

Version:  
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# TOKEN

## (TCUU)

# EMI Line Filters

### **Token Electronics Industry Co., Ltd.**

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## ▶ Product Introduction

### Introduction (TCUU)

#### Features :

- Easily inserted into PCB.
- Small size and inexpensive type.
- Highly reliable, compact & lightweight.
- Magnetic shielded construction available.
- AC common mode choke coil which has excellent attenuation.
- Characteristics in Low Frequency Band.

#### Applications :

- Multi-Function Telephones.
- Common Mode Chokes for Effective AC line Noise Prevention.
- AC Adapters, Faxes Small Size Fluorescent Lights, VCRS, Color TVs.

EMI Line Filters for filtering common mode power line noise. In recent times there has been a

growing need for energy storage inductors for noise filtering in both mains line filters and DC chokes used in switched-mode power supplies. In mains line filter applications the filtering falls into two categories: common-mode noise and differential-mode noise.

The line filter arrangement consists of two sections bobbin between the mains supply and the equipment. Note that the common-mode filter is wound on a single core and the differential mode filter consists of two individual wound cores. The common-mode noise is in relation to ground and is common to both lines. Differential mode noise is the noise between the two lines. Both types of noise are usually present to varying degrees.

Token EMI line filters (TCUU) series common mode choke coils are used in a wide range of prevention of radio frequency interference (RFI) and electromagnetic interference (EMI) from power supply lines and for prevention of multifunctioning of products such as measuring equipment and system equipment. Features wide range of selection, high impedance at applicable frequency, and high self-resonant frequency.

The (TCUU) series is designed to reduce stray capacity between windings by using a single-layer coil and two sections bobbin construction on high permeability ferrite core, which offer excellent high frequency characteristics. This series provides excellent noise suppression for high frequency ranges including the FM band. This filter can also be used as a signal line with excellent withstanding voltage, since the windings are divided into two sections.


Token is equipped to design and produce custom components to meet many design and reliability demands. Custom parts are available on request. Token will also produce devices outside these specifications to meet specific customer requirements, contact us with your specific needs. For more information, please link to Token official website "[Through Hole Inductors](http://www.token.com.tw)".



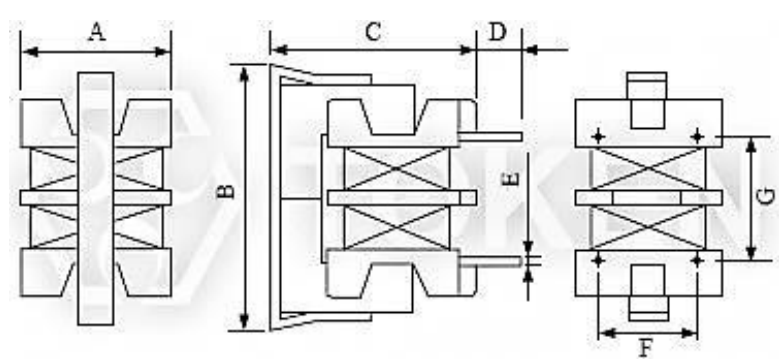
## TCUU98V

### Configurations & Dimensions (Unit: mm) (TCUU98V)

Type	A (max)	B (max)	C (max)	D	E	F	G
TCUU98V	11.0	16.5	16.5	3.5	Φ0.6	7.0	8.0



(TCUU98V) Image View



(TCUU98V) Configurations & Dimensions

● Note: Design as Customer's Requested Specifications.

### Electrical Characteristics (TCUU98V) at 25°C

Part Number	Inductance (mH)(min)	Inductance Balance (μH max)	DCR (Ω)(max)	IDC (A)(max)
TCUU98V-471	0.47	25	0.15	1.00
TCUU98V-681	0.68	25	0.25	0.85
TCUU98V-102	1.0	50	0.35	0.70
TCUU98V-222	2.2	50	0.7	0.50
TCUU98V-392	3.9	100	1.20	0.38
TCUU98V-472	4.7	100	1.60	0.34
TCUU98V-682	6.8	150	2.50	0.25
TCUU98V-103	10.0	200	4.00	0.20


Note:

- Test Freq.: 1.0kHz
- Allowable Current: D.C. Current When Temperature of Coil Increased up to 40°C. (Ta=25°C)

## TCUU98H

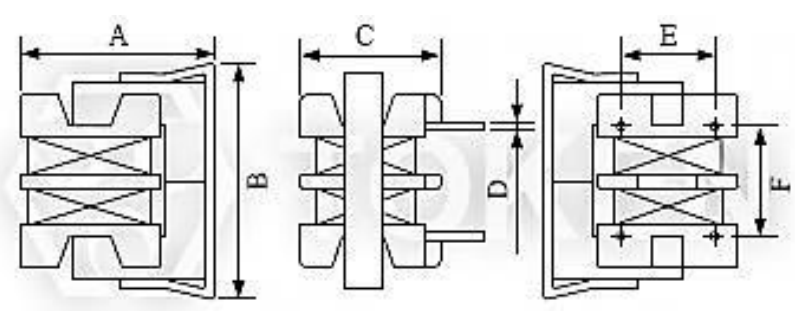
### Configurations & Dimensions (Unit: mm) (TCUU98H)

Type	A (max)	B (max)	C (max)	D	E	F
TCUU98H	15.5	16.5	12.5	Φ0.6	7.0	8.0



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(TCUU98H) Image View



(TCUU98H) Configurations & Dimensions

- Note: Design as Customer's Requested Specifications.

### Electrical Characteristics (TCUU98H) at 25°C

Part Number	Inductance (mH)(min)	Inductance Balance (μH)(max)	DCR (Ω)(max)	IDC (A)(max)
TCUU98H-471	0.47	25	0.15	1.00
TCUU98H-681	0.68	25	0.25	0.85
TCUU98H-102	1.0	50	0.35	0.70
TCUU98H-222	2.2	50	0.7	0.50
TCUU98H-392	3.9	100	1.20	0.38
TCUU98H-472	4.7	100	1.60	0.34
TCUU98H-682	6.8	150	2.50	0.25
TCUU98H-103	10.0	200	4.00	0.20


Note:

- Test Freq.: 1.0kHz
- Allowable Current: D.C. Current When Temperature of Coil Increased up to 40°C. (Ta=25°C)

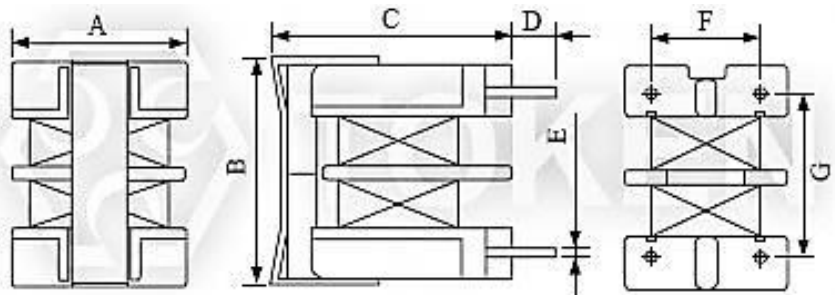
## TCUU10

### Configurations & Dimensions (Unit: mm) (TCUU10)

Type	A (max)	B (max)	C (max)	D	E	F	G
TCUU10	17.0	18.5	23.0	4.0	Φ0.7	10.0	13.0



(TCUU10) Image View



(TCUU10) Configurations & Dimensions

- Note: Design as Customer's Requested Specifications.

### Electrical Characteristics (TCUU10) at 25°C


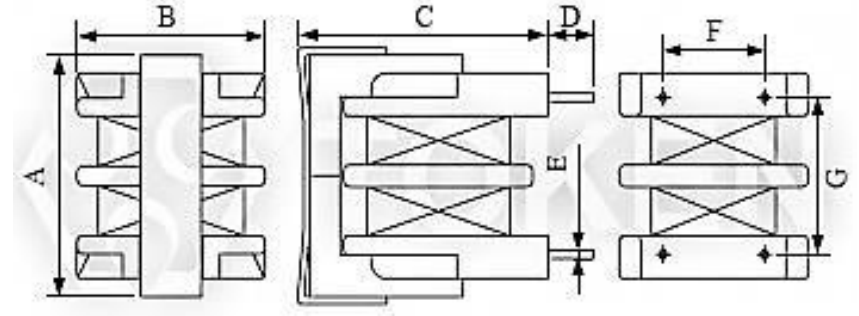
Part Number	Inductance (mH)(min)	Inductance Balance (μH)(max)	DCR (Ω)(max)	IDC (A)(max)
TCUU10-332	3.3	100	0.71	0.65
TCUU10-682	6.8	200	1.26	0.435
TCUU10-123	12.0	360	2.20	0.34
TCUU10-223	22.0	440	3.64	0.25
TCUU10-333	33.0	660	5.74	0.20
TCUU10-513	51.0	1000	9.12	0.15

Note:

- Test Freq.: 1.0kHz
- Allowable Current: D.C. Current When Temperature of Coil Increased up to 40°C. (Ta=25°C)

## TCUU16

### Configurations & Dimensions (Unit: mm) (TCUU16)

Type	A (max)	B (max)	C (max)	D	E	F	G
TCUU16	22.0	20.0	28.5	4.5	Φ0.7	10.0	13.0
 <p>(TCUU16) Image View</p>		 <p>(TCUU16) Configurations &amp; Dimensions</p>					

- Note: Design as Customer's Requested Specifications.

### Electrical Characteristics (TCUU16) at 25°C

Part Number	Inductance (mH)(min)	Inductance Balance (μH)(max)	DCR (Ω)(max)	IDC (A)(max)
TCUU16-152	1.5	40	0.125	1.90
TCUU16-402	4.0	60	0.27	1.20
TCUU16-802	8.0	80	0.46	0.90
TCUU16-203	20.0	150	1.60	0.50
TCUU16-303	30.0	200	2.50	0.40


Note:

- Test Freq.: 1.0kHz
- Allowable Current: D.C. Current When Temperature of Coil Increased up to 40°C. (Ta=25°C)

## TCUT20

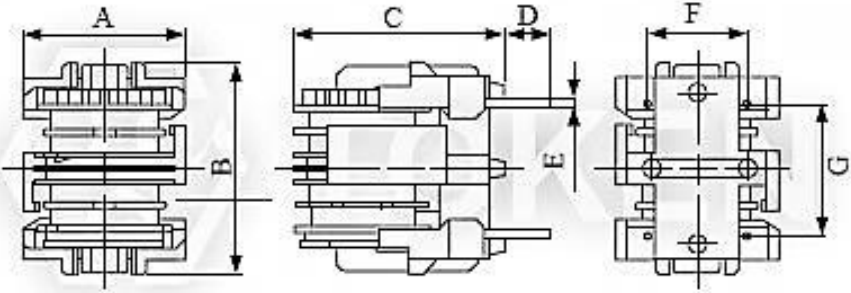
### Configurations & Dimensions (Unit: mm) (TCUT20)

Type	A (max)	B(max)	C(max)	D	E	F	G
TCUT20	17.2	22.0	22.5	4.5	Φ0.8	10.0	13.0



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(TCUT20) Image View



(TCUT20) Configurations & Dimensions

- Note: Design as Customer's Requested Specifications.

### Electrical Characteristics (TCUT20) at 25°C

Part Number	Inductance (mH)(min)	Inductance Balance (μH)(max)	DCR (Ω)(max)	IDC (A)(max)
TCUT20-222	2.2	150	0.24	1.30
TCUT20-392	3.9	150	0.41	1.00
TCUT20-103	10.0	550	1.00	0.60
TCUT20-183	18.0	600	1.63	0.50
TCUT20-223	22.0	800	2.04	0.40
TCUT20-333	33.0	800	3.42	0.30


Note:

- Test Freq.: 1.0kHz
- Allowable Current: D.C. Current When Temperature of Coil Increased up to 40°C. (Ta=25°C)

## TCET24B

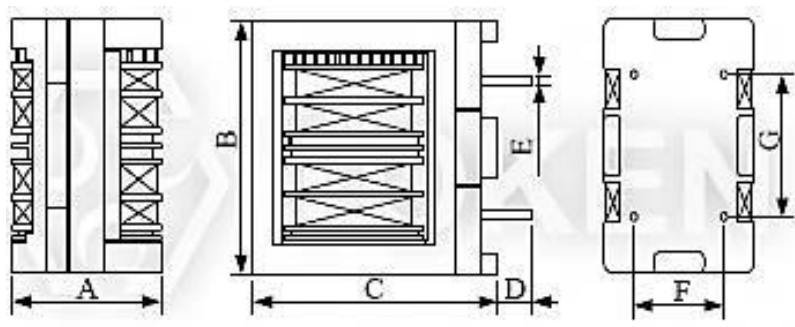
### Configurations & Dimensions (Unit: mm) (TCET24B)

Type	A (max)	B(max)	C(max)	D	E	F	G
TCET24B	18.5	25.5	31.0	4.0	Φ0.8	10.0	13.0



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(TCET24B) Image View



(TCET24B) Configurations & Dimensions

- Note: Design as Customer's Requested Specifications.

### Electrical Characteristics (TCET24B) at 25°C

Part Number	Inductance (mH)(min)	Inductance Balance (μH)(max)	DCR (Ω)(max)	IDC (A)(max)
TCET24B-252	2.5	100	0.13	2.00
TCET24B-352	3.5	150	0.18	1.70
TCET24B-452	4.5	200	0.21	1.50
TCET24B-103	10.0	300	0.47	1.00
TCET24B-153	15.0	400	0.73	0.80
TCET24B-203	20.0	600	0.87	0.70
TCET24B-353	35.0	800	1.58	0.60

Note:


- Test Freq.: 1.0kHz
- Allowable Current: D.C. Current When Temperature of Coil Increased up to 40°C. (Ta=25°C)



## TCET24H

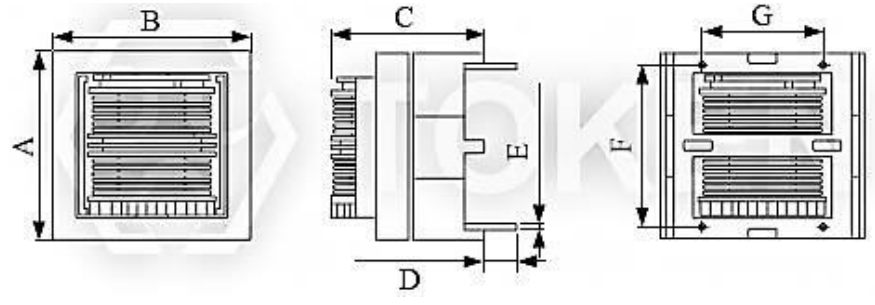
### Configurations & Dimensions (Unit: mm) (TCET24H)

Type	A (max)	B(max)	C(max)	D	E	F	G
TCET24H	18.5	25.5	31.0	4.0	Φ0.8	10.0	13.0



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(TCET24H) Image View



(TCET24H) Configurations & Dimensions

- Note: Design as Customer's Requested Specifications.

### Electrical Characteristics (TCET24H) at 25°C

Part Number	Inductance (mH)(min)	Inductance Balance (μH)(max)	DCR (Ω)(max)	IDC (A)(max)
TCET24H-252	2.5	100	0.13	2.00
TCET24H-352	3.5	150	0.18	1.70
TCET24H-452	4.5	200	0.21	1.50
TCET24H-103	10.0	300	0.47	1.00
TCET24H-153	15.0	400	0.73	0.80
TCET24H-203	20.0	600	0.87	0.70
TCET24H-353	35.0	800	1.58	0.60


Note:

- Test Freq.: 1.0kHz
- Allowable Current: D.C. Current When Temperature of Coil Increased up to 40°C. (Ta=25°C)

## TCET28B

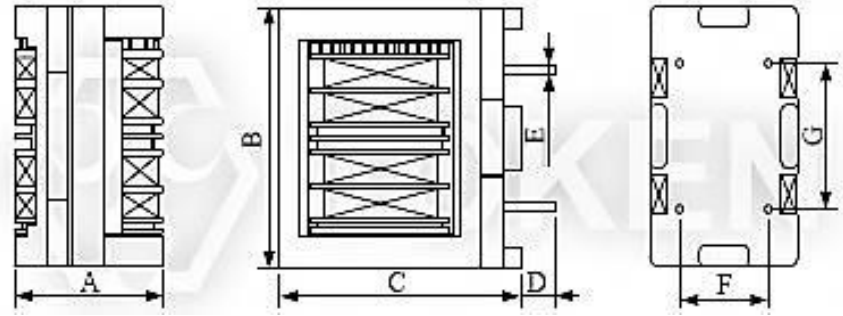
### Configurations & Dimensions (Unit: mm) (TCET28B)

Type	A (max)	B(max)	C(max)	D	E	F	G
TCET28B	22.0	31.0	35.5	4.0	Φ0.8	10.0	13.0



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(TCET28B) Image View



(TCET28B) Configurations & Dimensions

- Note: Design as Customer's Requested Specifications.

### Electrical Characteristics (TCET28B) at 25°C

Part Number	Inductance (mH)(min)	Inductance Balance (μH)(max)	DCR (Ω)(max)	IDC (A)(max)
TCET28B-182	1.8	100	0.072	2.60
TCET28B-682	6.8	200	0.23	1.60
TCET28B-123	12.0	400	0.38	1.20
TCET28B-223	22.0	500	0.65	1.00
TCET28B-393	39.0	700	1.43	0.70
TCET28B-683	68.0	850	1.82	0.60


Note:

- Test Freq.: 1.0kHz
- Allowable Current: D.C. Current When Temperature of Coil Increased up to 40°C. (Ta=25°C)

## TCET28H

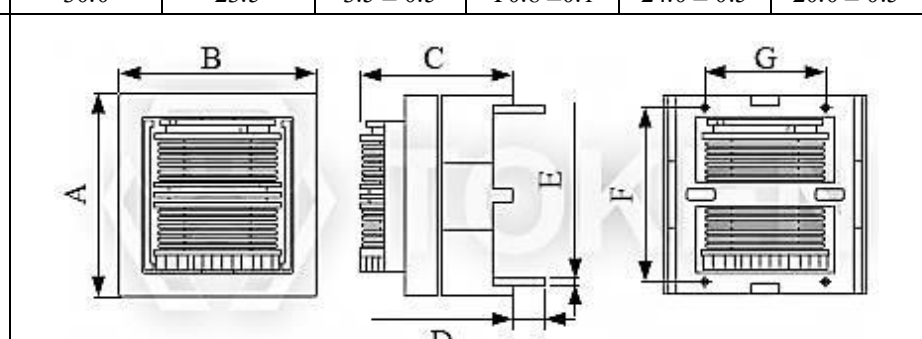
### Configurations & Dimensions (Unit: mm) (TCET28H)

Type	A (max)	B(max)	C(max)	D	E	F	G
TCET28H	30.0	30.0	23.5	3.5 ± 0.5	Φ0.8 ± 0.1	24.0 ± 0.5	20.0 ± 0.5



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(TCET28H) Image View



(TCET28H) Configurations & Dimensions

- Note: Design as Customer's Requested Specifications.

### Electrical Characteristics (TCET28H) at 25°C

Part Number	Inductance (mH)(min)	Inductance Balance (μH)(max)	DCR (Ω)(max)	IDC (A)(max)
TCET28H-182	1.8	100	0.072	2.60
TCET28H-682	6.8	200	0.23	1.60
TCET28H-123	12.0	400	0.38	1.20
TCET28H-223	22.0	500	0.65	1.00
TCET28H-393	39.0	700	1.43	0.70
TCET28H-683	68.0	850	1.82	0.60

Note:

- Test Freq.: 1.0kHz
- Allowable Current: D.C. Current When Temperature of Coil Increased up to 40°C. (Ta=25°C)

## Order Codes

### Order Codes (TCUU98V, TCUU98H, TCUU10, TCUU16)

TCUU98V	471				P	
Part Number	Inductance		Winding		Package	
TCUU98V Vertical Type	471	0.47mH	None	Standard Winding	P	Bulk
TCUU98H Horizontal Type	681	0.68mH	D	Sectional Winding		
TCUU10	102	1.0mH				
TCUU16	222	2.2mH				

### (TCUT20, TCET24B, TCET24H, TCET28B, TCET28H) Order Codes

TCUT20	222		P	
Part Number	Inductance		Package	
TCUT20	222	2.2mH	P	Bulk
TCET24B	392	3.9mH		
TCET24H	103	10.0mH		
TCET28B	183	20.0mH		
TCET28H				

## ► General Information

### Leading-Edge Technology

Token Electronics brand passive component specializes in standard and custom solutions offering the latest in state-of-the-art low profile high power density inductor components. Token provides cost-effective, comprehensive solutions that meet the evolving needs of technology-driven markets. In working closely with the industry leaders in chipset and core development, we remain at the forefront of innovation and new technology to deliver the optimal mix of packaging, high efficiency and unbeatable reliability. Our designs utilize high frequency, low core loss materials, new and custom core shapes in combination with innovative construction and packaging to provide designers with the highest performance parts available on the market.

### Find Inductor Solutions Faster

**Find Your Inductor** - [rfq@token.com.tw](mailto:rfq@token.com.tw)

Only timely and accurate information can help manage the changing needs of your customers. The Token Inductor Finder puts you only a click away from all of the inductor information you need.

**Find Your Solution** - [rfq@token.com.tw](mailto:rfq@token.com.tw)

Selecting the correct inductor solution will not only save you time, but it will give you a competitive edge. At Token, we are committed to helping you find the most efficient alternative for your power design. Our inductor and power supply design experts can help you make that selection.

Please forward us:

- A brief description of your particular application's requirements.
- Details of an existing solution that you'd like to replace, enhance or find an alternative.
- Inquiries for feasibility to tailor a power transformer or inductor to your specific application.

We can also help you with any additional technical information you might need relating to any of our products.

**Ask Us Today**

