



Voltage Step-up Coils

Series : **ELT3KN**

High inductance Voltage Step-up coil chip series for piezoelectric buzzers and DC/DC circuitry of EL panels

Features

- Small and thin
- High inductance
- RoHS compliant

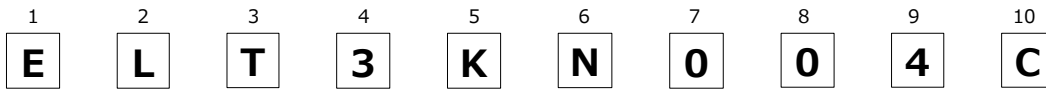
Recommended Applications

- Piezoelectric buzzer, Booster circuit for EL backlight (Watch, Electric thermometer, Portable device)
- HAC inductor (Smartphone, Cellular phone)

Standard Packing Quantity (Minimum Quantity/Packing Unit)

- 1,000 pcs or 5,000 pcs /reel

Explanation of Part Numbers



Product Code

Outer size

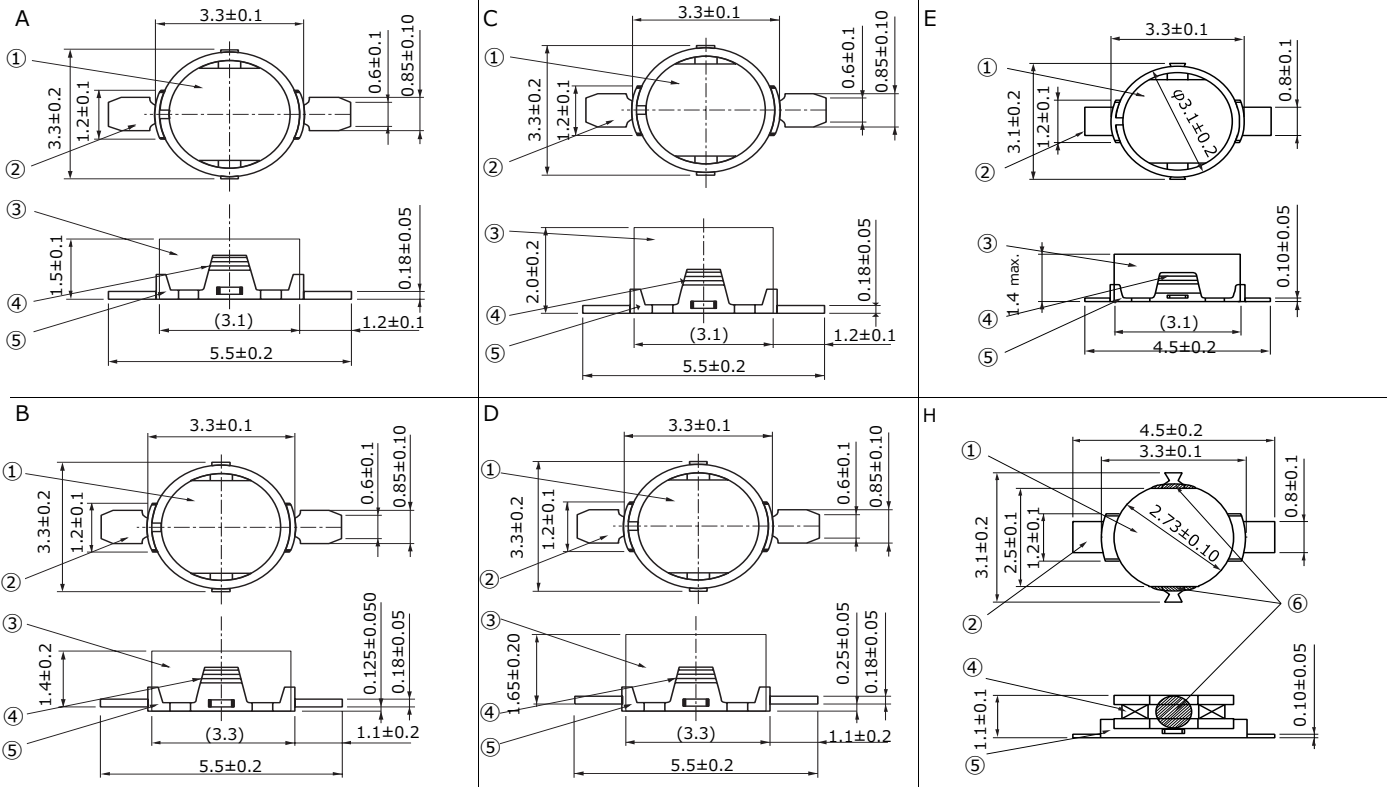
Construction

Design No.

Packaging

| | |
|---|-----------|
| B | φ180 Reel |
| C | φ370 Reel |

Dimensions in mm (not to scale)



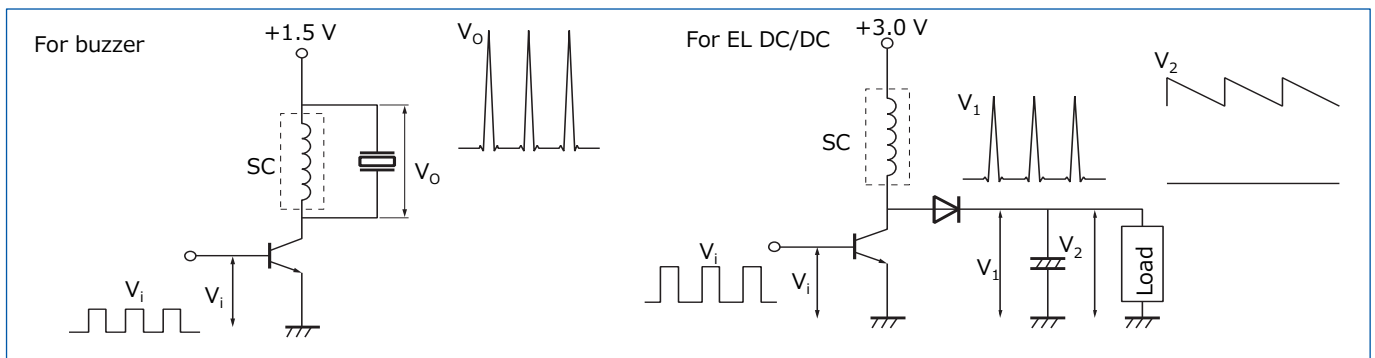
Part Name: ①Core ②Terminal ③Ring ④Coil ⑤Terminal board ⑥Adhesive

Standard Parts

| Part No. | Inductance | | DC resistance | | DC current (mA) max. | Dimensions | Magnetic Composition |
|------------|------------|--------------|---------------|--------------|----------------------|------------|----------------------|
| | (mH) | Tolerance(%) | (Ω) | Tolerance(%) | | | |
| ELT3KN004□ | 14.00 | ±40 | 125 | ±10 | 1.7 | A | Permalloy ring |
| ELT3KN007□ | 20.00 | | 170 | | 1.4 | | |
| ELT3KN113□ | 1.00 | ±10 | 34 | ±15 | 25.0 | | Brass ring |
| ELT3KN126□ | 1.50 | | 49 | | 29.0 | | |
| ELT3KN142□ | 0.82 | | 24 | | 30.0 | | |
| ELT3KN019□ | 14.00 | ±40 | 125 | ±10 | 1.7 | B | Permalloy ring |
| ELT3KN109□ | 3.80 | ±10 | 115 | ±20 | 15.0 | | Brass ring |
| ELT3KN114□ | 2.50 | | 83 | ±15 | 15.0 | | |
| ELT3KN014□ | 30.00 | ±40 | 150 | ±10 | 1.9 | C | Permalloy ring |
| ELT3KN018□ | 35.00 | | 235 | | 1.9 | | |
| ELT3KN028□ | 50.00 | ±35 | 250 | ±15 | 1.4 | | Brass ring |
| ELT3KN032□ | 25.00 | ±40 | 185 | | 10.0 | | |
| ELT3KN101□ | 10.00 | ±10 | 285 | ±10 | 1.4 | | |
| ELT3KN104□ | 1.00 | | 35 | 30.0 | | | |
| ELT3KN118□ | 2.50 | | 64 | 20.0 | | | |
| ELT3KN121□ | 1.00 | | 22.5 | 40.0 | | | |
| ELT3KN122□ | 2.00 | | 44 | 20.0 | | | |
| ELT3KN123□ | 1.00 | | 25 | 30.0 | | | |
| ELT3KN124□ | 4.00 | | 85 | 15.0 | | | |
| ELT3KN127□ | 0.47 | | 14 | 50.0 | | | |
| ELT3KN128□ | 0.56 | | 15 | 45.0 | | | |
| ELT3KN129□ | 0.68 | | 17 | 34.0 | | | |
| ELT3KN130□ | 2.30 | 51 | 23.0 | | | | |
| ELT3KN131□ | 2.00 | 44 | 20.0 | | | | |
| ELT3KN020□ | 30.00 | ±30 | 150 | ±10 | 2.5 | D | Permalloy ring |
| ELT3KN111□ | 7.50 | ±10 | 177 | | 10.0 | | Brass ring |
| ELT3KN125□ | 4.00 | | 85 | | 15.0 | | |
| ELT3KN041□ | 14.00 | ±40 | 125 | ±10 | 1.7 | E | Permalloy ring |
| ELT3KN042□ | 20.00 | | 175 | | 1.4 | | |
| ELT3KN043□ | 12.00 | | 117 | | 1.7 | | |
| ELT3KN139□ | 0.68 | ±10 | 19 | ±15 | 40.0 | Brass ring | |
| ELT3KN140□ | 0.82 | | 22 | | 30.0 | | |
| ELT3KN135□ | 1.10 | | 32 | | 30.0 | | |
| ELT3KN136□ | 2.00 | | 55 | 20.0 | | | |
| ELT3KN137□ | 4.00 | | 117 | ±10 | 15.0 | | |
| ELT3KN149□ | 0.33 | | 11 | ±15 | 60.0 | | |
| ELT3KN151□ | 0.56 | | 17 | | 50.0 | | |
| ELT3KN152□ | 0.47 | | 14 | | 50.0 | | |
| ELT3KN155□ | 1.10 | | 38 | 25.0 | H | | Ring less |
| ELT3KN162□ | 4.00 | | 117 | ±10 | 15.0 | | E |
| ELT3KN163□ | 1.10 | 32 | ±15 | 30.0 | | | |

"□" shows the packaging specifications.

Applied Diagram Examples

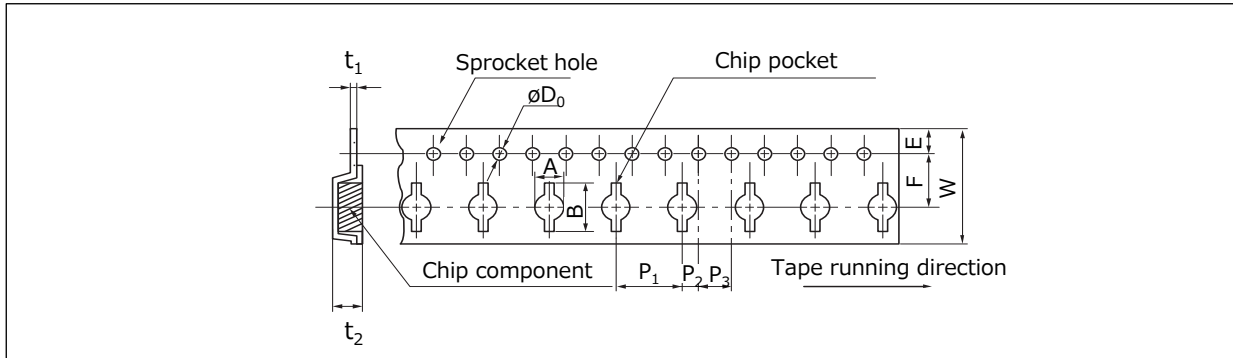


Packaging Methods (Taping)

● Standard Packing Quantity

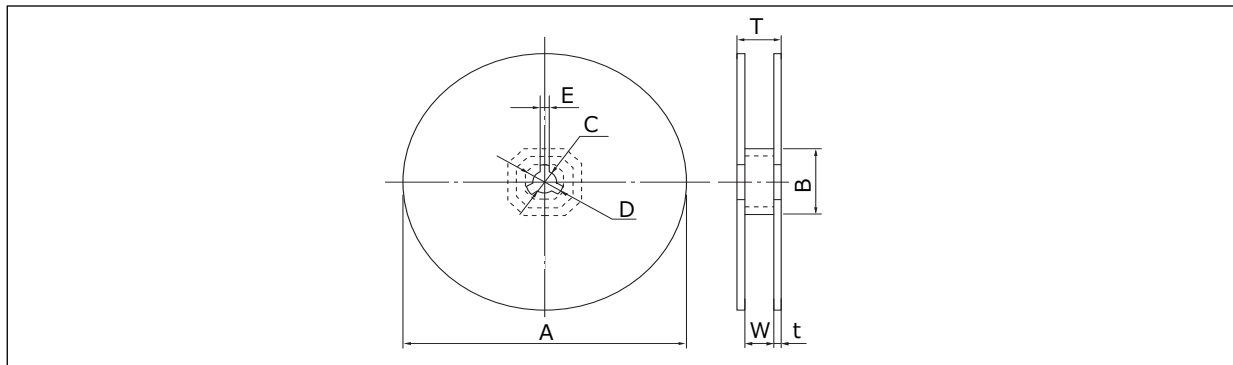
| Packaging | Quantity per reel | Kind of Taping |
|-----------|-------------------|-------------------------|
| B | 1,000 pcs | Embossed Carrier Taping |
| C | 5,000 pcs | |

● Embossed Carrier Tape Dimensions in mm (not to scale)



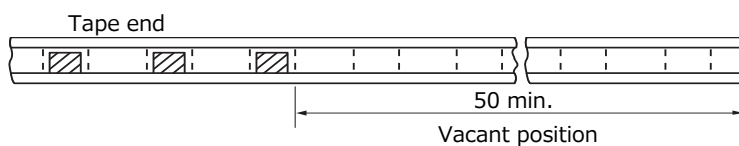
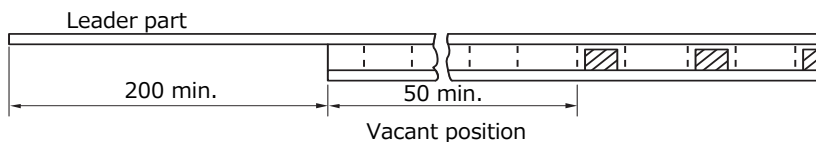
| Part No. | A | B | W | E | F | P ₁ | P ₂ | P ₀ | øD ₀ | t ₁ | t ₂ |
|----------|-----|-----|------|------|-----|----------------|----------------|----------------|-----------------|----------------|----------------|
| ELT3KN | 3.7 | 6.4 | 12.0 | 1.75 | 5.5 | 8.0 | 2.0 | 4.0 | 1.5 | 0.3 | 2.6 |

● Reel Dimensions in mm (not to scale)



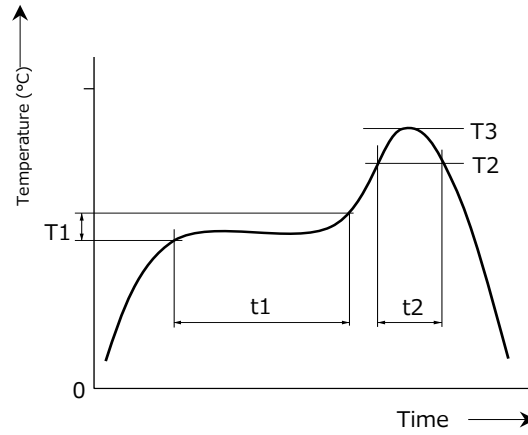
| Packaging | A | B | C | D | E | W | t | T |
|-----------|-----|----|----|----|---|----|-----|------|
| B | 180 | 60 | 13 | 21 | 2 | 13 | 1.1 | 15.2 |
| C | 370 | 60 | 13 | 21 | 2 | 14 | 2.0 | 18.0 |

● Leader Part, Vacant Position



Soldering Conditions

Reflow soldering conditions



- Pb free solder recommended temperature profile
Voltage Step-up Coils

| Part No. | Preheat | | Soldering | | Peak Temperature | | Time of Reflow |
|----------|------------|-----------|-----------|---------|------------------|--------------|----------------|
| | T1 [°C] | t1 [s] | T2 [°C] | t2 [s] | T3 | T3 Limit | |
| ELT3KN | 150 to 170 | 60 to 120 | 230 °C | 30 max. | 245 °C, 10 s | 260 °C, 10 s | 2 times max. |

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⚠ Safety Precautions

(Common precautions for Voltage Step-up Coils)

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- Do not use the products beyond the specifications described in this catalog.
- This catalog explains the quality and performance of the products as individual components. Before use, check and evaluate their operations when installed in your products.
- Install the following systems for a failsafe design to ensure safety if these products are to be used in equipment where a defect in these products may cause the loss of human life or other significant damage, such as damage to vehicles (automobile, train, vessel), traffic lights, medical equipment, aerospace equipment, electric heating appliances, combustion/gas equipment, rotating equipment, and disaster/crime prevention equipment.
- * Systems equipped with a protection circuit and a protection device.
- * Systems equipped with a redundant circuit or other system to prevent an unsafe status in the event of a single fault.

⚠ Precautions for use

1. Operation range and environments

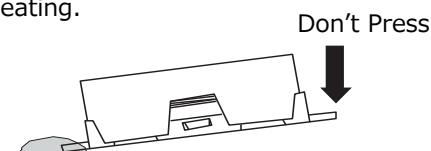
- ① These products are designed and manufactured for general and standard use in general electronic equipment (e.g. AV equipment, home electric appliances, office equipment, information and communication equipment)
- ② These products are not designed for the use in the following special conditions. Before using the products, carefully check the effects on their quality and performance, and determine whether or not they can be used.
 - In liquid, such as water, oil, chemicals, or organic solvent
 - In direct sunlight, outdoors, or in dust
 - In salty air or air with a high concentration of corrosive gas, such as Cl_2 , H_2S , NH_3 , SO_2 , or NO_x
 - In an environment where these products cause dew condensation

2. Handling

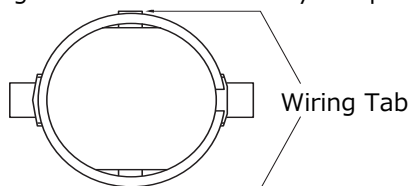
- ① Do not bring magnets or magnetized materials close to the product. The influence of their magnetic field can change the inductance value.
- ② Do not apply strong mechanical shocks by either dropping or collision with other parts. Excessive shock can damage the part.

3. Resoldering with a soldering iron

- ① Resoldering should be done within 3 seconds by soldering iron, the temperature with 350 °C or less and should be cooling down after ward. Both side of terminals shall be fixed closely to PWB. And terminals shall not be pressed in heating.



- ② The wiring tab shall not be held by sharp-edged tool.



- ③ Iron shall not be put to the component itself.

4. Mounting side

- ① External force must be less than 4.9N while mounting.
- ② The wiring tab is expose the terminal, so please be careful when you design PWB pattern of coil circumference.

5. Cleaning

If you clean the inductor, please use own your ultrasonic cleaning to check specified conditions.

6. Storage conditions

Normal temperature (-5 to 35 °C) , normal humidity (85 %RH max.) , shall not be exposed to direct sunlight and harmful gases and care should be taken so as not to cause dew.

<Package markings>

Package markings include the product number, quantity, and country of origin.

In principle, the country of origin should be indicated in English.