

# Radial Lead Inductors(Coils) For Signal Line

Conformity to RoHS Directive

## EL Series EL0405

### FEATURES

- The EL series inductors are available in ranging from 0405 to 0909 types.
- With a miniature winding construction, these inductors nonetheless achieve high Q characteristics.
- Available in tape packaging to support automated mounting machines.
- Terminal platings and internal connecting solder use lead-free materials.
- This product conforms to the standards that are slated to be introduced under the RoHS Directive.

### APPLICATIONS

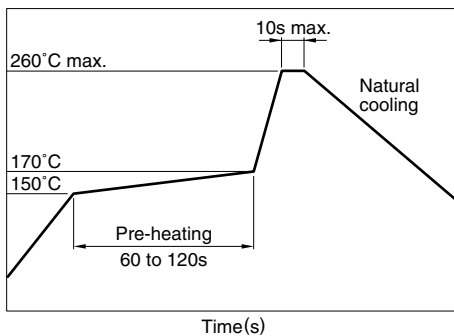
Televisions, VCRs, personal computers, and other electronic equipment.

### SPECIFICATIONS

Operating temperature range	-20 to +80°C [Including self-temperature rise]
Storage temperature range	-40 to +80°C [Unit of products]
Terminal tensile strength	7.84N min.

### RECOMMENDED SOLDERING CONDITIONS

#### FLOW SOLDERING



#### IRON SOLDERING

Tip temperature	350°C max.
Heating time	5 seconds/soldering

- The use of reflow soldering is not guaranteed.

### PRODUCT IDENTIFICATION

EL	0405	RA-	1R0	J	-3	PF
(1)	(2)	(3)	(4)	(5)	(6)	(7)

(1)Series name

(2)Dimensions

0405	5.4×4.4×7mm (lead pitch 5mm)
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(3)Packaging style

RA	Ammo-pack
SKI	Bulk

(4)Inductance value

R22	0.22μH
1R0	1μH
100	10μH
101	100μH

(5)Inductance tolerance

J	±5%
K	±10%

(6)TDK internal code

(Some products may not have this number.)

(7) Lead-free compatible product

PF	Lead-free compatible product
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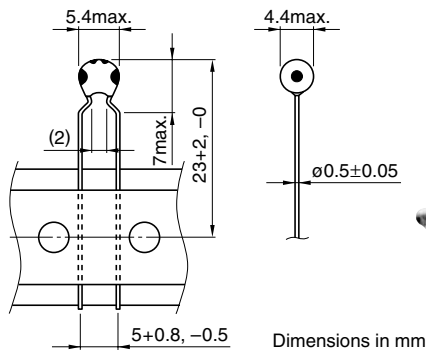
### PACKAGING STYLE AND QUANTITIES

Packaging style	Quantity
Ammo-pack	3000 pieces
Bulk	1000 pieces/pack

• Conformity to RoHS Directive: This means that, in conformity with EU Directive 2002/95/EC, lead, cadmium, mercury, hexavalent chromium, and specific bromine-based flame retardants, PBB and PBDE, have not been used, except for exempted applications.

• All specifications are subject to change without notice.

## AMMO-PACK TAPING STYLE SHAPES AND DIMENSIONS



Dimensions in mm

## CHARACTERISTICS

Operating temperature range	-20 to +80°C [Including self-temperature rise 20°C max.]
Rated current	Based on inductance change [-10% to the initial value]
Terminal tensile strength	7.84N min.

## ELECTRICAL CHARACTERISTICS

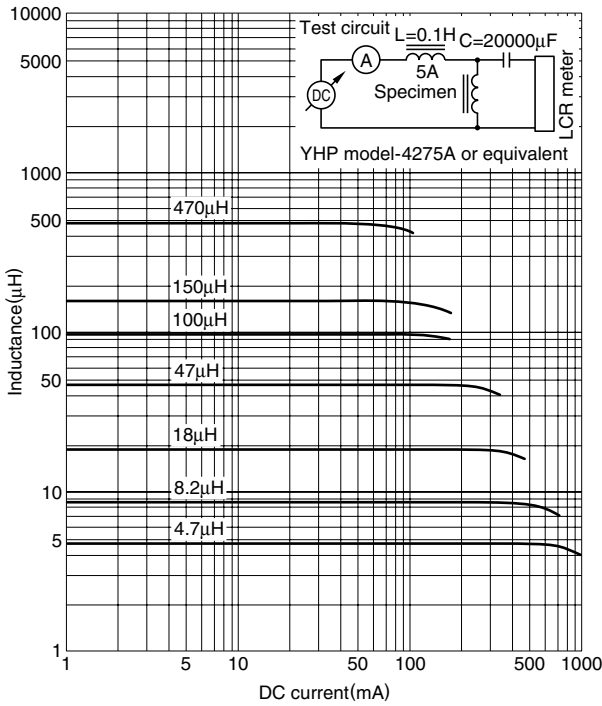
Inductance (μH)	Inductance tolerance	Q min.	Test frequency L, Q(MHz)	Self-resonant frequency (MHz)min.	DC resistance (Ω)max.	Rated current (mA)max.	Part No.	Color code			
								1st	2nd	3rd	4th
0.22	±10%	50	25.2	150	0.15	800	EL0405□-R22K-3PF	Red	Red	Silver	Silver
0.27	±10%	50	25.2	150	0.15	800	EL0405□-R27K-3PF	Red	Violet	Silver	Silver
0.33	±10%	50	25.2	150	0.15	800	EL0405□-R33K-3PF	Orange	Orange	Silver	Silver
0.39	±10%	50	25.2	130	0.15	800	EL0405□-R39K-3PF	Orange	White	Silver	Silver
0.47	±10%	50	25.2	130	0.15	800	EL0405□-R47K-3PF	Yellow	Violet	Silver	Silver
0.56	±10%	50	25.2	130	0.20	700	EL0405□-R56K-3PF	Green	Blue	Silver	Silver
0.68	±10%	50	25.2	120	0.20	700	EL0405□-R68K-3PF	Blue	Gray	Silver	Silver
0.82	±10%	50	25.2	120	0.20	700	EL0405□-R82K-3PF	Gray	Red	Silver	Silver
1.0	±5%	50	7.96	85	0.22	674	EL0405□-1R0J-3PF	Brown	Black	Gold	Gold
1.2	±5%	50	7.96	75	0.24	645	EL0405□-1R2J-3PF	Brown	Red	Gold	Gold
1.5	±5%	50	7.96	65	0.27	608	EL0405□-1R5J-3PF	Brown	Green	Gold	Gold
1.8	±5%	50	7.96	55	0.30	577	EL0405□-1R8J-3PF	Brown	Gray	Gold	Gold
2.2	±5%	50	7.96	50	0.33	550	EL0405□-2R2J-3PF	Red	Red	Gold	Gold
2.7	±5%	50	7.96	45	0.37	520	EL0405□-2R7J-3PF	Red	Violet	Gold	Gold
3.3	±5%	50	7.96	40	0.42	488	EL0405□-3R3J-3PF	Orange	Orange	Gold	Gold
3.9	±5%	50	7.96	35	0.46	466	EL0405□-3R9J-3PF	Orange	White	Gold	Gold
4.7	±5%	50	7.96	30	0.53	434	EL0405□-4R7J-3PF	Yellow	Violet	Gold	Gold
5.6	±5%	50	7.96	27	0.56	422	EL0405□-5R6J-3PF	Green	Blue	Gold	Gold
6.8	±5%	50	7.96	25	0.63	398	EL0405□-6R8J-3PF	Blue	Gray	Gold	Gold
8.2	±5%	50	7.96	22	0.70	378	EL0405□-8R2J-3PF	Gray	Red	Gold	Gold
10	±5%	50	2.52	20	0.80	353	EL0405□-100J-3PF	Brown	Black	Black	Gold
12	±5%	50	2.52	18	0.87	339	EL0405□-120J-3PF	Brown	Red	Black	Gold
15	±5%	50	2.52	15	1.00	316	EL0405□-150J-3PF	Brown	Green	Black	Gold
18	±5%	50	2.52	12	1.11	301	EL0405□-180J-3PF	Brown	Gray	Black	Gold
22	±5%	40	2.52	11	1.35	272	EL0405□-220J-3PF	Red	Red	Black	Gold
27	±5%	40	2.52	10	1.55	254	EL0405□-270J-3PF	Red	Violet	Black	Gold
33	±5%	40	2.52	9.5	1.75	239	EL0405□-330J-3PF	Orange	Orange	Black	Gold
39	±5%	40	2.52	9.0	2.00	223	EL0405□-390J-3PF	Orange	White	Black	Gold
47	±5%	40	2.52	8.5	2.20	213	EL0405□-470J-3PF	Yellow	Violet	Black	Gold
56	±5%	40	2.52	8.0	2.40	204	EL0405□-560J-3PF	Green	Blue	Black	Gold
68	±5%	40	2.52	7.5	3.30	174	EL0405□-680J-3PF	Blue	Gray	Black	Gold
82	±5%	40	2.52	7.0	3.70	164	EL0405□-820J-3PF	Gray	Red	Black	Gold
100	±5%	35	0.796	6.5	4.40	150	EL0405□-101J-3PF	Brown	Black	Brown	Gold
120	±5%	35	0.796	6.2	5.10	140	EL0405□-121J-3PF	Brown	Red	Brown	Gold
150	±5%	35	0.796	5.7	5.95	130	EL0405□-151J-3PF	Brown	Green	Brown	Gold
180	±5%	35	0.796	5.3	7.00	120	EL0405□-181J-3PF	Brown	Gray	Brown	Gold
220	±5%	35	0.796	4.0	8.00	112	EL0405□-221J-3PF	Red	Red	Brown	Gold
270	±5%	35	0.796	3.6	12.4	90	EL0405□-271J-3PF	Red	Violet	Brown	Gold
330	±5%	35	0.796	3.3	13.2	87	EL0405□-331J-3PF	Orange	Orange	Brown	Gold
390	±5%	35	0.796	3.0	15.4	80	EL0405□-391J-3PF	Orange	White	Brown	Gold
470	±5%	35	0.796	2.8	17.3	76	EL0405□-471J-3PF	Yellow	Violet	Brown	Gold

\* □: Please specify packaging style, RA (Taping) or SKI (Bulk)

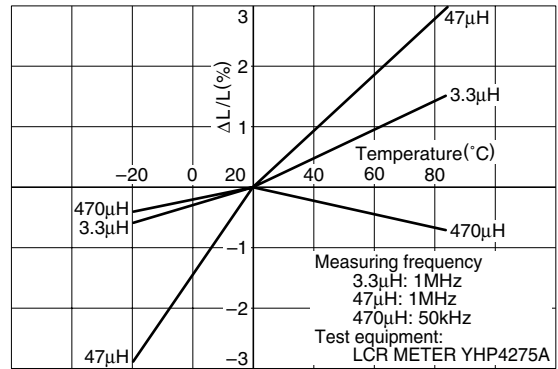
- Test equipment L, Q: HP4194A IMPEDANCE ANALYZER, or equivalent  
SRF: HP8753C NETWORK ANALYZER, or equivalent  
Rdc: NATIONAL VP-2941A MILLIOHM METER, or equivalent

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### TYPICAL ELECTRICAL CHARACTERISTICS INDUCTANCE CHANGE vs. DC SUPERPOSITION CHARACTERISTICS



### INDUCTANCE CHANGE vs. TEMPERATURE CHARACTERISTICS



Test terminal: Measuring at after the correction  
 Cycle: +20 $^{\circ}C$   $\rightarrow$  +80 $^{\circ}C$   $\rightarrow$  +20 $^{\circ}C$   $\rightarrow$  -20 $^{\circ}C$   
 Temperature: Kept stabilized for 30+5, -0min each

### Q vs. FREQUENCY CHARACTERISTICS

