

Inductors
For General Applications
Radial

ELF Series ELF0708 Type

FEATURES

- The ELF series inductors are available in 4 form factors ranging from 0505 to 1010.
- 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)
0607	ø6.6×7mm (lead pitch 5mm)
0708	ø7.7×8mm (lead pitch 5mm)
1010	ø10.5×10.5mm (lead pitch 5mm)

(3)Packaging style

RA	Ammo-pack
RR	Reel

(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

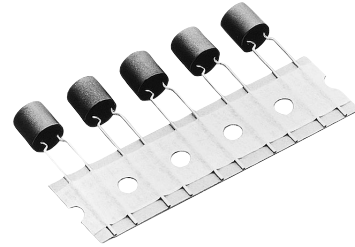
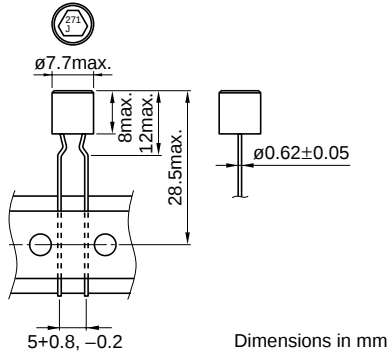
Packaging style	Type	Quantity
Ammo-pack	ELF0505RA	2000 pieces
	ELF0607RA	1000 pieces
	ELF0708RA	1000 pieces
Taping	ELF1010RR	300 pieces/reel

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AMMO-PACK TAPING STYLE SHAPES AND DIMENSIONS



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	
10	±10, ±5%	25[ref.]	2.52	23	0.19	550	795	ELF0708RA-100X*2
12	±10, ±5%	25[ref.]	2.52	19	0.2	500	775	ELF0708RA-120X
15	±10, ±5%	25[ref.]	2.52	16	0.22	450	740	ELF0708RA-150X
18	±10, ±5%	25[ref.]	2.52	14	0.24	410	705	ELF0708RA-180X
22	±10, ±5%	25[ref.]	2.52	13	0.26	380	680	ELF0708RA-220X
27	±10, ±5%	25[ref.]	2.52	12	0.28	340	655	ELF0708RA-270X
33	±10, ±5%	25[ref.]	2.52	11	0.3	310	630	ELF0708RA-330X
39	±10, ±5%	25[ref.]	2.52	10	0.33	280	605	ELF0708RA-390X
47	±10, ±5%	25[ref.]	2.52	9.4	0.35	260	585	ELF0708RA-470X
56	±10, ±5%	25[ref.]	2.52	8.7	0.48	240	500	ELF0708RA-560X
68	±10, ±5%	25[ref.]	2.52	8	0.52	215	480	ELF0708RA-680X
82	±10, ±5%	25[ref.]	2.52	7.3	0.57	200	460	ELF0708RA-820X
100	±10, ±5%	30	0.796	6.7	0.66	180	425	ELF0708RA-101X
120	±10, ±5%	30	0.796	6.2	0.75	165	400	ELF0708RA-121X
150	±10, ±5%	30	0.796	5.6	0.89	145	365	ELF0708RA-151X
180	±10, ±5%	30	0.796	5.2	1	135	345	ELF0708RA-181X
220	±10, ±5%	30	0.796	4.7	1.2	120	315	ELF0708RA-221X
270	±10, ±5%	30	0.796	4.3	1.5	110	285	ELF0708RA-271X
330	±10, ±5%	35	0.796	4	1.8	100	260	ELF0708RA-331X
390	±10, ±5%	35	0.796	3.7	2.1	92	240	ELF0708RA-391X
470	±10, ±5%	35	0.796	3.4	2.5	84	220	ELF0708RA-471X
560	±10, ±5%	35	0.796	3.1	3	76	200	ELF0708RA-561X
680	±10, ±5%	35	0.796	2.9	3.7	70	180	ELF0708RA-681X
820	±10, ±5%	35	0.796	2.7	4.4	63	165	ELF0708RA-821X
1000	±10, ±5%	40	0.252	2.4	5.6	58	145	ELF0708RA-102X
1200	±10, ±5%	40	0.252	2.2	6.8	53	135	ELF0708RA-122X
1500	±10, ±5%	40	0.252	2	9.8	47	110	ELF0708RA-152X
1800	±10, ±5%	40	0.252	1.9	11	43	105	ELF0708RA-182X
2200	±10, ±5%	40	0.252	1.7	13	40	100	ELF0708RA-222X
2700	±10, ±5%	40	0.252	1.6	17	35	85	ELF0708RA-272X
3300	±10, ±5%	30	0.252	1.4	34	33	59	ELF0708RA-332X
3900	±10, ±5%	30	0.252	1.3	38	30	56	ELF0708RA-392X

*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, K(±10%) or J(±5%)

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

L (Measurement frequency 1kHz): YHP4261A LCR 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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AMMO-PACK TAPING STYLE

ELECTRICAL CHARACTERISTICS

Inductance (μ H)	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	
4700	$\pm 10, \pm 5\%$	30	0.252	1.2	44	28	52	ELF0708RA-472X*2
5600	$\pm 10, \pm 5\%$	30	0.252	1.1	51	25	49	ELF0708RA-562X
6800	$\pm 10, \pm 5\%$	30	0.252	0.97	59	23	45	ELF0708RA-682X
8200	$\pm 10, \pm 5\%$	30	0.252	0.9	68	21	42	ELF0708RA-822X
10000	$\pm 10, \pm 5\%$	25	0.001*3/ 0.0796*4	0.8	80	19	39	ELF0708RA-103X
12000	$\pm 10, \pm 5\%$	25	0.001/0.0796	0.75	92	17	36	ELF0708RA-123X
15000	$\pm 10, \pm 5\%$	25	0.001/0.0796	0.68	110	15	33	ELF0708RA-153X
18000	$\pm 10, \pm 5\%$	20	0.001/0.0796	0.6	120	14	30	ELF0708RA-183X
22000	$\pm 10, \pm 5\%$	20	0.001/0.0796	0.54	130	12	25	ELF0708RA-223X
27000	$\pm 10, \pm 5\%$	20	0.001/0.0796	0.48	160	11	20	ELF0708RA-273X
33000	$\pm 10, \pm 5\%$	20	0.001/0.0796	0.42	180	10	17	ELF0708RA-333X

*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, K($\pm 10\%$) or J($\pm 5\%$)

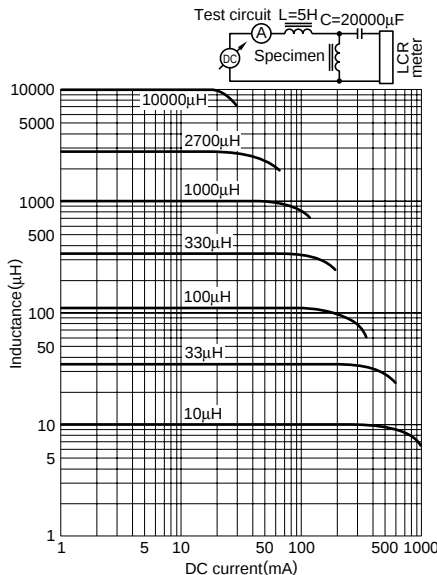
*3 for L

*4 for Q

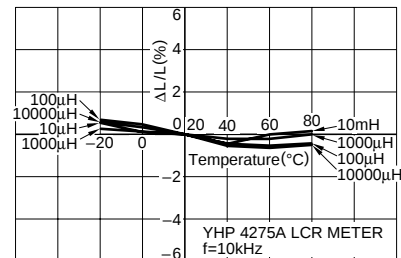
- Test equipment L (Measurement frequency 1kHz): LCR METER YHP4261A or equivalent
Q: YHP4340A Q METER, or equivalent
Rdc: MATSUSHITA VP-2941A DIGITAL MILLIOHM METER, or equivalent
SRF: TAKEDA RIKEN TR-4100 TRACKING SCOPE, or equivalent

TYPICAL ELECTRICAL CHARACTERISTICS

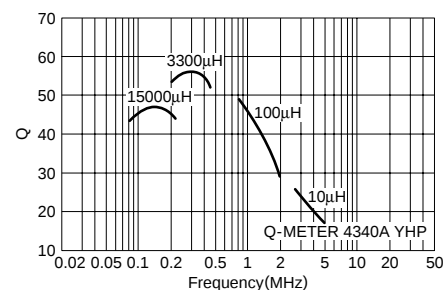
INDUCTANCE CHANGE vs. DC SUPERPOSITION CHARACTERISTICS



INDUCTANCE CHANGE vs. TEMPERATURE CHARACTERISTICS



Q vs. FREQUENCY CHARACTERISTICS



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