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.
- RoHS compliant

■ Recommended Applications

- RF circuitry for cellular phones and wireless communication equipment.

■ Explanation of Part Numbers

1	2	3	4	5	6	7	8	9	10	11
E	L	J	R	F	1	0	N	J	F	B

Packaging Design No.

Product code
Chip Inductors

Shape	
RF	1005 (0402)
RE	1608 (0603)
ND	2012 (0805)
NC	2520 (1008)
NA	3225 (1210)

Size : mm (inch)

Inductance	
1N5	1.5 nH
10N	10 nH
R22	220 nH
3R3	3.3 µH

Inductance tolerance	
Z	±0.2 nH
D	±0.3 nH
G	±2 %
J	±5 %
K	±10 %
M	±20 %

F	Taping

■ 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 : –40 to +85 °C (RF, RE)
  –20 to +85 °C (ND, NC, NA)

■ Storage Period

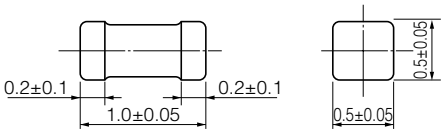
- Solderability may be reduced due to the conditions of high temperature and high humidity which causes the oxidation of tin-plated terminals. Even if storage conditions are within specified limits, solderability may be reduced with the passage of time. Therefore, please control the storage conditions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

■ Packaging Methods, Soldering Conditions and Safety Precautions

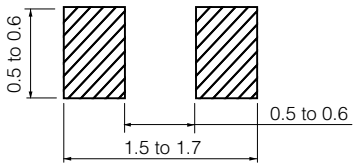
Please see Data Files.

■ 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 (nH)	Inductance Tolerance (%)		Inductance Test Freq. (MHz)	Q min.	Q Test Freq. (MHz)	SRF *1 (MHz) min.	R_{DC} *2 (Ω) max.	DC Current (mA) max.
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 %				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)

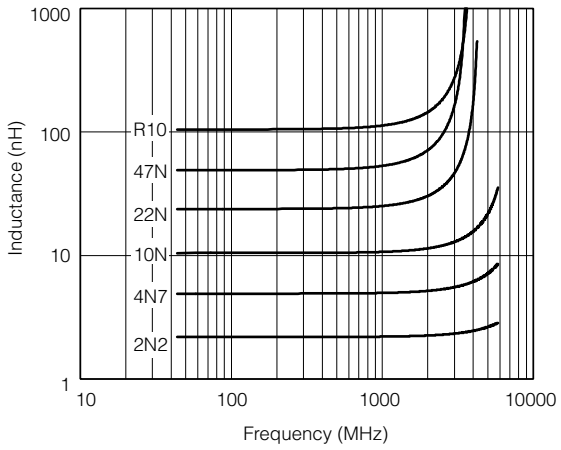
Part No.	Inductance (nH)	Inductance Tolerance (%)		Inductance Test Freq. (MHz)	Q min.	Q Test Freq. (MHz)	SRF *1 (MHz) min.	R_{DC} *2 (Ω) max.	DC Current (mA) max.
ELJRF2N0□FB	2.0	D : ±0.3 nH	Z : ±0.2 nH	100	8	100	6000	0.08	400
ELJRF2N4□FB	2.4						6000	0.09	400
ELJRF3N0□FB	3.0						5500	0.11	400
ELJRF3N6□FB	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	J : ±5 %	G : ±2 %				3700	0.33	320
ELJRF9N1□FB	9.1						3100	0.38	320
ELJRF11N□FB	11						2800	0.43	320
ELJRF13N□FB	13						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

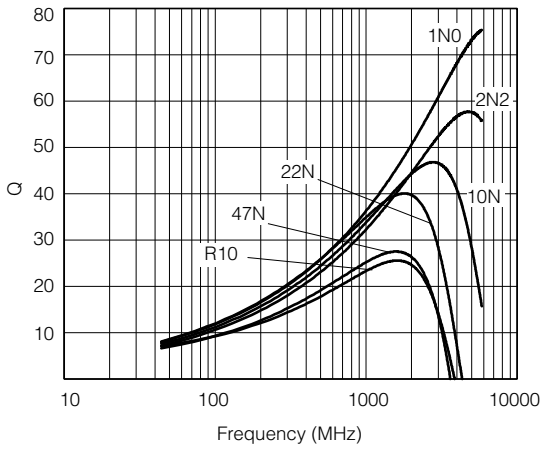
■ ELJRF Type

■ Typical Characteristics

●L-Frequency Characteristics (Typ.)



● Q-Frequency Characteristics (Typ.)



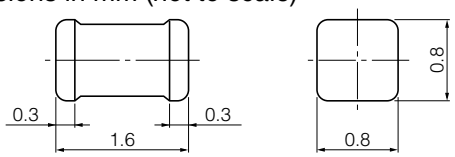
■ Reference Date

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

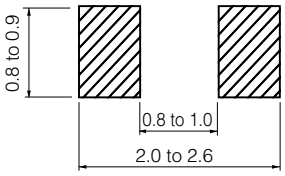
□ : Symbol of Tolerance

■ 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)

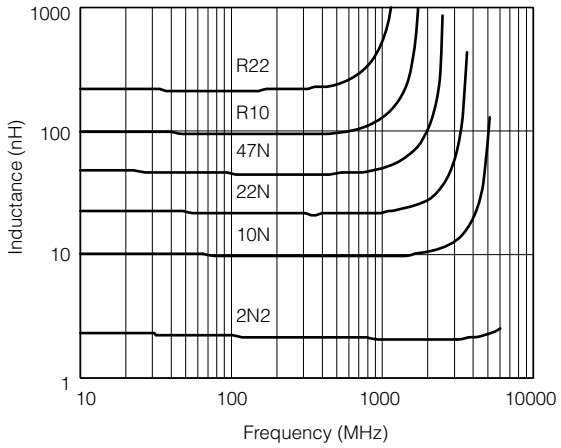
Part No.	Inductance			Q		SRF *1 (MHz) min.	R_{DC} *2 (Ω) max.	DC Current (mA) max.
	(nH)	Tolerance (%)	Test Freq. (MHz)	min.	Test Freq. (MHz)			
ELJRE1N0□FA	1.0	D : ±0.3 nH	Z : ±0.2 nH	7	100	6000	0.05	500
ELJRE1N2□FA	1.2					6000	0.06	500
ELJRE1N5□FA	1.5			8		6000	0.07	500
ELJRE1N8□FA	1.8					6000	0.08	500
ELJRE2N2□FA	2.2					6000	0.09	500
ELJRE2N7□FA	2.7					6000	0.10	500
ELJRE3N3□FA	3.3			9		5500	0.12	500
ELJRE3N9□FA	3.9	J : ±5 %				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		G : ±2 %	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			11		1800	0.80	300
ELJRE47N□FA	47					1800	0.95	250
ELJRE56N□FA	56			12		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	5	25.2	1200	3.00	130
ELJRER15□FA	150					1100	4.50	100
ELJRER18□FA	180			4		1000	6.50	80
ELJRER22□FA	220					900	7.50	70

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

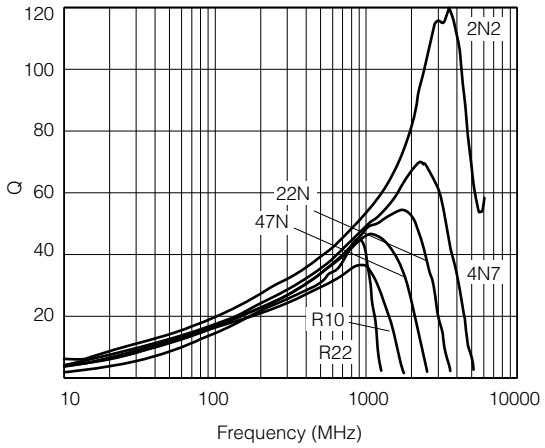
■ ELJRE Type

■ Typical Characteristics

●L-Frequency Characteristics (Typ.)



●Q-Frequency Characteristics (Typ.)



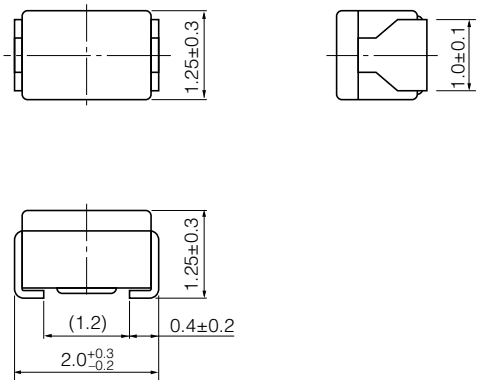
■ Reference Date

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			

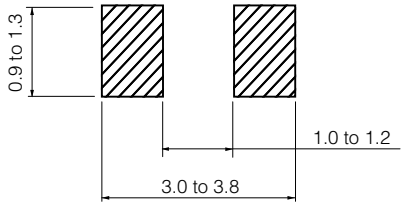
□ : Symbol of Tolerance

■ ND Type 2012 (0805)

● Dimensions in mm (not to scale)



● Recommended Land Pattern in mm (not to scale)



■ Standard Packing Quantity

● 3000 pcs./Reel

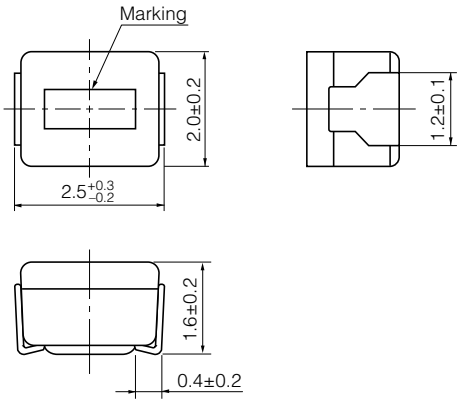
■ Standard Parts

Part No.	Inductance			Q		SRF *1 (MHz) min.	R_{DC} *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			12		3000	0.24	520
ELJND18N□F	18					3000	0.29	480
ELJND22N□F	22					2600	0.29	465
ELJND27N□F	27			15		2500	0.34	455
ELJND33N□F	33	K : ±10 % or J : ± 5 %				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					1450	0.57	340
ELJND82N□F	82					1100	0.63	330
ELJNDR10□F	100		25.2	8	25.2	800	0.86	285
ELJNDR12□F	120					600	0.99	275
ELJNDR15□F	150			10		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

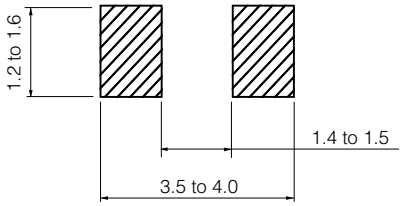
□ : Symbol of Tolerance ✻1 : Self Resonant Frequency ✻2 : DC Resistance

■ NC Type 2520 (1008)

● Dimensions in mm (not to scale)



● Recommended Land Pattern in mm (not to scale)



■ Standard Packing Quantity

● 2000 pcs./Reel

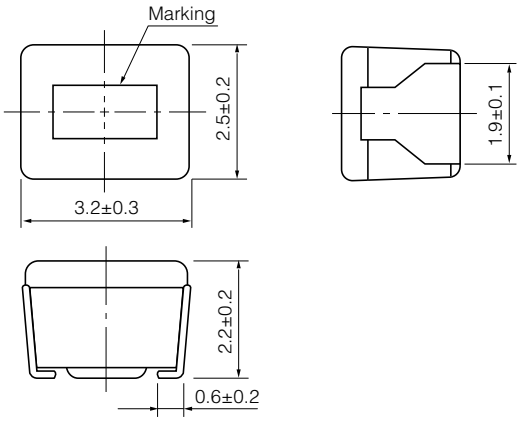
■ Standard Parts

Part No.	Inductance			Q		SRF *1 (MHz) min.	R_{DC} *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			15		1350	0.43	240
ELJNC27N□F	27					1150	0.47	230
ELJNC33N□F	33	K : ±10 % or J : ± 5 %				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		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

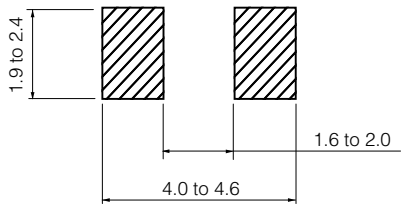
□ : Symbol of Tolerance ✻1 : Self Resonant Frequency ✻2 : DC Resistance

■ 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_{DC} *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		25.2	400	0.67	240
ELJNAR15□F	150					350	0.72	230
ELJNAR18□F	180					320	0.81	220
ELJNAR22□F	220	K : ±10 % or J : ± 5 %	1			280	0.90	210
ELJNAR27□F	270					250	1.0	200
ELJNAR33□F	330					220	1.1	190
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 %		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