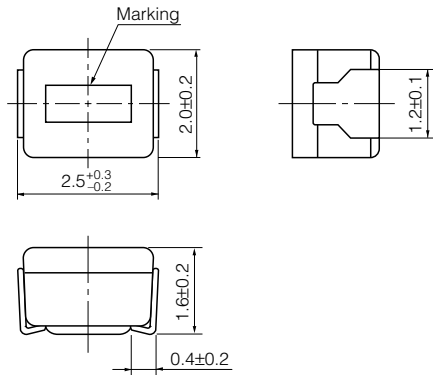
Part No.	Inductance			Q		SRF *1 (MHz) min.	R <sub>DC</sub> *2 (Ω) max.	DC Current (mA) max.					
	(nH)	Tolerance (%)	Test Freq. (MHz)	min.	Test Freq. (MHz)								
ELJND10N□F	10	K : ±10 %	100	10	100	3300	0.18	540					
ELJND12N□F	12					3300	0.24	535					
ELJND15N□F	15					3000	0.24	520					
ELJND18N□F	18					3000	0.29	480					
ELJND22N□F	22					2600	0.29	465					
ELJND27N□F	27			15		100	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	K : ±10 % or J : ±5 %	25.2	10	25.2	1450	0.57	340					
ELJND82N□F	82					1100	0.63	330					
ELJNDR10□F	100					8	25.2	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					10			25.2	25.2	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	25.2	25.2	100	3.02	130						
ELJNDR82□F	820				80	3.38	125						
ELJND1R0□F	1000				80	3.88	120						
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

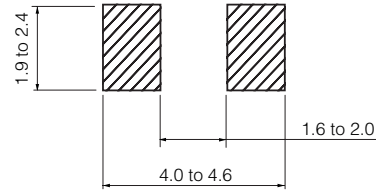
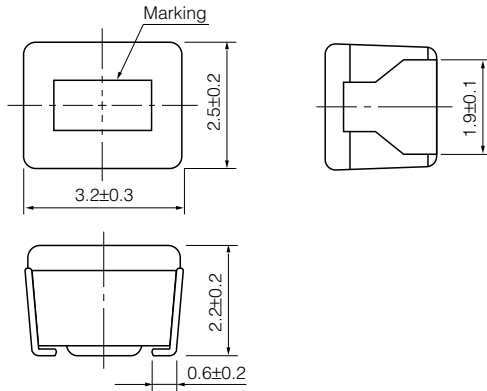
Part No.	Inductance			Q		SRF *1 (MHz) min.	R <sub>DC</sub> *2 (Ω) max.	DC Current (mA) max.
	(nH)	Tolerance (%)	Test Freq. (MHz)	min.	Test Freq. (MHz)			
ELJNC10N□F	10	K : ±10 %	100	10	100	2500	0.32	280
ELJNC12N□F	12					2200	0.34	270
ELJNC15N□F	15					1800	0.38	255
ELJNC18N□F	18					1550	0.40	250
ELJNC22N□F	22					1350	0.43	240
ELJNC27N□F	27					1150	0.47	230
ELJNC33N□F	33	K : ±10 % or J : ±5 %	25.2	15	25.2	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					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					K : ±10 % or J : ±5 %	25.2	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	220	1.1	190				
ELJNAR39□F	390	J : ±5 %	1	13	7.96	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					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