

# Inductors

## For General Applications

### Radial

## ELF Series ELF0505 Type

### FEATURES

- The ELF series inductors are available in ranging from 0505 to 1010 types.
- Because they are magnetically shielded, these parts can be used in high-density mounting configurations.
- With a miniature winding construction, these inductors nonetheless achieve high Q characteristics.
- Available in tape packaging to support automated mounting machines.

### 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	24.5N min.

### PRODUCT IDENTIFICATION

ELF	0505	RA-	1R0	K	-3
(1)	(2)	(3)	(4)	(5)	(6)

(1)Series name

(2)Dimensions

0505	ø5.5×5.5mm (lead pitch 5mm)
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(3)Packaging style

RA	Ammo-pack
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(4)Inductance value

R22	0.22μH
1R0	1μH

(5)Inductance tolerance

J	±5%
K	±10%
M	±20%

(6)TDK internal code

(Some products may not have this number. See the main body for details.)

### PACKAGING STYLE AND QUANTITIES

Packaging style	Quantity
Ammo-pack	2000 pieces

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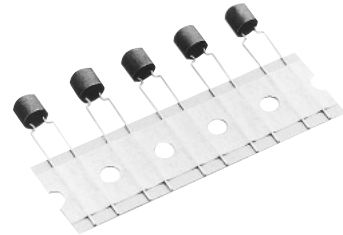
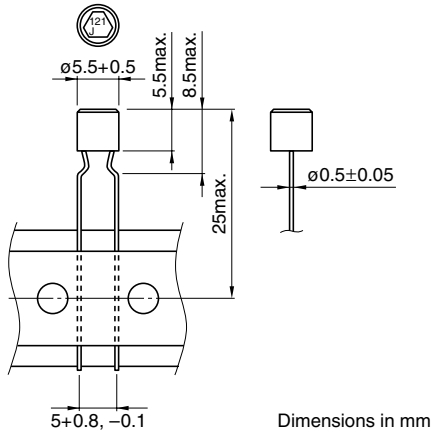
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### AMMO-PACK TAPING STYLE

#### SHAPES AND DIMENSIONS



### ELECTRICAL CHARACTERISTICS

Inductance ( $\mu$ H)	Inductance tolerance	Q min.	Test frequency L, Q (MHz)	Self-resonant frequency (MHz)ref.	DC resistance ( $\Omega$ )max.	Rated current (mA)*1 max.		Part No.
						Based on inductance change	Based on temperature rise	
0.22	$\pm 20, \pm 10\%$	45	25.2	500	0.15	600	895	ELF0505RA-R22X*2-3
0.27	$\pm 20, \pm 10\%$	45	25.2	470	0.15	600	895	ELF0505RA-R27X-3
0.33	$\pm 20, \pm 10\%$	45	25.2	340	0.15	600	895	ELF0505RA-R33X-3
0.39	$\pm 20, \pm 10\%$	45	25.2	290	0.15	600	895	ELF0505RA-R39X-3
0.47	$\pm 20, \pm 10\%$	45	25.2	250	0.15	600	895	ELF0505RA-R47X-3
0.56	$\pm 20, \pm 10\%$	45	25.2	210	0.15	600	895	ELF0505RA-R56X-3
0.68	$\pm 20, \pm 10\%$	45	25.2	180	0.15	600	895	ELF0505RA-R68X-3
0.82	$\pm 20, \pm 10\%$	45	25.2	135	0.15	600	895	ELF0505RA-R82X-3
1	$\pm 20, \pm 10\%$	50	7.96	125	0.15	600	895	ELF0505RA-1R0X-3
1.2	$\pm 20, \pm 10\%$	50	7.96	110	0.16	600	865	ELF0505RA-1R2X-3
1.5	$\pm 20, \pm 10\%$	50	7.96	99	0.19	600	795	ELF0505RA-1R5X-3
1.8	$\pm 20, \pm 10\%$	50	7.96	88	0.2	600	775	ELF0505RA-1R8X-3
2.2	$\pm 20, \pm 10\%$	50	7.96	79	0.23	600	720	ELF0505RA-2R2X-3
2.7	$\pm 20, \pm 10\%$	50	7.96	70	0.26	600	680	ELF0505RA-2R7X-3
3.3	$\pm 20, \pm 10\%$	50	7.96	63	0.29	600	645	ELF0505RA-3R3X-3
3.9	$\pm 20, \pm 10\%$	50	7.96	58	0.32	590	610	ELF0505RA-3R9X-3
4.7	$\pm 20, \pm 10\%$	50	7.96	53	0.36	540	575	ELF0505RA-4R7X-3
5.6	$\pm 20, \pm 10\%$	40	7.96	49	0.4	500	550	ELF0505RA-5R6X-3
6.8	$\pm 20, \pm 10\%$	40	7.96	45	0.44	455	520	ELF0505RA-6R8X-3
8.2	$\pm 20, \pm 10\%$	35	7.96	41	0.5	395	490	ELF0505RA-8R2X-3
10	$\pm 10, \pm 5\%$	50	2.52	37	0.8	380	385	ELF0505RA-100X-3
12	$\pm 10, \pm 5\%$	50	2.52	34	0.89	350	365	ELF0505RA-120X-3
15	$\pm 10, \pm 5\%$	50	2.52	31	1.02	320	345	ELF0505RA-150X-3
18	$\pm 10, \pm 5\%$	50	2.52	28	1.14	290	325	ELF0505RA-180X-3
22	$\pm 10, \pm 5\%$	50	2.52	25	1.3	265	305	ELF0505RA-220X-3
27	$\pm 10, \pm 5\%$	50	2.52	23	1.46	240	285	ELF0505RA-270X-3
33	$\pm 10, \pm 5\%$	50	2.52	21	1.65	220	270	ELF0505RA-330X-3
39	$\pm 10, \pm 5\%$	50	2.52	19	1.83	200	255	ELF0505RA-390X-3
47	$\pm 10, \pm 5\%$	45	2.52	17.5	2.05	185	240	ELF0505RA-470X-3
56	$\pm 10, \pm 5\%$	50	2.52	16	2.3	170	230	ELF0505RA-560X-3

\*1 Rated current: Value obtained when current flows and the temperature has risen to 20°C or when DC current flows and the initial value of inductance has fallen by 10%, whichever is smaller.

\*2 X: Please specify inductance tolerance, M( $\pm 20\%$ ) or K( $\pm 10\%$ ) or J( $\pm 5\%$ )

• Test equipment L, Q: YHP4340A Q METER, or equivalent

Rdc: MATSUSHITA VP-2941A DIGITAL MILLIOHM METER, or equivalent

SRF: TAKEDA RIKEN TR-4100 TRACKING SCOPE, or equivalent

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### ELECTRICAL CHARACTERISTICS

Inductance (μH)	Inductance tolerance	Q min.	Test frequency L, Q (MHz)	Self-resonant frequency (MHz)ref.	DC resistance (Ω)max.	Rated current (mA)*1 max.		Part No.
						Based on inductance change	Based on temperature rise	
68	±10, ±5%	45	2.52	14.5	2.6	155	215	ELF0505RA-680X*23
82	±10, ±5%	45	2.52	13	3.1	145	195	ELF0505RA-820X-3
100	±10, ±5%	40	0.796	12	3.3	130	190	ELF0505RA-101X-3
120	±10, ±5%	40	0.796	11	4.7	120	160	ELF0505RA-121X-3
150	±10, ±5%	40	0.796	10	5.4	108	150	ELF0505RA-151X-3
180	±10, ±5%	40	0.796	9.2	5.6	99	145	ELF0505RA-181X-3
220	±10, ±5%	40	0.796	8.4	6.9	90	130	ELF0505RA-221X-3
270	±10, ±5%	40	0.796	7.6	7.8	82	125	ELF0505RA-271X-3
330	±10, ±5%	40	0.796	6.9	8.9	75	115	ELF0505RA-331X-3
390	±10, ±5%	40	0.796	6.4	13	69	96	ELF0505RA-391X-3
470	±10, ±5%	40	0.796	5.8	14.8	63	90	ELF0505RA-471X-3
560	±10, ±5%	40	0.796	5.3	16.5	58	85	ELF0505RA-561X-3
680	±10, ±5%	40	0.796	5	18.5	53	81	ELF0505RA-681X-3
820	±10, ±5%	40	0.796	4.7	26	48	68	ELF0505RA-821X-3
1000	±10, ±5%	30	0.252	4.4	31	44	62	ELF0505RA-102X-3
1200	±10, ±5%	30	0.252	4.1	37	40	57	ELF0505RA-122X-3

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\*2 X: Please specify inductance tolerance, K(±10%) or J(±5%)

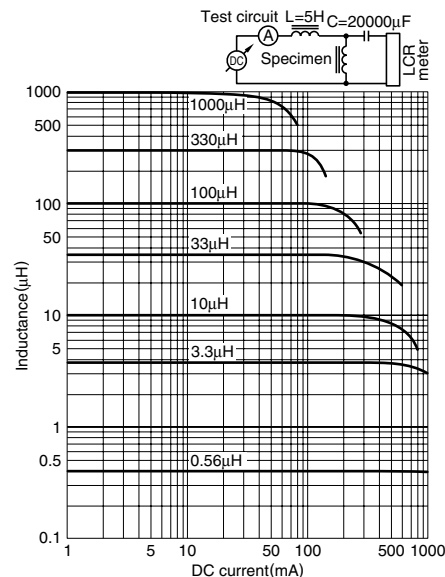
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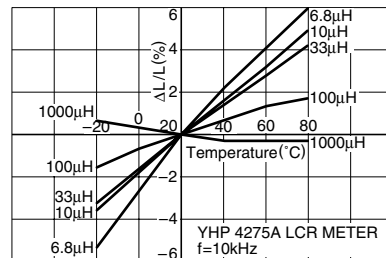
SRF: TAKEDA RIKEN TR-4100 TRACKING SCOPE, or equivalent

### TYPICAL ELECTRICAL CHARACTERISTICS

#### INDUCTANCE CHANGE vs. DC SUPERPOSITION CHARACTERISTICS



#### INDUCTANCE CHANGE vs. TEMPERATURE CHARACTERISTICS



#### Q vs. FREQUENCY CHARACTERISTICS

