

**Chip type**

**ELT3KN** series



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)

**Standard packing quantity (Minimum quantity/Packing unit)**

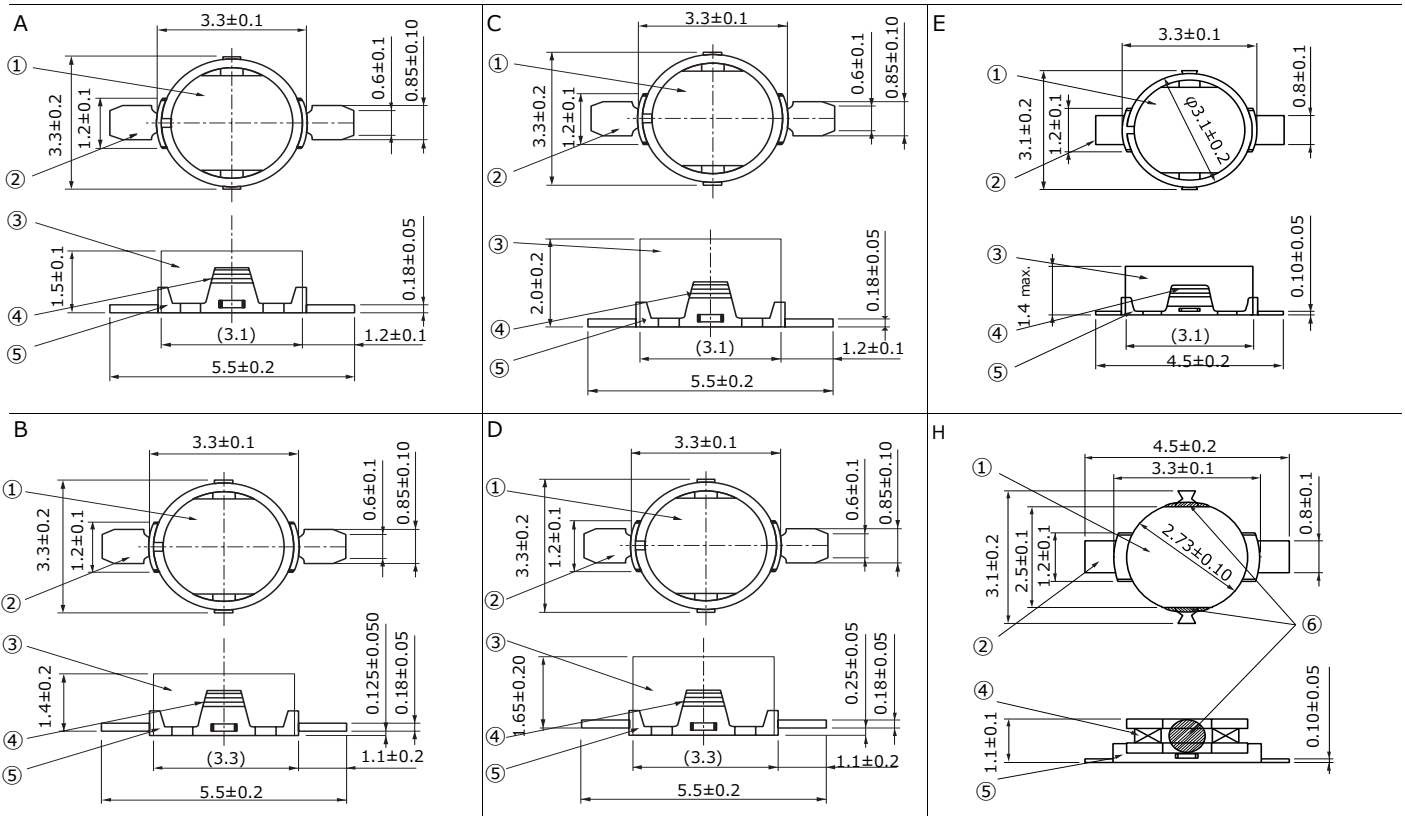
- 1,000 pcs or 5,000 pcs / reel

**Explanation of part numbers**

1	2	3	4	5	6	7	8	9	10
E	L	T	3	K	N	0	0	4	C
Product code			Outer size	Construction		Design No.		Packaging	

Code	Packaging
B	ø 180 Reel
C	ø370 Reel

**Dimensions in mm (not to scale)**



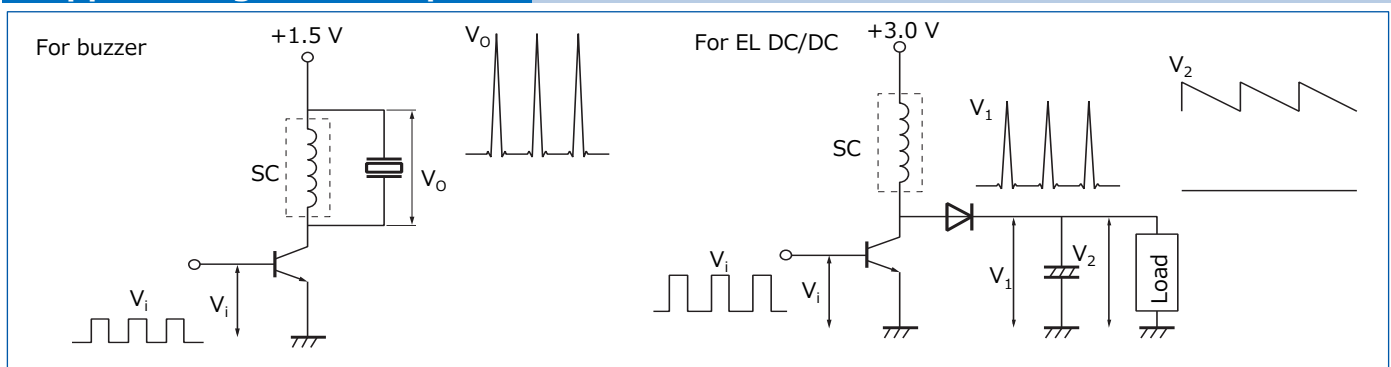
Part Name: ①Core ②Terminal ③Ring ④Coil ⑤Terminal board ⑥Adhesive

**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	C	Permalloy ring			
ELT3KN014□	30.00	±40	150	±10	1.9					
ELT3KN018□	35.00		235		1.9					
ELT3KN028□	50.00	±35	250	±15	1.4					
ELT3KN032□	25.00	±40	185	±15	10.0					
ELT3KN101□	10.00	±10	285	±15	1.4	Brass ring				
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	10.0		Brass ring
ELT3KN125□	4.00				85		15.0			
ELT3KN041□	14.00	±40	125	±10	1.7	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							
ELT3KN162□	4.00	±10	117	±10	15.0	H	Ring less			
ELT3KN163□	1.10	±15	32	±15	30.0	E	Brass ring			

"□" shows the packaging specifications.

**Applied diagram examples**

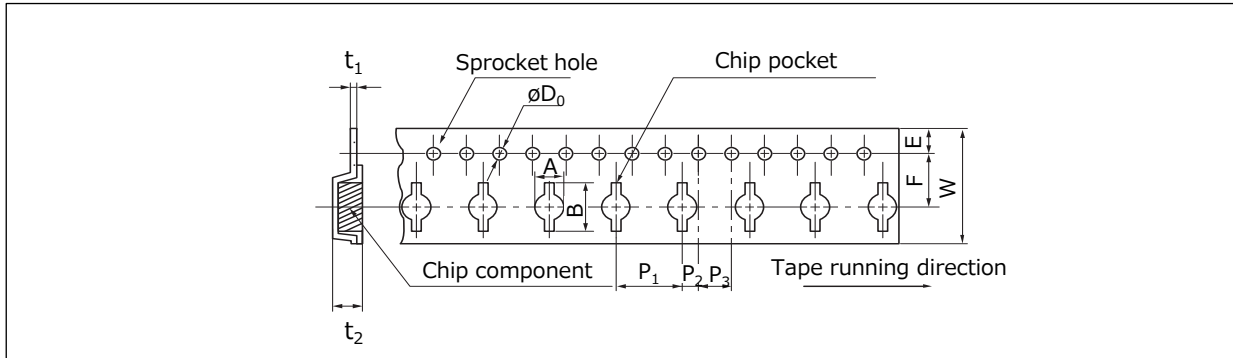


**Packaging methods (Taping)**

- Standard packing quantity

Packaging	Quantity per reel	Kind of taping
B	1,000 pcs	B 1,000 pcs. Embossed carrier
C	5,000 pcs	Embossed carrier taping

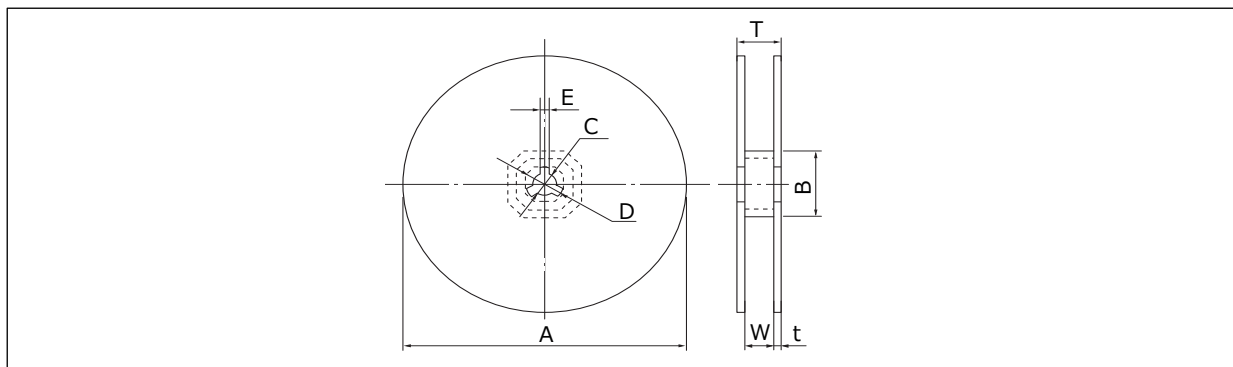
- Embossed carrier tape dimensions in mm (not to scale)



Unit : mm

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

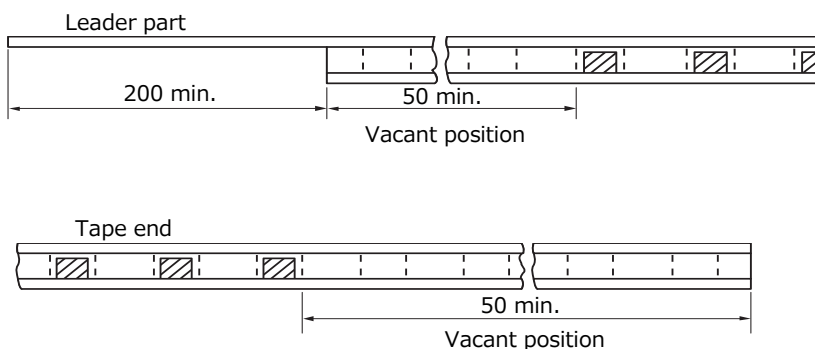
- Reel dimensions in mm (not to scale)



Unit : mm

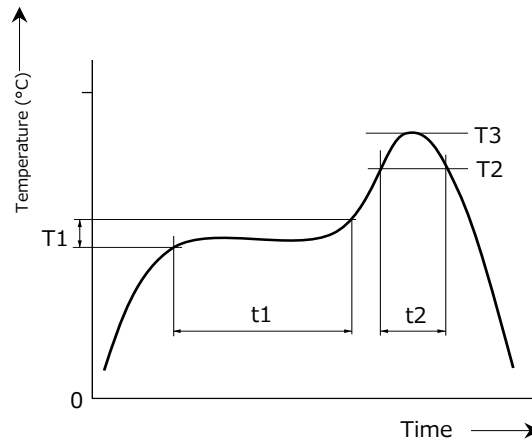
Packaging	A	B	C	D	E	W	t	T
B	180	60	13	21	2	13	1.1	15.2
C	370	60	13	21	2	14	2.0	18.0

- 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.

## Guidelines and precautions regarding the technical information and use of our products described in this online catalog.

- If you want to use our products described in this online catalog for applications requiring special qualities or reliability, or for applications where the failure or malfunction of the products may directly jeopardize human life or potentially cause personal injury (e.g. aircraft and aerospace equipment, traffic and transportation equipment, combustion equipment, medical equipment, accident prevention, anti-crime equipment, and/or safety equipment), it is necessary to verify whether the specifications of our products fit to such applications. Please ensure that you will ask and check with our inquiry desk as to whether the specifications of our products fit to such applications use before you use our products.
- The quality and performance of our products as described in this online catalog only apply to our products when used in isolation. Therefore, please ensure you evaluate and verify our products under the specific circumstances in which our products are assembled in your own products and in which our products will actually be used.
- If you use our products in equipment that requires a high degree of reliability, regardless of the application, it is recommended that you set up protection circuits and redundancy circuits in order to ensure safety of your equipment.
- The products and product specifications described in this online catalog are subject to change for improvement without prior notice. Therefore, please be sure to request and confirm the latest product specifications which explain the specifications of our products in detail, before you finalize the design of your applications, purchase, or use our products.
- The technical information in this online catalog provides examples of our products' typical operations and application circuits. We do not guarantee the non-infringement of third party's intellectual property rights and we do not grant any license, right, or interest in our intellectual property.
- If any of our products, product specifications and/or technical information in this online catalog is to be exported or provided to non-residents, the laws and regulations of the exporting country, especially with regard to security and export control, shall be observed.

## <Regarding the Certificate of Compliance with the EU RoHS Directive/REACH Regulations>

- The switchover date for compliance with the RoHS Directive/REACH Regulations varies depending on the part number or series of our products.
- When you use the inventory of our products for which it is unclear whether those products are compliant with the RoHS Directive/REACH Regulation, please select "Sales Inquiry" in the website inquiry form and contact us.

**We do not take any responsibility for the use of our products outside the scope of the specifications, descriptions, guidelines and precautions described in this online catalog.**

## ! Safety Precautions

### (Common precautions for Voltage Step-up Coils )

- When using our products, no matter what sort of equipment they might be used for, be sure to make a written agreement on the specifications with us in advance. The design and specifications in this catalog are subject to change without prior notice.
- 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

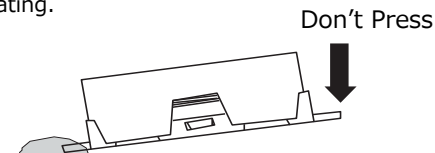
- ① These products are designed and manufactured for general and standard use in general electronic equipment (e.g. AV equipment, home electric appliances, office equipment, information and communication equipment)
- ② These products are not designed for the use in the following special conditions. Before 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  $\text{Cl}_2$ ,  $\text{H}_2\text{S}$ ,  $\text{NH}_3$ ,  $\text{SO}_2$ , or  $\text{NO}_x$
  - In an environment where these products cause dew condensation

### 2. Handling

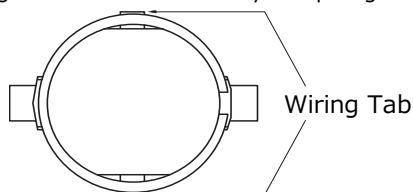
- ① Do not bring magnets or magnetized materials close to the product. The influence of their magnetic field can change the inductance value.
- ② Do not apply strong mechanical shocks by either dropping or collision with other parts. Excessive shock can damage the part.

### 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.