

# Radial Lead Inductors(Coils) For Signal Line(Magnetic Shielded)

Conformity to RoHS Directive

## ELF Series ELF1010

### 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.

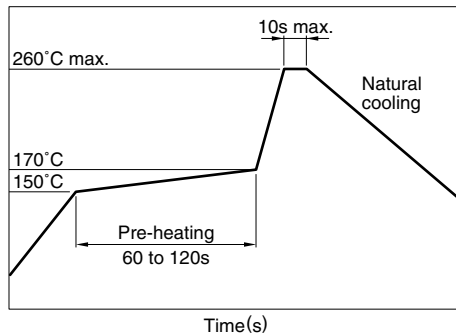
### APPLICATIONS

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

### SPECIFICATIONS

|                             |                                                   |
|-----------------------------|---------------------------------------------------|
| Operating temperature range | -20 to +80°C<br>[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 | 1010 | RR- | 101 | K   | -   | PF |
|-----|------|-----|-----|-----|-----|----|
| (1) | (2)  | (3) | (4) | (5) | (6) |    |

(1)Series name

(2)Dimensions

|      |                               |
|------|-------------------------------|
| 1010 | ø10.5×10.5mm (lead pitch 5mm) |
|------|-------------------------------|

(3)Packaging style

|     |      |
|-----|------|
| RR  | Reel |
| SKI | Bulk |

(4)Inductance value

|     |         |
|-----|---------|
| 101 | 100μH   |
| 102 | 1000μH  |
| 103 | 10000μH |

(5)Inductance tolerance

|   |      |
|---|------|
| J | ±5%  |
| K | ±10% |

(6)Lead-free compatible product

|    |                              |
|----|------------------------------|
| PF | Lead-free compatible product |
|----|------------------------------|

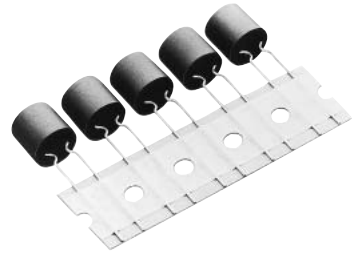
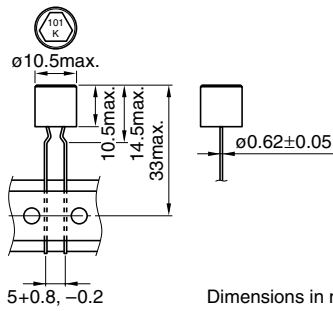
### PACKAGING STYLE AND QUANTITIES

| Packaging style | Quantity        |
|-----------------|-----------------|
| Reel            | 300 pieces/reel |
| Bulk            | 100 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.

## REEL TAPING STYLE SHAPES AND DIMENSIONS



## ELECTRICAL CHARACTERISTICS

| Inductance<br>(μH) | Inductance<br>tolerance | Q min. | Test<br>frequency<br>L, Q (kHz) | Self-<br>resonant<br>frequency<br>(MHz)ref. | DC<br>resistance<br>(Ω)max. | Rated current (mA)*1max.         |                                 | Part No.            |
|--------------------|-------------------------|--------|---------------------------------|---------------------------------------------|-----------------------------|----------------------------------|---------------------------------|---------------------|
|                    |                         |        |                                 |                                             |                             | Based on<br>inductance<br>change | Based on<br>temperature<br>rise |                     |
| 100                | ±10, ±5%                | 50     | 796                             | 4.7                                         | 0.66                        | 580                              | 425                             | ELF1010RR-101□*2-PF |
| 120                | ±10, ±5%                | 50     | 796                             | 4.2                                         | 0.73                        | 530                              | 405                             | ELF1010RR-121□-PF   |
| 150                | ±10, ±5%                | 50     | 796                             | 3.8                                         | 0.81                        | 470                              | 430                             | ELF1010RR-151□-PF   |
| 180                | ±10, ±5%                | 50     | 796                             | 3.5                                         | 0.89                        | 430                              | 365                             | ELF1010RR-181□-PF   |
| 220                | ±10, ±5%                | 50     | 796                             | 3.1                                         | 0.98                        | 390                              | 350                             | ELF1010RR-221□-PF   |
| 270                | ±10, ±5%                | 50     | 796                             | 2.8                                         | 1.05                        | 350                              | 340                             | ELF1010RR-271□-PF   |
| 330                | ±10, ±5%                | 50     | 796                             | 2.6                                         | 1.15                        | 320                              | 325                             | ELF1010RR-331□-PF   |
| 390                | ±10, ±5%                | 50     | 796                             | 2.4                                         | 1.5                         | 290                              | 285                             | ELF1010RR-391□-PF   |
| 470                | ±10, ±5%                | 50     | 796                             | 2.2                                         | 1.65                        | 270                              | 270                             | ELF1010RR-471□-PF   |
| 560                | ±10, ±5%                | 40     | 796                             | 2                                           | 1.9                         | 245                              | 250                             | ELF1010RR-561□-PF   |
| 680                | ±10, ±5%                | 40     | 796                             | 1.8                                         | 2.2                         | 220                              | 235                             | ELF1010RR-681□-PF   |
| 820                | ±10, ±5%                | 40     | 796                             | 1.6                                         | 2.6                         | 200                              | 215                             | ELF1010RR-821□-PF   |
| 1000               | ±10, ±5%                | 60     | 252                             | 1.5                                         | 3                           | 180                              | 200                             | ELF1010RR-102□-PF   |
| 1200               | ±10, ±5%                | 60     | 252                             | 1.4                                         | 3.4                         | 170                              | 190                             | ELF1010RR-122□-PF   |
| 1500               | ±10, ±5%                | 60     | 252                             | 1.2                                         | 4                           | 150                              | 175                             | ELF1010RR-152□-PF   |
| 1800               | ±10, ±5%                | 60     | 252                             | 1.1                                         | 4.6                         | 135                              | 160                             | ELF1010RR-182□-PF   |
| 2200               | ±10, ±5%                | 60     | 252                             | 1                                           | 5.4                         | 125                              | 150                             | ELF1010RR-222□-PF   |
| 2700               | ±10, ±5%                | 60     | 252                             | 0.9                                         | 6.9                         | 110                              | 130                             | ELF1010RR-272□-PF   |
| 3300               | ±10, ±5%                | 60     | 1*3/252*4                       | 0.81                                        | 8.2                         | 100                              | 120                             | ELF1010RR-332□-PF   |
| 3900               | ±10, ±5%                | 60     | 1/252                           | 0.75                                        | 11                          | 92                               | 105                             | ELF1010RR-392□-PF   |
| 4700               | ±10, ±5%                | 60     | 1/252                           | 0.68                                        | 14                          | 84                               | 93                              | ELF1010RR-472□-PF   |
| 5600               | ±10, ±5%                | 60     | 1/252                           | 0.63                                        | 19                          | 77                               | 79                              | ELF1010RR-562□-PF   |
| 6800               | ±10, ±5%                | 60     | 1/252                           | 0.57                                        | 22                          | 70                               | 74                              | ELF1010RR-682□-PF   |
| 8200               | ±10, ±5%                | 60     | 1/252                           | 0.52                                        | 25                          | 63                               | 69                              | ELF1010RR-822□-PF   |
| 10000              | ±10, ±5%                | 40     | 1/79.6                          | 0.47                                        | 34                          | 57                               | 59                              | ELF1010RR-103□-PF   |
| 12000              | ±10, ±5%                | 40     | 1/79.6                          | 0.43                                        | 38                          | 53                               | 56                              | ELF1010RR-123□-PF   |
| 15000              | ±10, ±5%                | 40     | 1/79.6                          | 0.38                                        | 43                          | 47                               | 53                              | ELF1010RR-153□-PF   |
| 18000              | ±10, ±5%                | 40     | 1/79.6                          | 0.34                                        | 47                          | 43                               | 51                              | ELF1010RR-183□-PF   |
| 22000              | ±10, ±5%                | 40     | 1/79.6                          | 0.31                                        | 65                          | 39                               | 43                              | ELF1010RR-223□-PF   |
| 27000              | ±10, ±5%                | 40     | 1/79.6                          | 0.28                                        | 74                          | 35                               | 40                              | ELF1010RR-273□-PF   |
| 33000              | ±10, ±5%                | 40     | 1/79.6                          | 0.25                                        | 115                         | 32                               | 32                              | ELF1010RR-333□-PF   |
| 39000              | ±10, ±5%                | 40     | 1/79.6                          | 0.23                                        | 125                         | 29                               | 31                              | ELF1010RR-393□-PF   |
| 47000              | ±10, ±5%                | 40     | 1/79.6                          | 0.22                                        | 145                         | 26                               | 29                              | ELF1010RR-473□-PF   |
| 56000              | ±10, ±5%                | 40     | 1/79.6                          | 0.2                                         | 190                         | 24                               | 25                              | ELF1010RR-563□*2-PF |
| 68000              | ±10, ±5%                | 30     | 1/79.6                          | 0.18                                        | 215                         | 22                               | 24                              | ELF1010RR-683□-PF   |
| 82000              | ±10, ±5%                | 30     | 1/79.6                          | 0.17                                        | 290                         | 20                               | 20                              | ELF1010RR-823□-PF   |
| 100000             | ±10, ±5%                | 30     | 1/79.6                          | 0.15                                        | 330                         | 18                               | 19                              | ELF1010RR-104□-PF   |

\*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, K(±10%) or J(±5%)

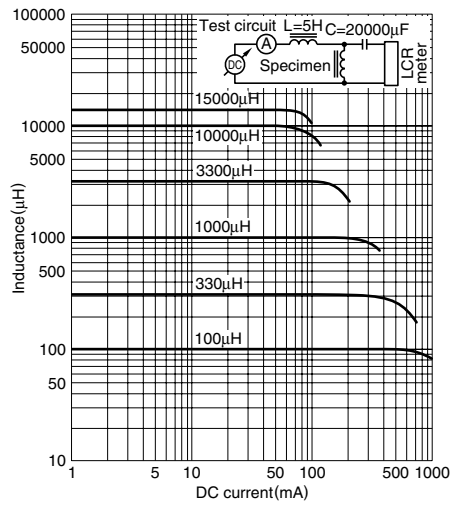
\*3 for L

\*4 for Q

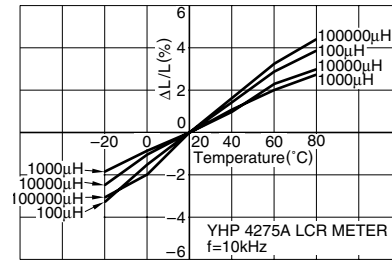
- ELF1010(100μH to 2.7mH) L, Q, Rdc, SRF: are the same as ELF0505, 0607 and 0708
- ELF1010(3.3 to 100mH) L: LCR METER MODEL 4261A YHP, or equivalent Q, Rdc, SRF: are the same as ELF0505, 0607 and 0708
- L measuring instrument differs from others, because measurement frequency is 1kHz.

## TYPICAL ELECTRICAL CHARACTERISTICS

### INDUCTANCE CHANGE vs. DC SUPERPOSITION CHARACTERISTICS



### INDUCTANCE CHANGE vs. TEMPERATURE CHARACTERISTICS



### Q vs. FREQUENCY CHARACTERISTICS

