

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.
- 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

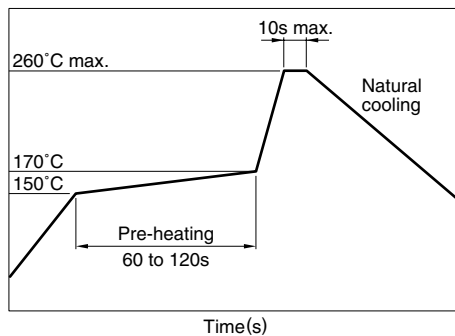
Televisions, VCRs, personal computers, and other electronic equipment.

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	24.5N 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

ELF	0505	RA-	1R0	K	-3	PF
(1)	(2)	(3)	(4)	(5)	(6)	(7)

(1) Series name

(2) Dimensions

0505	ø5.5×5.5mm (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%
M	±20%

(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	2000 pieces
Bulk	200 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.

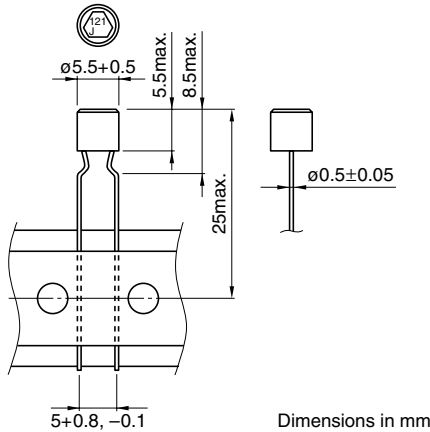
- All specifications are subject to change without notice.

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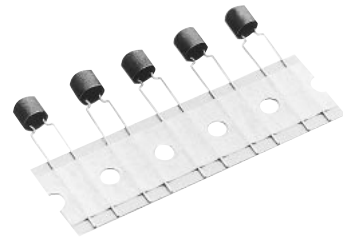
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AMMO-PACK TAPING STYLE SHAPES AND DIMENSIONS



Dimensions in mm



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)*1max.		Part No.
						Based on inductance change	Based on temperature rise	
0.22	±20, ±10%	45	25.2	500	0.15	600	895	ELF0505RA-R22□*2-3PF
0.27	±20, ±10%	45	25.2	470	0.15	600	895	ELF0505RA-R27□-3PF
0.33	±20, ±10%	45	25.2	340	0.15	600	895	ELF0505RA-R33□-3PF
0.39	±20, ±10%	45	25.2	290	0.15	600	895	ELF0505RA-R39□-3PF
0.47	±20, ±10%	45	25.2	250	0.15	600	895	ELF0505RA-R47□-3PF
0.56	±20, ±10%	45	25.2	210	0.15	600	895	ELF0505RA-R56□-3PF
0.68	±20, ±10%	45	25.2	180	0.15	600	895	ELF0505RA-R68□-3PF
0.82	±20, ±10%	45	25.2	135	0.15	600	895	ELF0505RA-R82□-3PF
1	±20, ±10%	50	7.96	125	0.15	600	895	ELF0505RA-1R0□-3PF
1.2	±20, ±10%	50	7.96	110	0.16	600	865	ELF0505RA-1R2□-3PF
1.5	±20, ±10%	50	7.96	99	0.19	600	795	ELF0505RA-1R5□-3PF
1.8	±20, ±10%	50	7.96	88	0.2	600	775	ELF0505RA-1R8□-3PF
2.2	±20, ±10%	50	7.96	79	0.23	600	720	ELF0505RA-2R2□-3PF
2.7	±20, ±10%	50	7.96	70	0.26	600	680	ELF0505RA-2R7□-3PF
3.3	±20, ±10%	50	7.96	63	0.29	600	645	ELF0505RA-3R3□-3PF
3.9	±20, ±10%	50	7.96	58	0.32	590	610	ELF0505RA-3R9□-3PF
4.7	±20, ±10%	50	7.96	53	0.36	540	575	ELF0505RA-4R7□-3PF
5.6	±20, ±10%	40	7.96	49	0.4	500	550	ELF0505RA-5R6□-3PF
6.8	±20, ±10%	40	7.96	45	0.44	455	520	ELF0505RA-6R8□-3PF
8.2	±20, ±10%	35	7.96	41	0.5	395	490	ELF0505RA-8R2□-3PF
10	±10, ±5%	50	2.52	37	0.8	380	385	ELF0505RA-100□-3PF
12	±10, ±5%	50	2.52	34	0.89	350	365	ELF0505RA-120□-3PF
15	±10, ±5%	50	2.52	31	1.02	320	345	ELF0505RA-150□-3PF
18	±10, ±5%	50	2.52	28	1.14	290	325	ELF0505RA-180□-3PF
22	±10, ±5%	50	2.52	25	1.3	265	305	ELF0505RA-220□-3PF
27	±10, ±5%	50	2.52	23	1.46	240	285	ELF0505RA-270□-3PF
33	±10, ±5%	50	2.52	21	1.65	220	270	ELF0505RA-330□-3PF
39	±10, ±5%	50	2.52	19	1.83	200	255	ELF0505RA-390□-3PF
47	±10, ±5%	45	2.52	17.5	2.05	185	240	ELF0505RA-470□-3PF
56	±10, ±5%	50	2.52	16	2.3	170	230	ELF0505RA-560□-3PF

*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 □: Please specify inductance tolerance, M(±20%) or K(±10%) or J(±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)*1max.		Part No.
						Based on inductance change	Based on temperature rise	
68	±10, ±5%	45	2.52	14.5	2.6	155	215	ELF0505RA-680□*23PF
82	±10, ±5%	45	2.52	13	3.1	145	195	ELF0505RA-820□-3PF
100	±10, ±5%	40	0.796	12	3.3	130	190	ELF0505RA-101□-3PF
120	±10, ±5%	40	0.796	11	4.7	120	160	ELF0505RA-121□-3PF
150	±10, ±5%	40	0.796	10	5.4	108	150	ELF0505RA-151□-3PF
180	±10, ±5%	40	0.796	9.2	5.6	99	145	ELF0505RA-181□-3PF
220	±10, ±5%	40	0.796	8.4	6.9	90	130	ELF0505RA-221□-3PF
270	±10, ±5%	40	0.796	7.6	7.8	82	125	ELF0505RA-271□-3PF
330	±10, ±5%	40	0.796	6.9	8.9	75	115	ELF0505RA-331□-3PF
390	±10, ±5%	40	0.796	6.4	13	69	96	ELF0505RA-391□-3PF
470	±10, ±5%	40	0.796	5.8	14.8	63	90	ELF0505RA-471□-3PF
560	±10, ±5%	40	0.796	5.3	16.5	58	85	ELF0505RA-561□-3PF
680	±10, ±5%	40	0.796	5	18.5	53	81	ELF0505RA-681□-3PF

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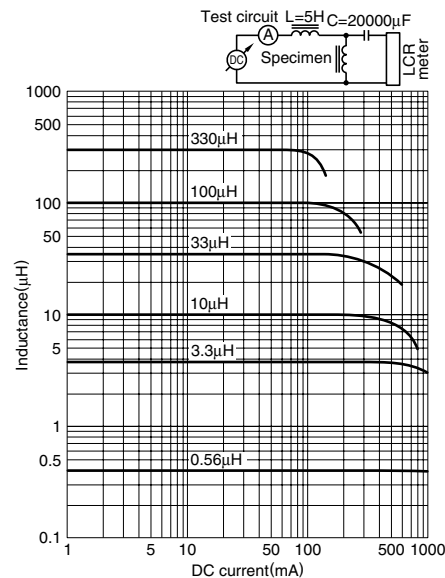
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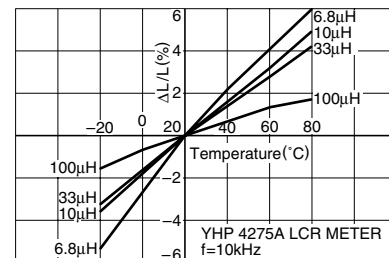
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TYPICAL ELECTRICAL CHARACTERISTICS

INDUCTANCE CHANGE vs. DC SUPERPOSITION CHARACTERISTICS



INDUCTANCE CHANGE vs. TEMPERATURE CHARACTERISTICS



Q vs. FREQUENCY CHARACTERISTICS

