2013

GENERAL PRODUCTS CATALOG

About Us

Futuristic Technic Electronics Pte Ltd was established in 1989. With over twenty years of heritage and with a multimillion annual turnover, Futuristic Technic Electronics is recognized by Multi National Corporations as a reliable manufacturer of top quality components such as; High & Low Frequency Transformers, Power Transformers, Choke Coils, Toroidal Coils, Loop Antennas, Bar Antennas, Line Filters, Bead Coils, SMT Assembly, EMI Line Filter, Lan Transformer, Coils for Automotive, Switching Transformer for electronic medical equipment used in Hospitals.

Our specialty includes customizing products according to customer specification or designing/redesigning products to fit customers' requirements. Our products are sold to major customers in Asia, Europe, America and other major countries around the world. Our Manufacturing plant is located in Panyu, China, with a factory space of more than 10,000 square meters and an estimate of 600+ employees, and a strong engineering team headed by a Japanese Chief engineer with decades of experience in the electronics industry. Our Company has an annual turn over.

Certifications

Futuristic has passed ISO9001:2008 quality system and ISO14001:2004 environmental system.
Our main objective is to support our customers by providing them with a wide range of quality and reliable components. We anticipate and adapt to the ever changing global demands to built environmental friendly products.
Since the year 2003, all of products are made according to the environmental friendly standards complying with Sony Green partner Environmental Quality Certificate and RoHS certification. We have also passed UL OBJY2 system in 2002.

Core Value

Our Vision: To be a leading manufacturer in the Electronics industry.
Our Commitment: Total customer satisfaction is our primary objective.
Our Strengths:

- Cost effective and innovative solutions
- Strong commitment to customers R&D
- Quality Products/ Product reliability
- Adapt to change
- Emphasis on continuous improvement
- Environmental friendly manufacturing process
- Provide a total solutions to customer
- Vendor management inventory service
- Managing materials forecast/customer inventories
- Timely Delivery
- Long term Business Relations with clients.

Product Overview

Power

Futuristic Electronics offers a complete range of magnetic components for both high-frequency switching and low-frequency laminated power supply applications. The switching power magnetics include power inductors, power transformers, common mode chokes, current sense transformers and gate drive transformers. The laminated power magnetics include open-frame transformers, encapsulated transformers and toroidal transformers.

Futuristic Electronics also designs and produces a wide variety of customized magnetic components, besides Futuristic Electronics has been developing the innovative magnetics for today's high efficiency power.

Browse below for detailed information on our Power product categories or contact us if you would like help with a customized solution.

RFID coil and Antenna

Total Customer Satisfaction Is Our Constant Objective

Power Inductors

Feature:

Surface Mount (SMT)

- Unshielded Drum Core Inductors
- Shielded Drum Core Inductors
- Toroidal Core Inductors
- Shape Core Inductors
- Wide range of inductance and current
- Custom Designs Available Upon Request

Through Hole (THT)

- Toroid Inductors
- Shape Core Inductors
- Wide range of inductance and current
- Custom Designs Available Upon Request

Application:

- Power converter
- EMI filter
- LED lighting
- Digital camera
- LCD TV
- PDA/PC/Server
- Game machine

Switch Mode Power Supply Transformers

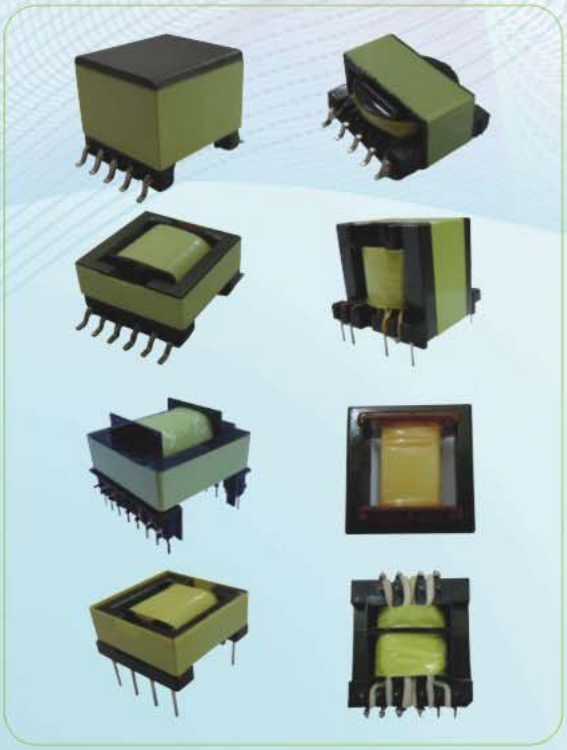
Feature:

Surface Mount (SMT)

- Various shape Core Transformers
- Operating frequency up to 500kHz
- Safety standard available
- Flyback, Forward, Push Pull Topologies
- Half and Full Bridge Topologies
- Custom Designs Available Upon Request

Through Hole (THT)

- Various shape Core Transformers
- Operating frequency up to 500kHz
- Safety standard available
- Flyback, Forward, Push Pull Topologies
- Half and Full Bridge, LLC Topologies
- Custom Designs Available Upon Request



Application:

- Power converter
- LED lighting
- Solar energy
- Automotive
- Medical equipment
- Telecommunication
- LCD TV
- Adapter/PC/Server

Http://www.ftefl.com Singapore 0065-68487250/7253
China 86-020-34569585 Germany 0049-89-12024885 Japan 814-92643461

Common Mode Chokes

Feature:

Surface Mount (SMT)

- Toroidal Core Common Chokes
- Shape Core Common Chokes
- 1500 Vrms Isolation
- Wide range of inductance and current
- Custom Designs Available Upon Request

Through Hole (THT)

- Toroidal Core Common Chokes
- Shape Core Common Chokes
- 3000 Vrms Isolation
- Wide range of inductance and current
- Custom Designs Available Upon Request

Application:

- EMI filter
- LCD TV
- AC adapter
- PC/Server
- LED lighting

Current Sense transformers

Feature:

Surface Mount (SMT)

- Toroidal Core Current Senses
- Shape Core Current Senses
- Wide range of inductance and current
- Custom Designs Available Upon Request

Through Hole (THT)

- Toroidal Core Current Senses
- Shape Core Current Senses
- Wide range of inductance and current
- Custom Designs Available Upon Request

Application:

- Switching power supply
- Current sensor
- Smart meters
- Energy monitor

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China 86-020-34569585 Germany 0049-89-12024885 Japan 814-92643461

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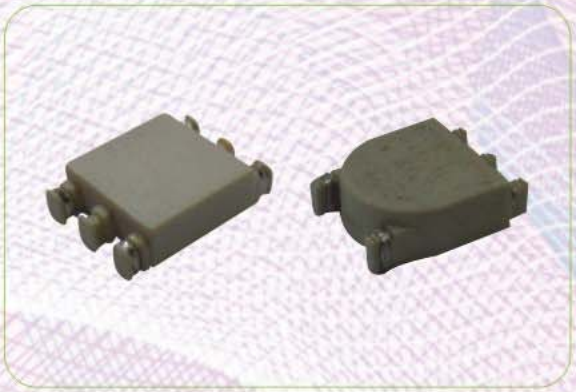
Gate Drive Transformers



Feature:

Surface Mount (SMT)
- Toroidal Core Gate Drive
- Custom Designs Available Upon Request

Through Hole (THT)
- Toroidal Core Gate Drive
- Custom Designs Available Upon Request

Application:

- Switching power supply
- Gate drive

Laminated Transformers

Feature:

Open-Frame Transformers
- Up to 200 VA
- THT Type Or PVC Lead Wire With Connector
- Custom Designs Available Upon Request

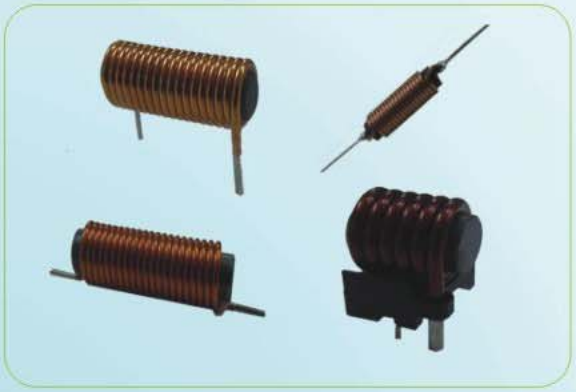
Encapsulated Transformers
- Up to 50 VA
- THT Type Or PVC Lead Wire With Connector
- Custom Designs Available Upon Request

Toroidal Transformers
- Up to 3000 VA
- PVC Lead Wire With Connector
- Custom Designs Available Upon Request

Application:

- Power converter
- AV/PA amplifier
- Medical equipment
- Test instrument
- Industrial machine

AutomotiveRod inductors



Feature:

- High current inductors
- Low DC resistance
- Custom Designs Available Upon Request

Application:

- Automotive
- Wiper motor
- Rearview mirror adjustment motor

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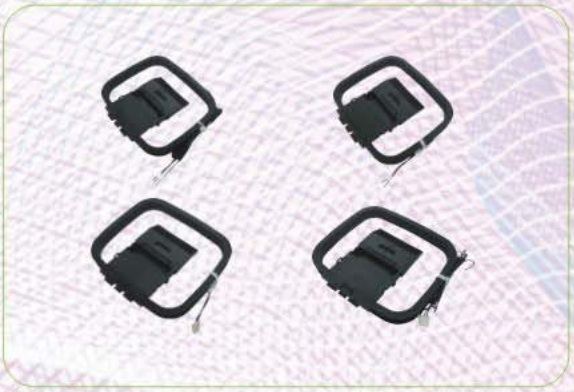
Total Customer Satisfaction Is Our Constant Objective

Loop Antenna



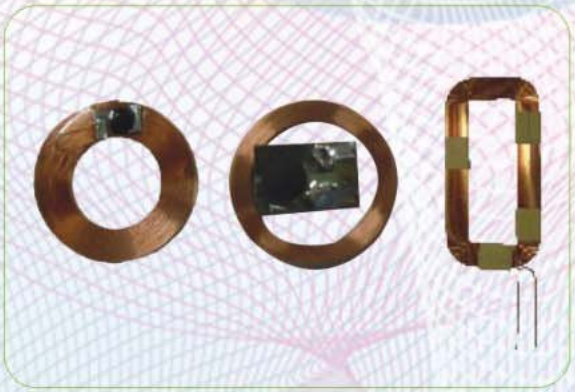
Feature:

- Detect signal with high sensitivity and convenience
- Custom Designs Available Upon Request

Application:

- Antenna
- Hi-Fi stereo system
- Mini sound system

RFID Coil And Tape



Feature:

- Various structures and sizes
- Low cost solution
- Wide range of inductance
- High quality factor
- Self-bonded wire avaiable

Application:

- Indestrial equipments
- Medical equiments
- Auto trigger starting sysems
- Auto Immobilizer systems
- Toll collection systems
- Animal tracking
- Smart card

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Product Summary

Certificate of Green Partner

SOEM.PG.FC020205

Presented to:

FUTURISTIC TECHNIC ELECTRONICS PTE. LTD.

This is to certify that you have successfully established
an environmental management system
that has met the requirements of the Sony Green Partner Program

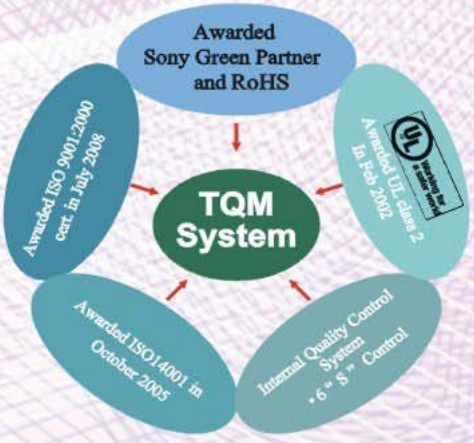
Term of Validity : 2010/04/01 – 2012/03/31
Issued on : 2010/02/18
Approved and Issued by : Procurement Group, Sony Corporation

Kazuaki Takaniose
President, Procurement Group, Sony Corporation

Satoshi Okawa
Managing Director, Sony EMCS (Malaysia) Sdn. Bhd.

SONY 92392

Quality Section



INDEX

SMD POWER TRANSFORMERS

EFD Platforms with Cover

Features

- Low profile
- Multiple-output is available
- Operating frequency up to 500kHz
- Custom designs available

Application

- Transformer for DVC, DSC,OA, Adaptor,TV,Automotive,DVD,Blue-ray Recorder

Specifications

Size	Fig.	A (Max.)	B (Max.)	C (Max.)	D (Nom.)	E (Nom.)	F (Nom.)	Pins (Optional)	fsw (kHz)	Output Power (W)[2]
SEFD20	1	29.5	21.5	12.5	3.0	24.6	0.7x0.4	6x6	100	20
SEFD25	2	33.0	27.5	15.0	4.0	29.7	1.0X0.4	6x6	100	30

1. Operating Temperature: -40℃~+125℃(Includes temperature when the coil is heated).
2. Output power is only for reference at flyback topology and switching frequency 100kHz.

Mechanical

Fig. 1

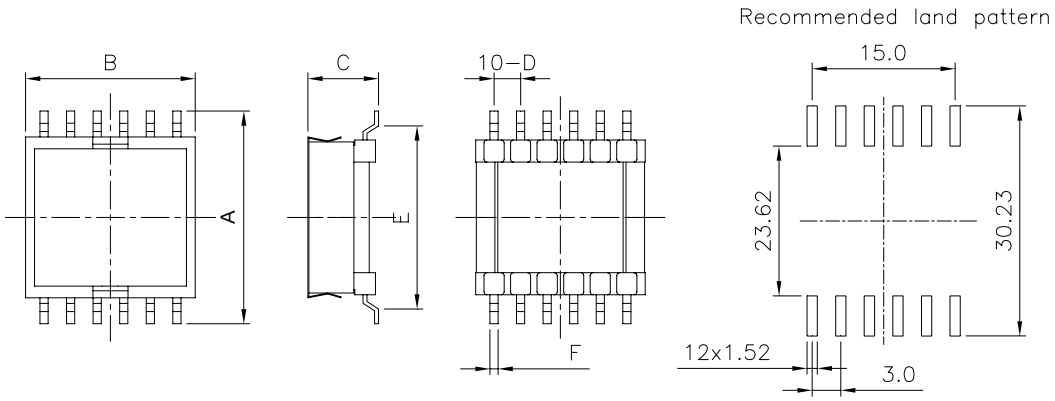
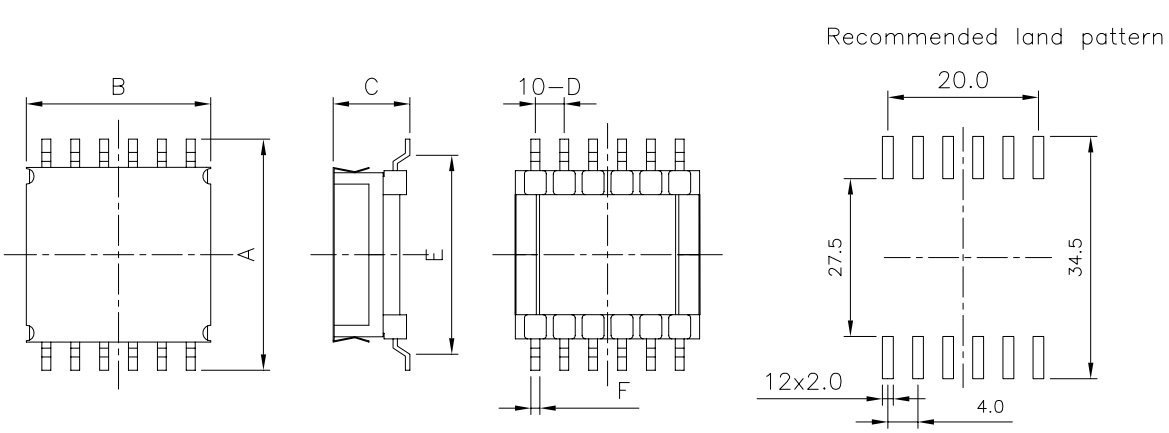


Fig. 2



SMD POWER TRANSFORMERS

EFD Platforms

Features

- Low profile
- Multiple-output is available
- Operating frequency up to 500kHz
- Custom designs available

Application

- Transformer for DVC, DSC,OA, Adaptor,TV,Automotive,DVD,Blue-ray Recorder

Specifications

Size	Fig.	A (Max.)	B (Max.)	C (Max.)	D (Nom.)	E (Nom.)	F (Nom.)	Pins (Optional)	fsw (kHz)	Output Power (W)[2]
SEFD15	1	23	17	9	2.5	18.2	0.7x0.4	5x5	100	10
	2	23	19	9	2.5	18.1	0.6x0.4	6x6	100	
SEFD20	3	26	23	11	3.76	23.1	1.0x0.4	5x5	100	20
	4	30	23	11	3.0	24.6	0.7x0.4	6x6	100	
SEFD25	5	33	27	14.5	5.0	29.7	1.1x0.4	5x5	100	30
	6	33	27	14.5	4.0	29.7	1.1x0.4	6x6	100	

1. Operating Temperature: -40℃~+125℃(Includes temperature when the coil is heated).
2. Output power is only for reference at flyback topology and switching frequency 100kHz.

Mechanical

Fig. 1

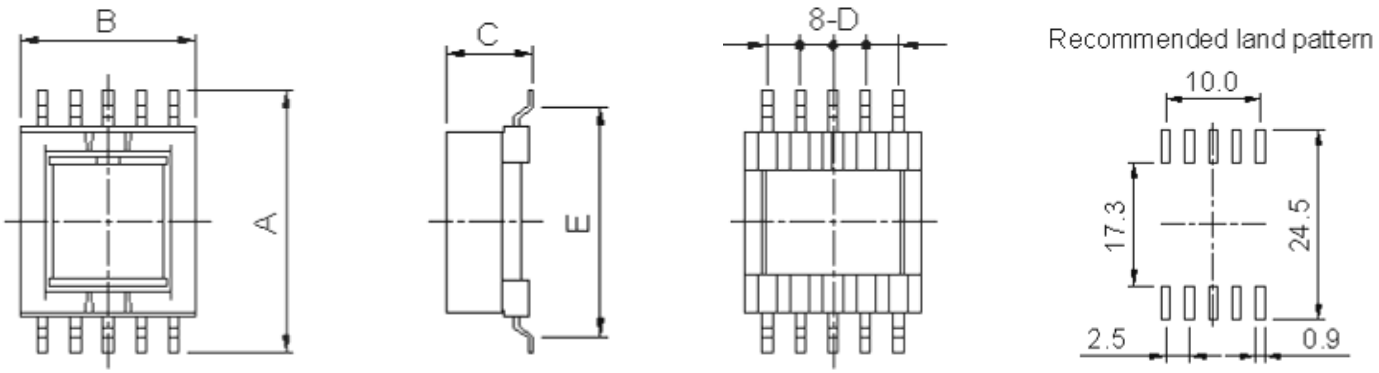


Fig. 2

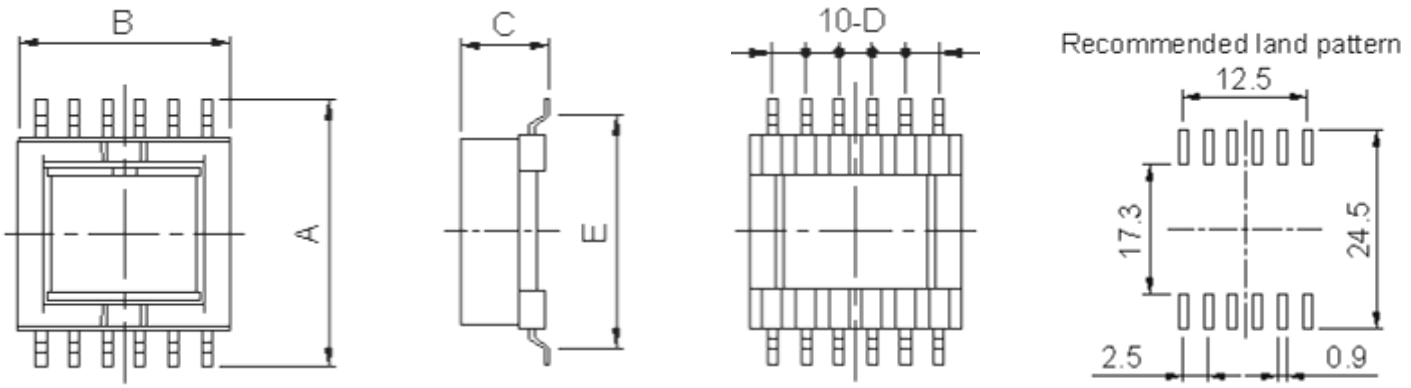


Fig. 3

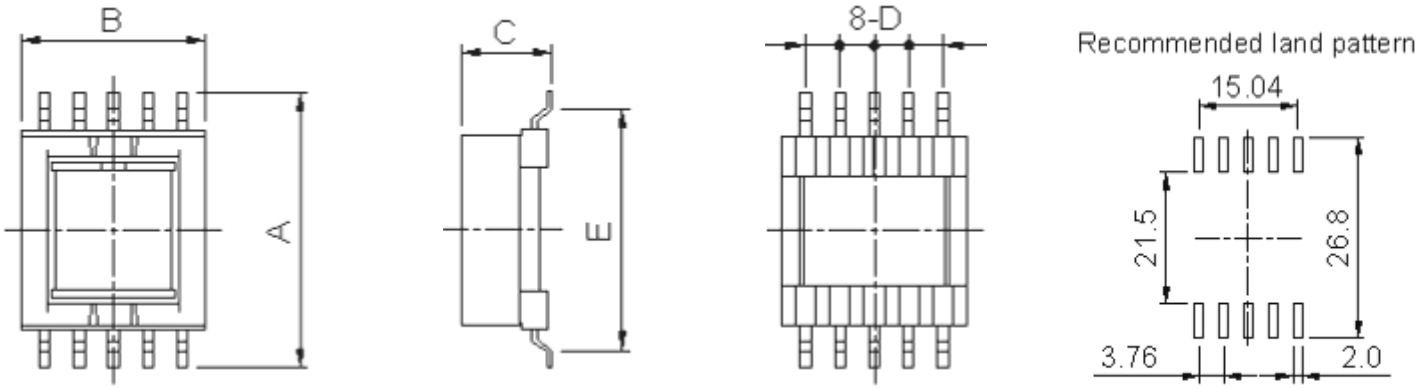


Fig. 4

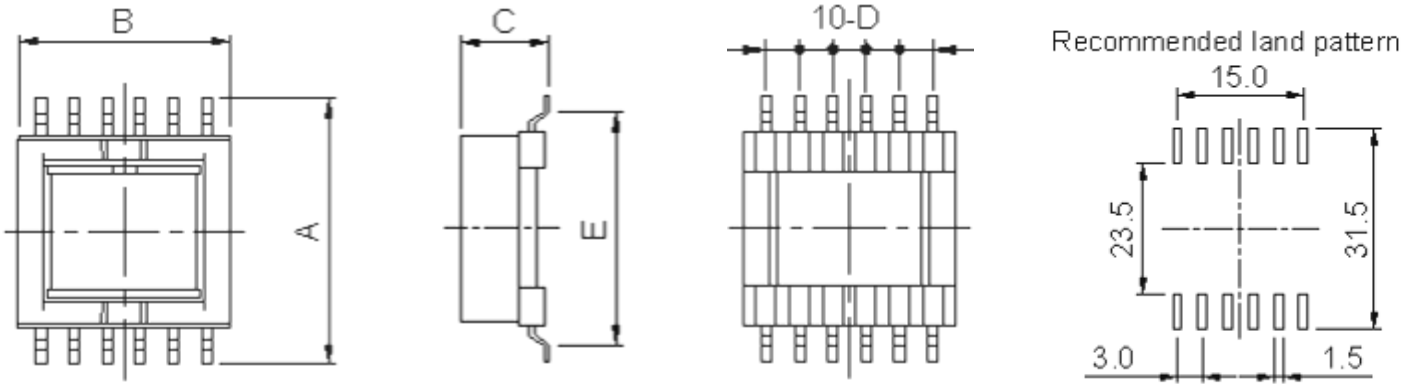


Fig. 5

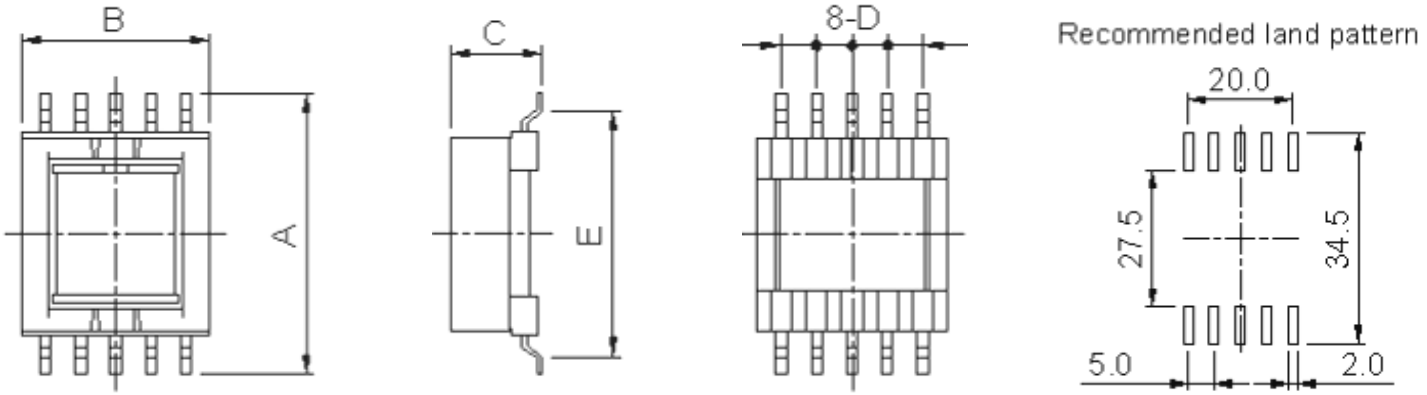
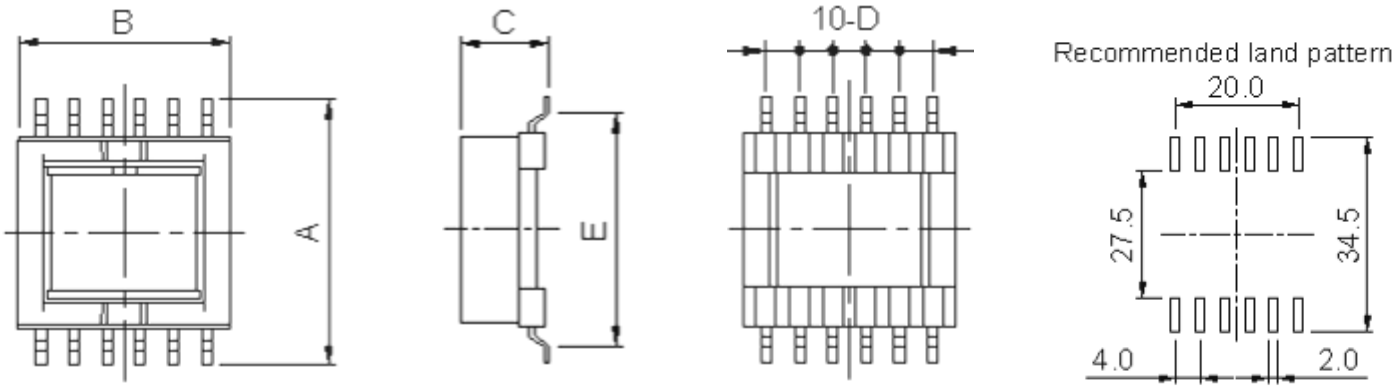

B
A
C
E
8-D
Recommended land pattern
20.0
27.5
34.5
5.0
2.0

Fig. 6


B
A
C
E
10-D
Recommended land pattern
20.0
27.5
34.5
4.0
2.0

SMD POWER TRANSFORMERS

EP Platforms

Features

- High power density and high efficiency
- Low leakage inductance and low loss
- Multiple-output is available
- Operating frequency up to 500kHz
- Custom designs available

Application

- Transformer for PoE,DVC, DSC,OA, Adaptor,TV,Automotive,DVD,Blue-ray Recorder

Specifications

Size	Fig.	A (Max.)	B (Max.)	C (Max.)	D (Nom.)	E (Nom.)	F (Nom.)	Pins (Optional)	fsw (kHz)	Output Power (W)[2]
SEP7	1	14.0	11.0	9.5	2.5	10.6	-	0.7x0.25	3x3	5
	2	15.5	11.0	10.0	3.0	10.7	7.6	0.6x0.3	3x3	
	3	11.0	12.0	12.0	2.0	8.6	6.1	0.7x0.3	4x4	
SEP10	4	15.3	13.5	12.5	2.5	12.5	-	0.6x0.3	4x4	10
	5	18.0	13.5	13.0	2.5	13.2	9.6	0.7x0.4	4x4	
SEP13	6	18.5	14.5	13.0	2.5	15.4	-	0.7x0.4	5x5	15
	7	20.0	15.0	13.0	2.5	15.5	11.8	0.7x0.4	5x5	
	8	17.8	15.0	13.0	1.7	14.7	-	0.6x0.4	8x4	

1. Operating Temperature: -40℃~+125℃(Includes temperature when the coil is heated).
2. Output power is only for reference at flyback topology and switching frequency 100kHz.

Mechanical

Fig. 1

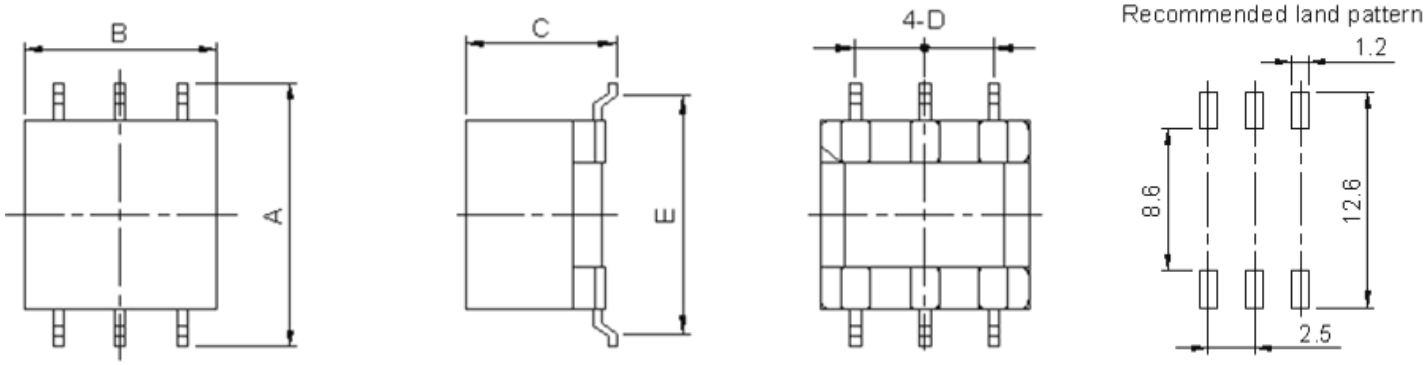


Fig. 2

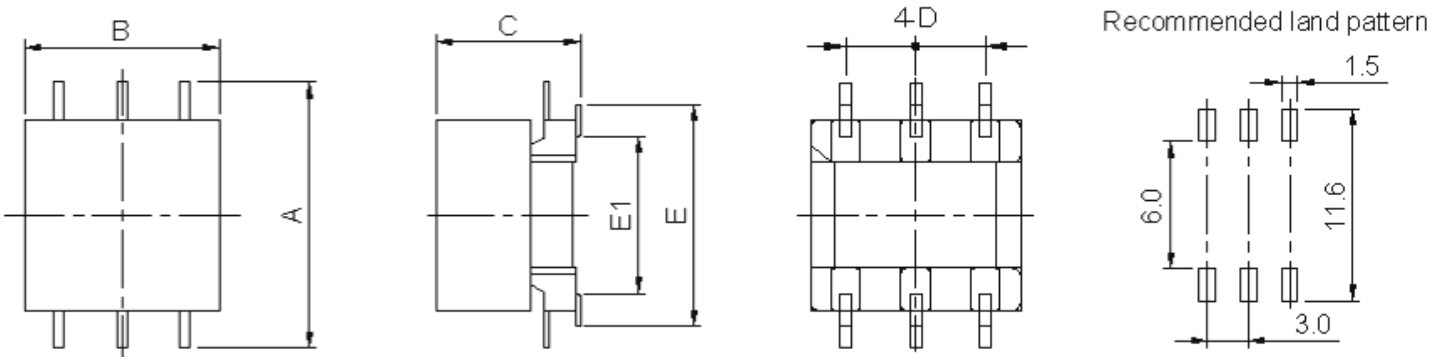


Fig. 3

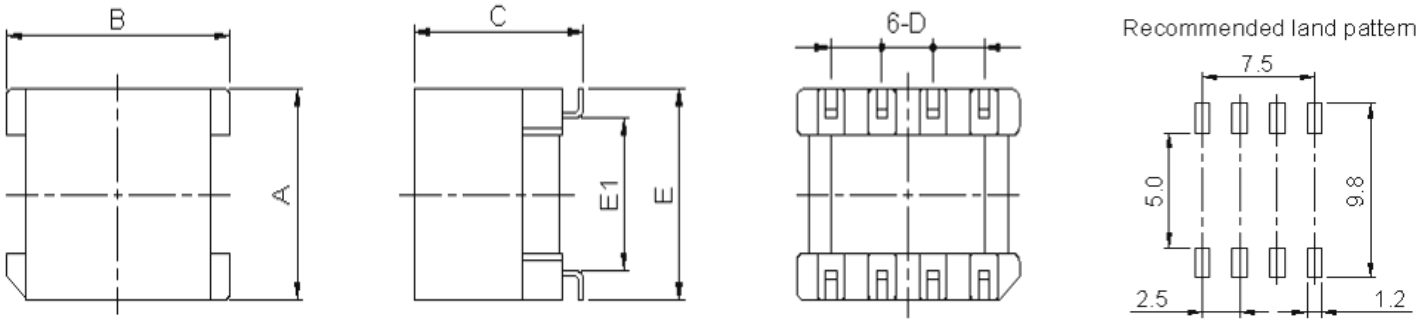


Fig. 4

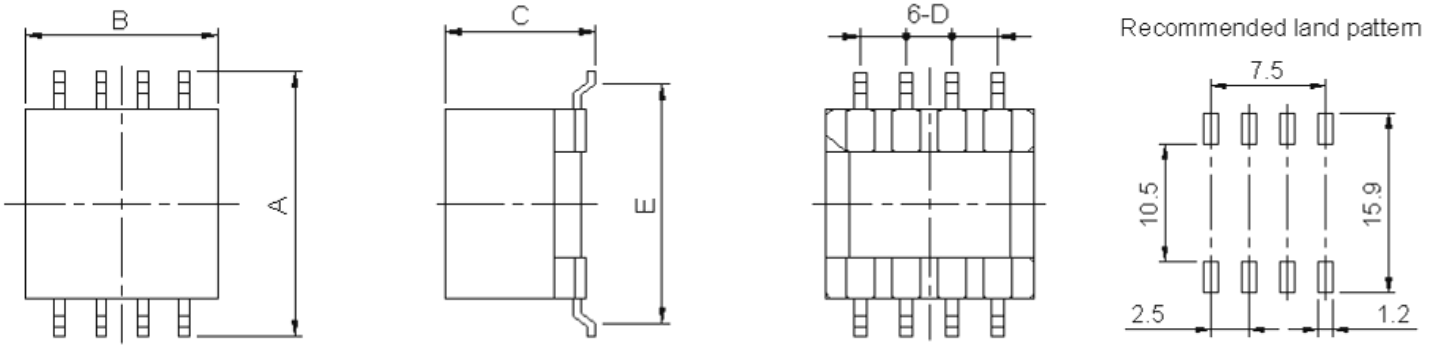


Fig. 5

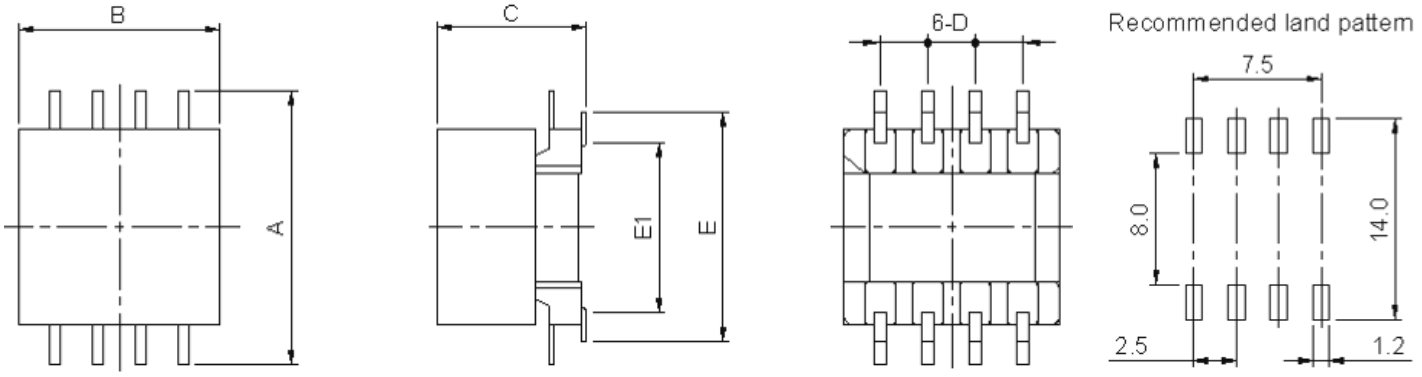


Fig. 6

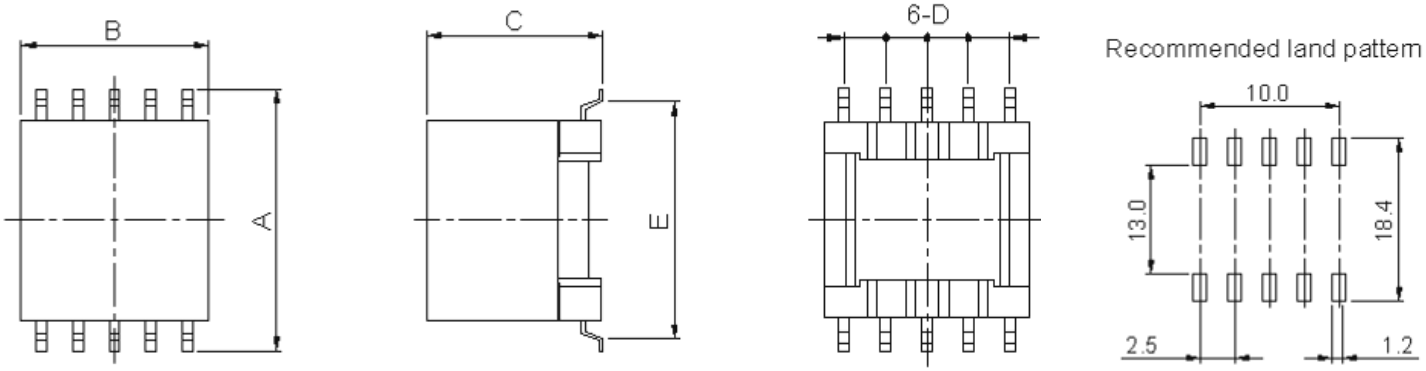


Fig. 7

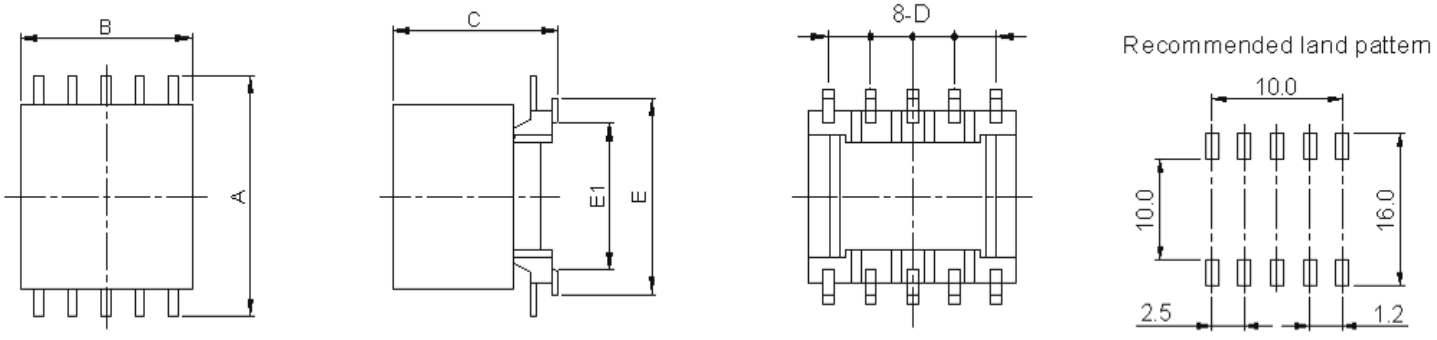
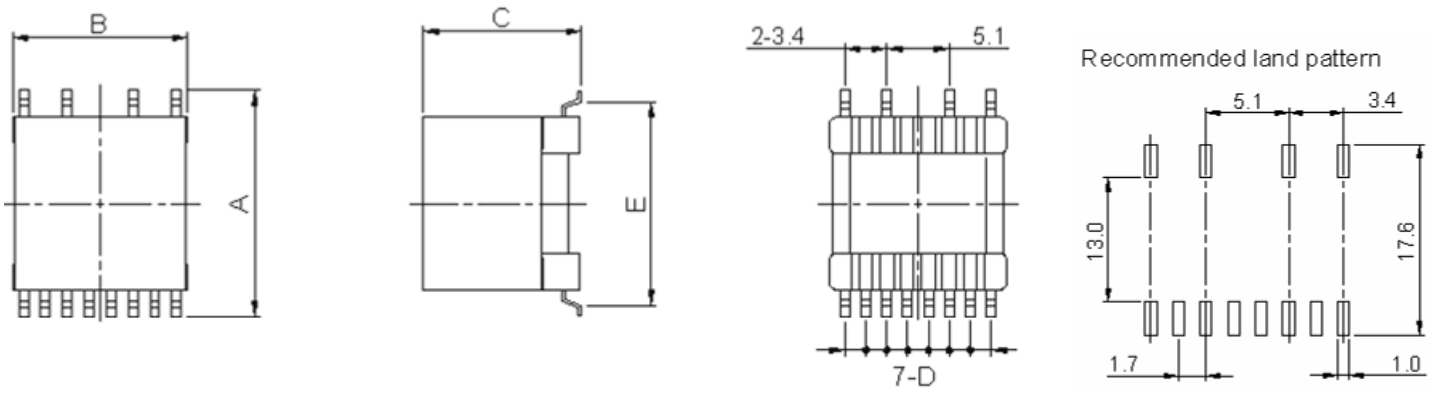


Fig. 8



SMD POWER TRANSFORMERS

ER Platforms

Features

- Low profile and low cost
- Multiple-output is available
- Operating frequency up to 500kHz
- Custom designs available

Application

- Transformer for DVC, DSC,OA, Adaptor,TV,Automotive,DVD,Blue-ray Recorder

Specifications

Size	Fig.	A (Max.)	B (Max.)	C (Max.)	D (Nom.)	E (Nom.)	F (Nom.)	Pins (Optional)	fsw (kHz)	Output Power (W)[2]
SER95	1	13	11	7	2.0	10.1	0.7x0.25	4x4	100	3
SER115	2	14	13	7	2.0	11.0	0.7x0.25	4x4	100	5
	3	14	13	7	2.0	11.0	0.7x0.25	5x5	100	
SER145	4	18	17	8	2.5	14.6	0.7x0.30	5x5	100	8

1. Operating Temperature: -40℃~+125℃(Includes temperature when the coil is heated).
2. Output power is only for reference at flyback topology and switching frequency 100kHz.

Mechanical

Fig. 1

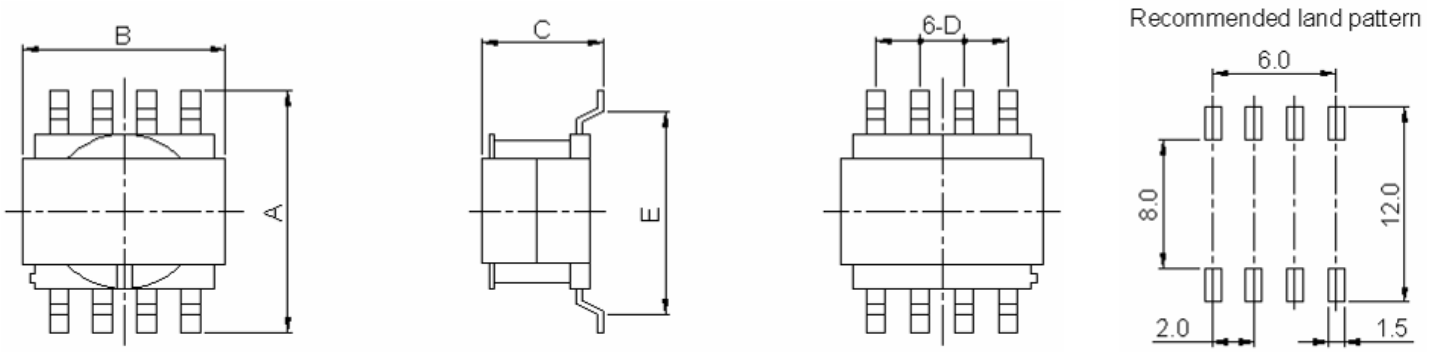


Fig. 2

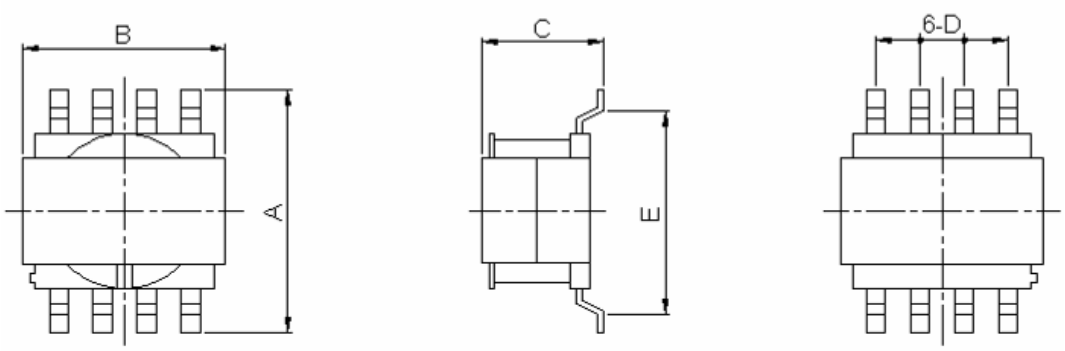


Fig. 3

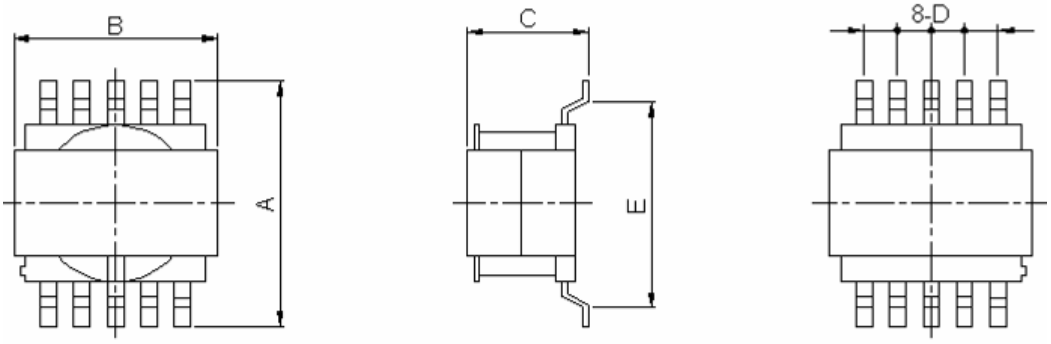
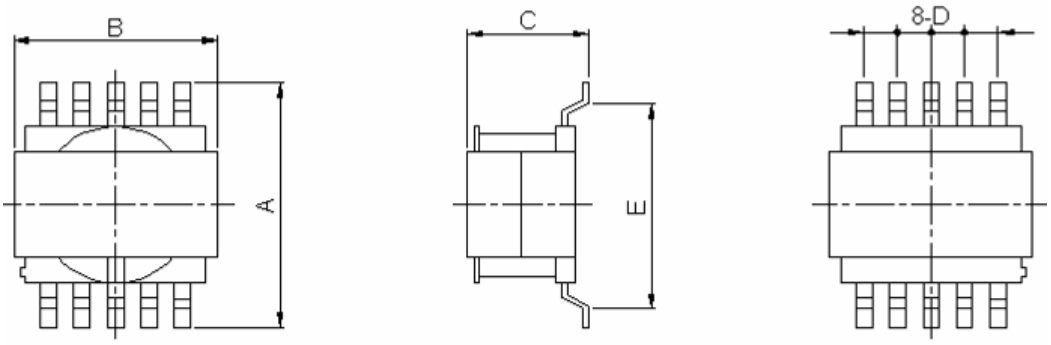


Fig. 4



THT POWER TRANSFORMERS

EE Platforms – Horizontal

Features

- High power density and high efficiency
- Multiple-output is available
- Operating frequency up to 500kHz
- Custom designs available

Application

- Transformer for DVC, DSC,OA, Adaptor,TV,Automotive,DVD,Blue-ray Recorder

Specifications

Size	Fig.	A (Max.)	B (Max.)	C (Max.)	D (Nom.)	E (Nom.)	F (Nom.)	Pins (Optional)	fsw (kHz)	Output Power (W)[2]
EEH8.3	1	10	10	7.5	2.5	6.0	Φ0.5	3x3	100	3
EEH10	2	12	14	12	2.5	10.5	Φ0.5	4x4	100	5
EEH13	3	16	16	15	2.54	10.2	Φ0.5	5x5	100	8
EEH16	2	18	16	17	3.0	11.0	Φ0.6	4x4	100	10
EEH19	4	23	19	18	5.0	13.2	Φ0.7	4x4	100	15
EEH25	5	28	28	24	5.0	15.1	Φ0.8	5x5	100	30
EEH30	6	34	38	23	5.0	25.0	Φ0.8	6x6	100	50
EEH40	7	43	36	31	5.0	25.8	Φ0.8	7x7	100	150
EEH55	8	57	61	53	5.0	45.0	Φ1.0	10x10	100	700

1. Operating Temperature: -40℃~+125℃(Includes temperature when the coil is heated).
2. Output power is only for reference at flyback topology and switching frequency 100kHz.

Mechanical

Fig. 1

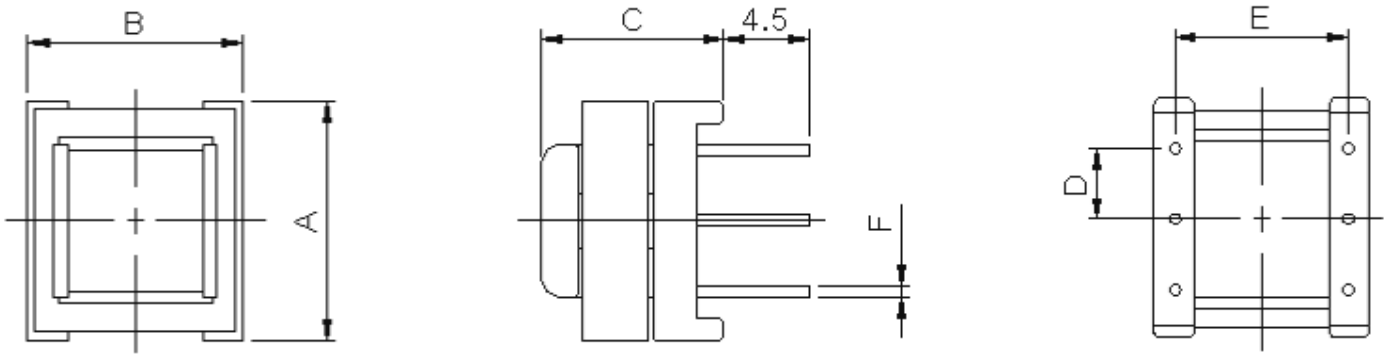


Fig. 2

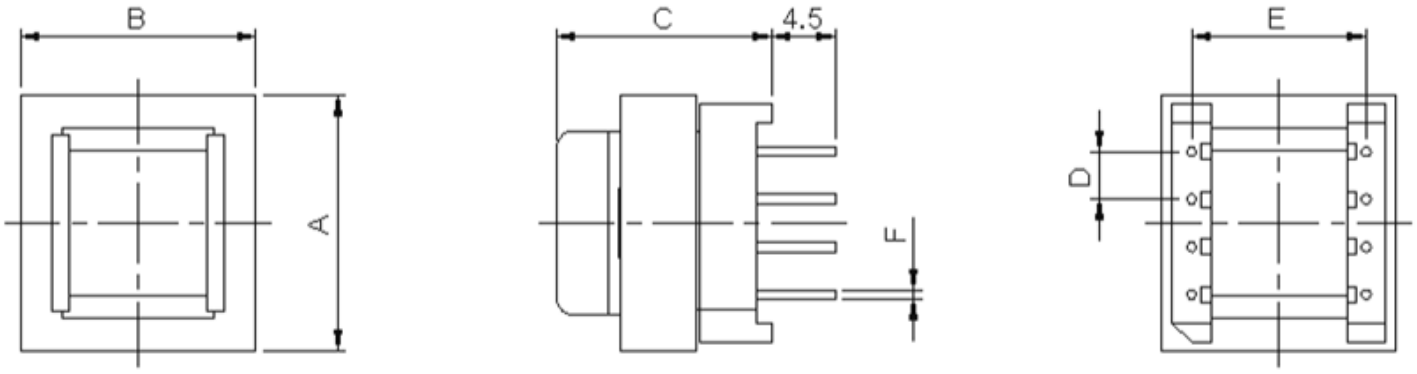
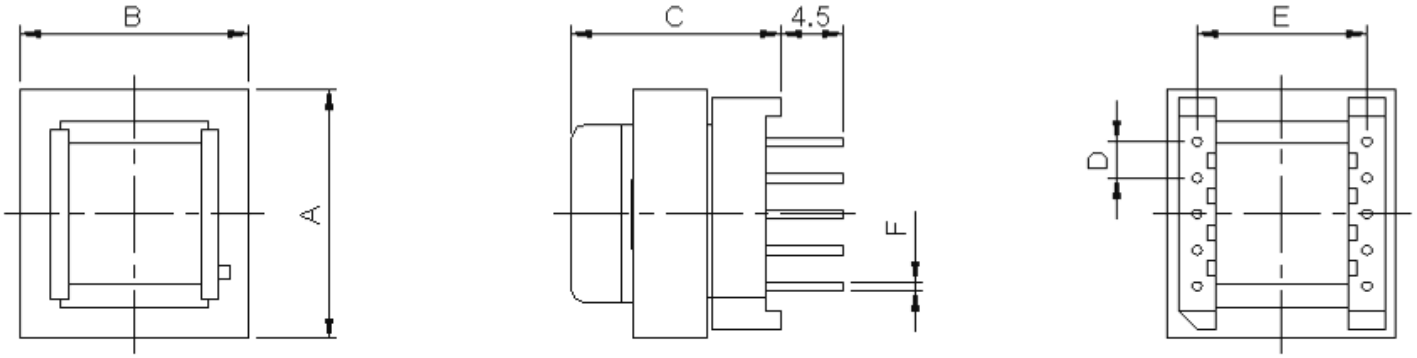


Fig. 3



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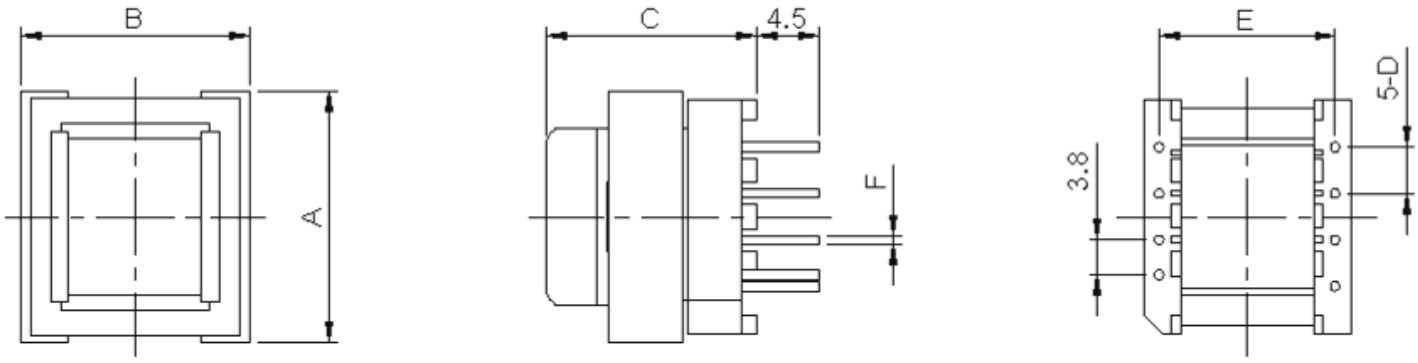


Fig. 5

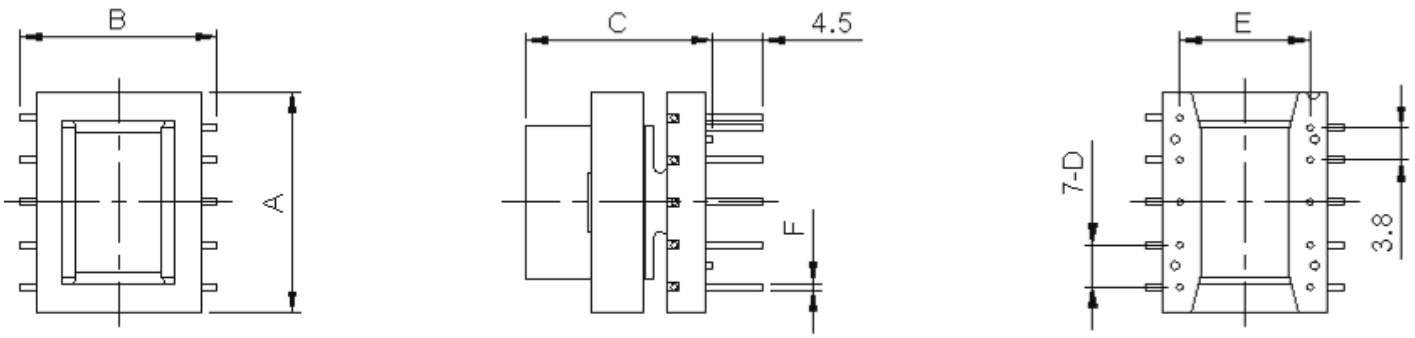


Fig. 6

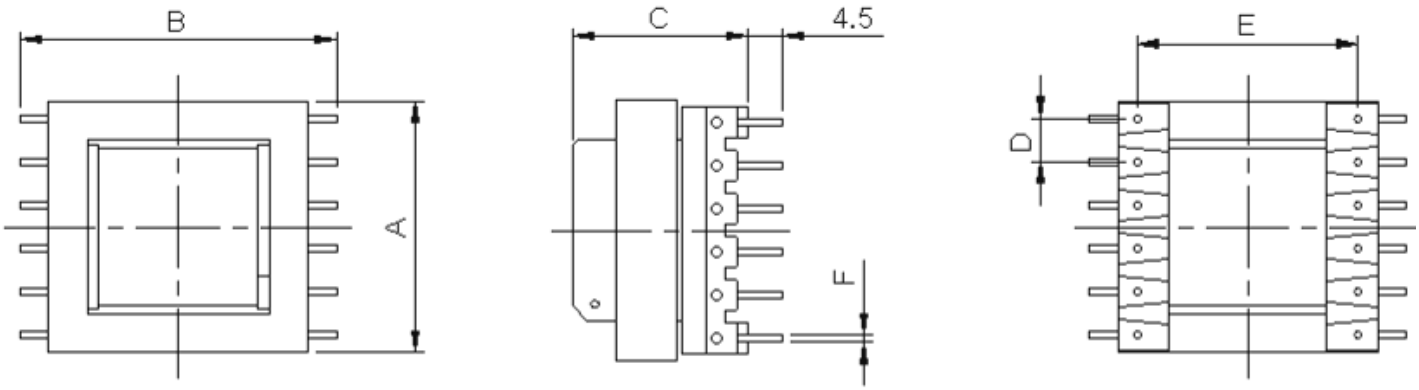


Fig. 7

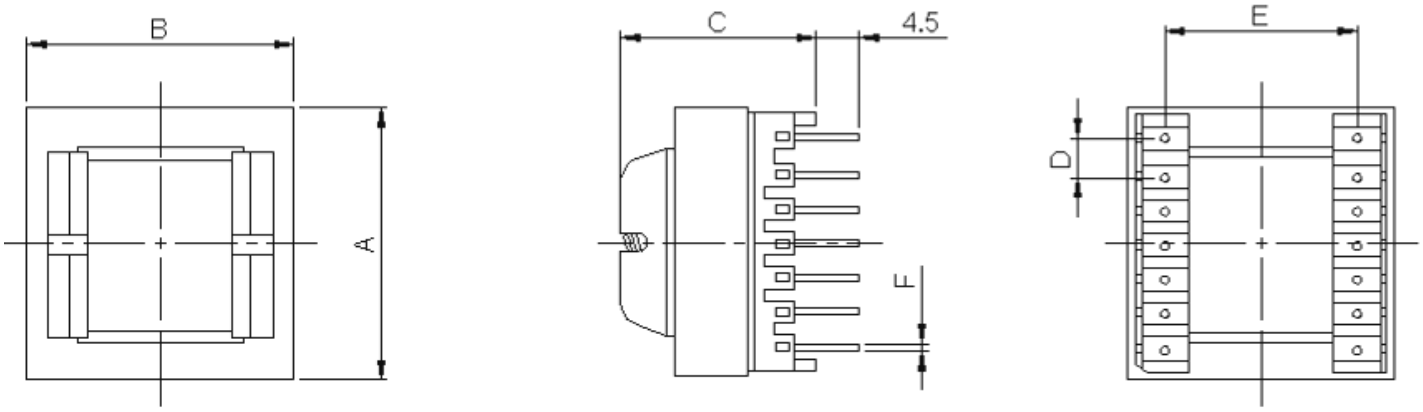
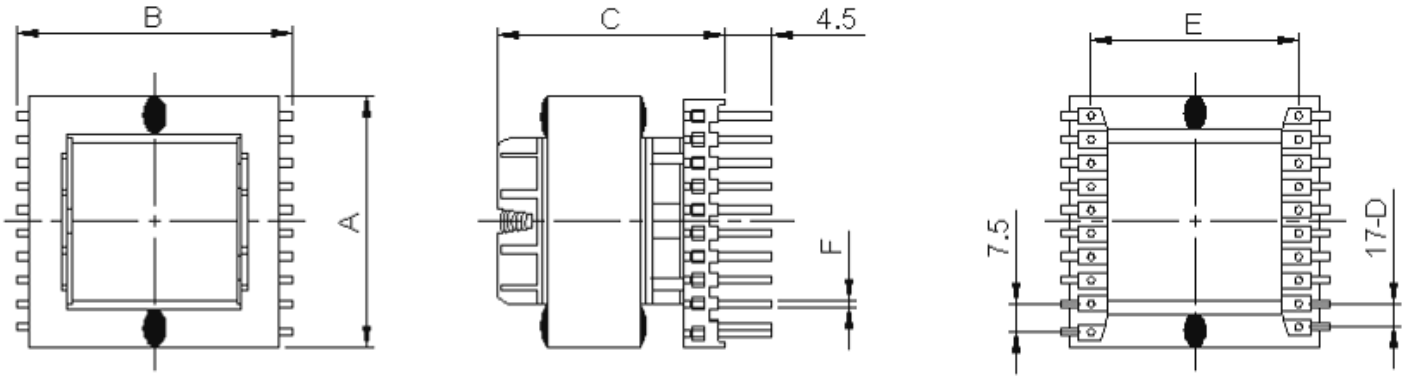


Fig. 8



THT POWER TRANSFORMERS

EE Platforms – Vertical

Features

- High power density and high efficiency
- Multiple-output is available
- Operating frequency up to 500kHz
- Custom designs available

Application

- Transformer for DVC, DSC,OA, Adaptor,TV,Automotive,DVD,Blue-ray Recorder

Specifications

Size	Fig.	A (Max.)	B (Max.)	C (Max.)	D (Nom.)	E (Nom.)	F (Nom.)	Pins (Optional)	fsw (kHz)	Output Power (W)[2]
EE8.3	1	10	10	10	2.5	6.0	Φ0.5	3x3	100	3
EE10	2	12	12	13	2.5	8.0	Φ0.5	4x4	100	5
EE13	3	14	14	13	2.5	8.5	Φ0.6	5x5	100	8
EE16	3	19	15	18	3.2	10.5	Φ0.6	5x5	100	10
EE19	3	24	18	19	3.8	12.6	Φ0.7	5x5	100	15
EE25	3	30	30	24	5.0	15.2	Φ0.8	5x5	100	30
EE30	4	33	32	24	5.0	20.0	Φ0.8	6x6	100	50
EE40	4	43	30	36	5.0	22.5	Φ0.8	6x6	100	150
EE42	5	47	36	51	5.0	27.5	Φ1.0	9x9	100	200

1. Operating Temperature: -40℃~+125℃(Includes temperature when the coil is heated).
2. Output power is only for reference at flyback topology and switching frequency 100kHz.

Mechanical

Fig. 1

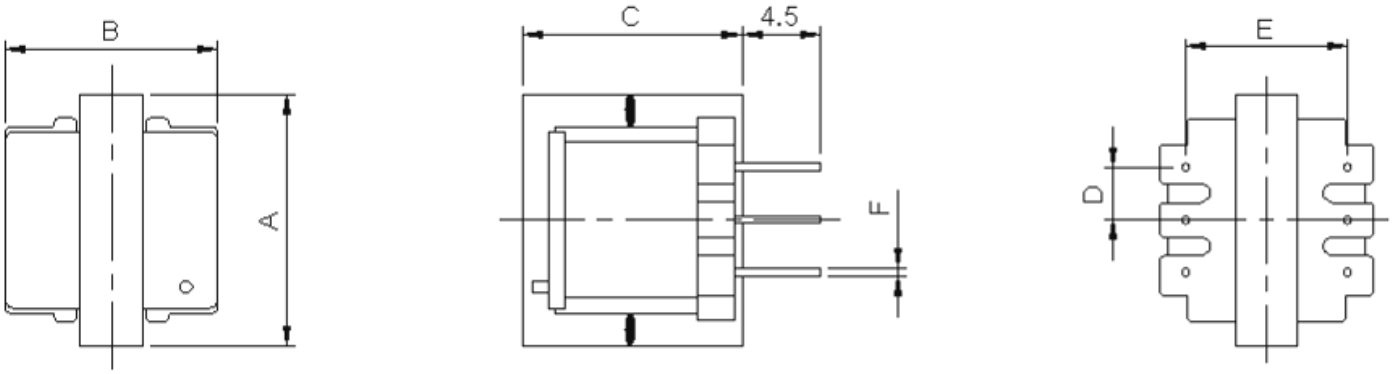


Fig. 2

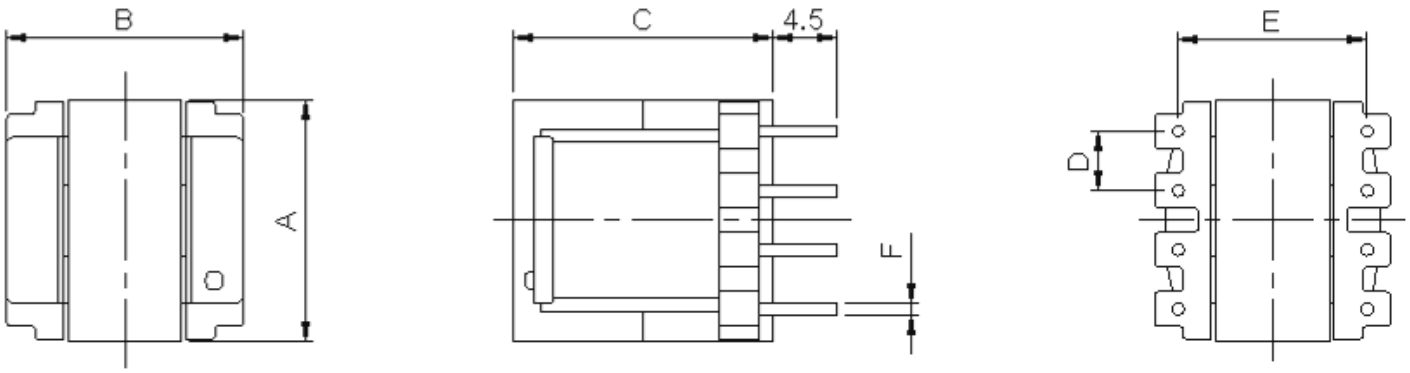


Fig. 3

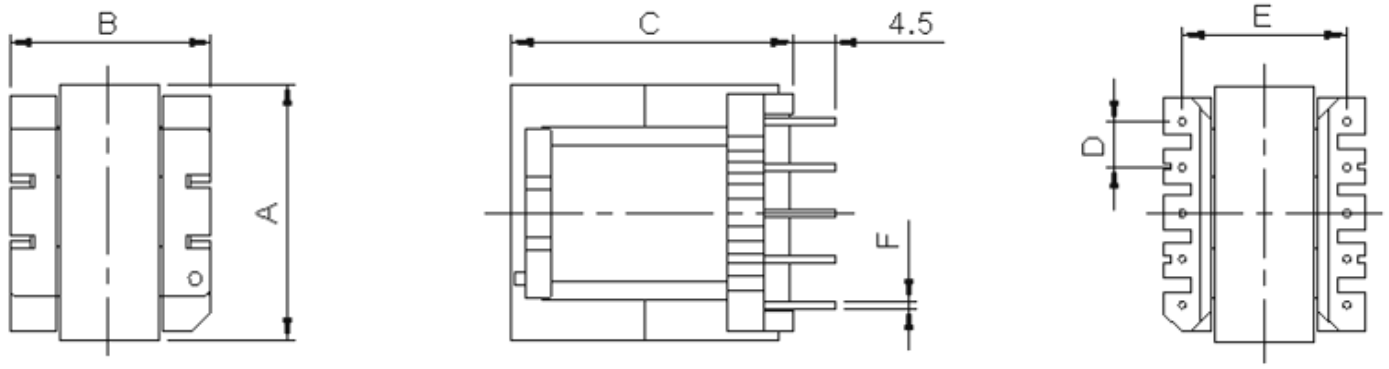


Fig. 4

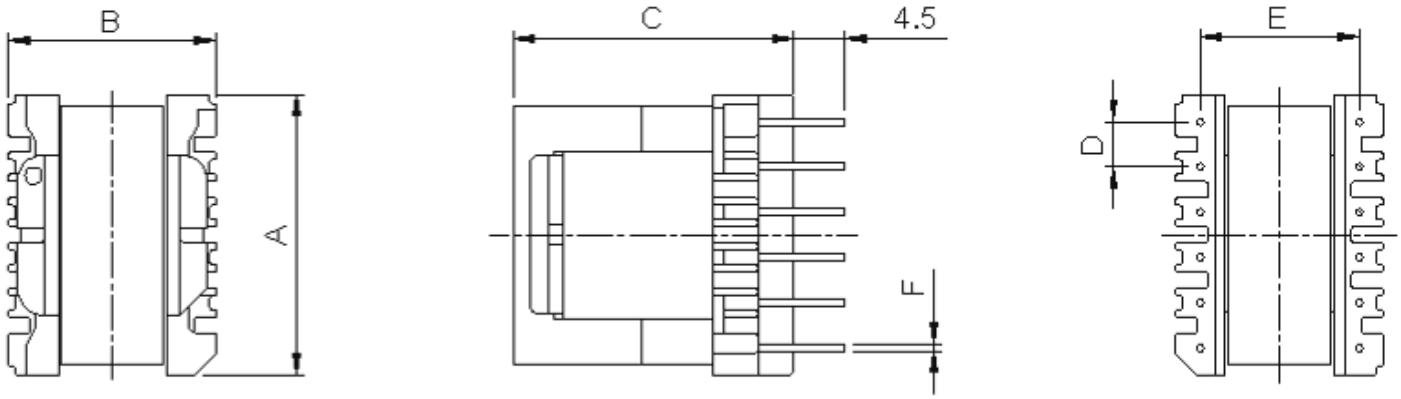
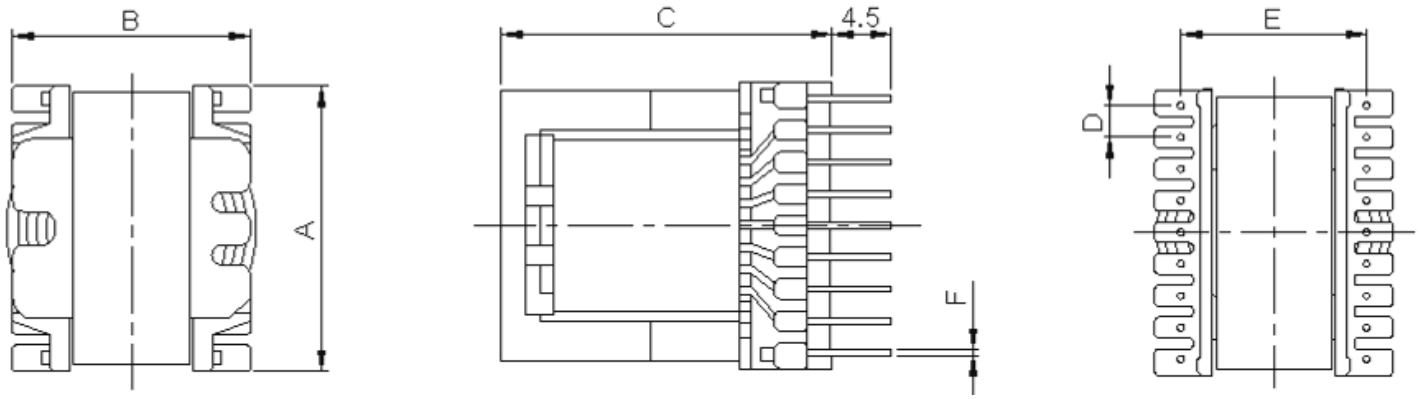


Fig. 5

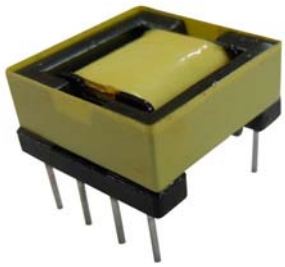


THT POWER TRANSFORMERS

EFD Platforms – Horizontal

Features

- Low profile
- Multiple-output is available
- Operating frequency up to 500kHz
- Custom designs available



Application

- Transformer for DVC, DSC,OA, Adaptor,TV,Automotive,DVD,Blue-ray Recorder

Specifications

Size	Fig.	A (Max.)	B (Max.)	C (Max.)	D (Nom.)	E (Nom.)	F (Nom.)	Pins (Optional)	fsw (kHz)	Output Power (W)[2]
EFD15	1	18	17	10	3.75	13.75	Φ0.6	4x4	100	15
EFD20	1	23	23	12	5.0	17.5	Φ0.6	4x4	100	20
EFD25	2	27	28	17	5.0	22.5	Φ0.8	5x5	100	30
EFD30	3	32	32	17	5.0	27.5	Φ0.8	6x6	100	50

1. Operating Temperature: -40℃~+125℃(Includes temperature when the coil is heated).
2. Output power is only for reference at flyback topology and switching frequency 100kHz.

Mechanical

Fig. 1

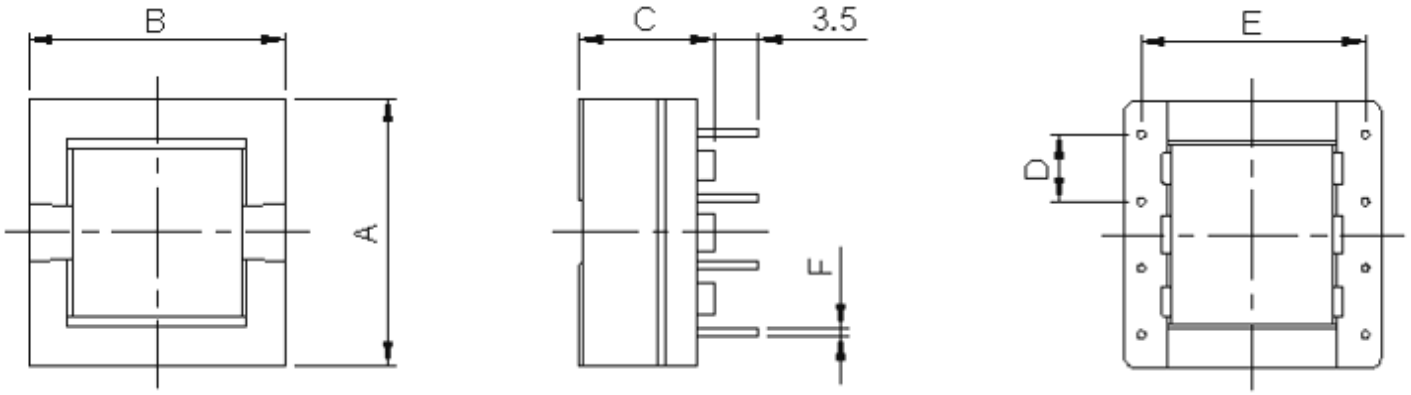


Fig. 2

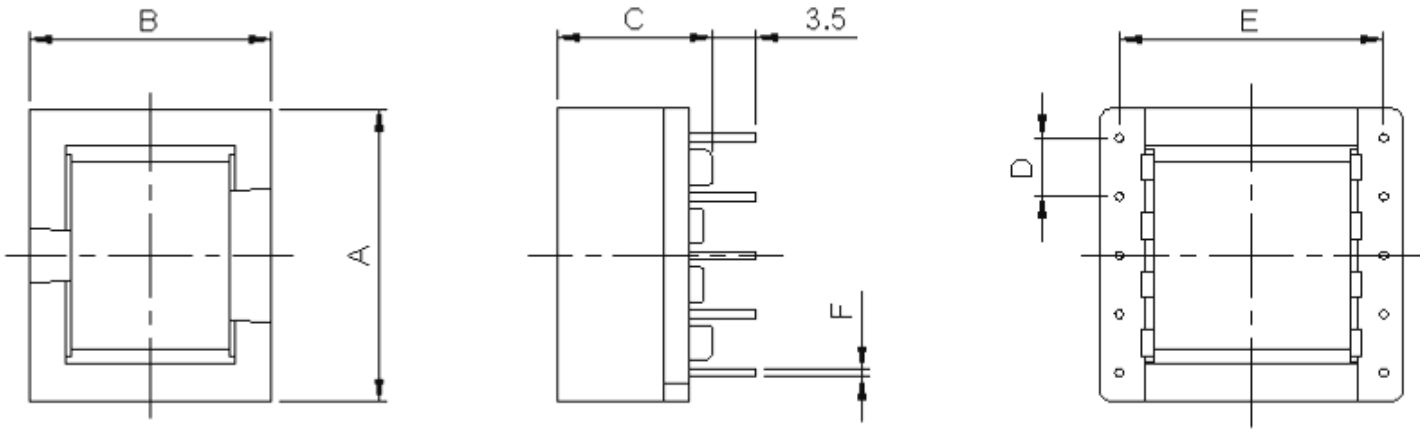
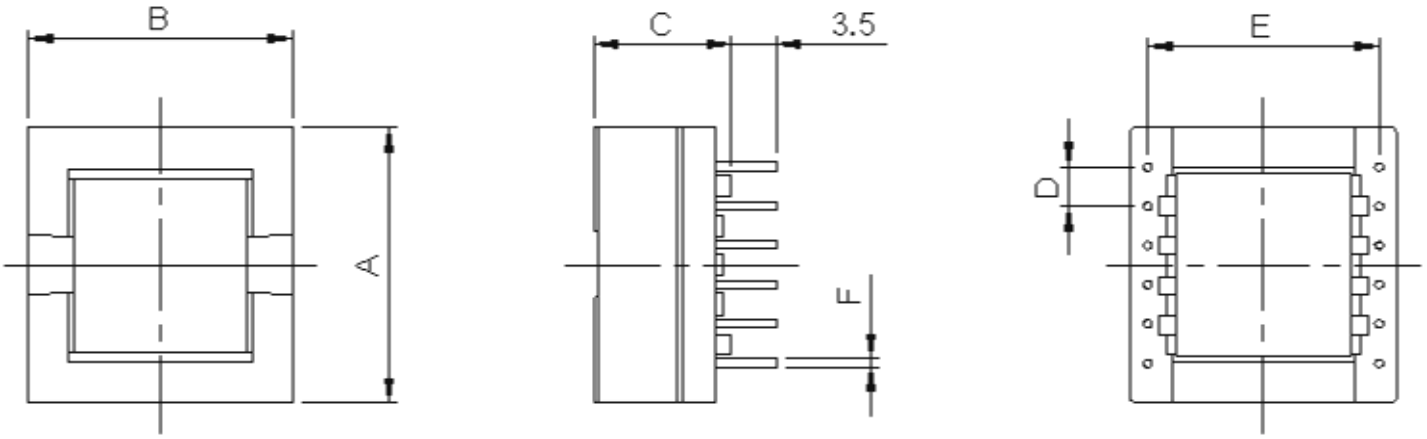


Fig. 3



THT POWER TRANSFORMERS

EI Platforms – Vertical

Features

- High power density and high efficiency
- Multiple-output is available
- Operating frequency up to 500kHz
- Custom designs available

Application

- Transformer for DVC, DSC,OA, Adaptor,TV,Automotive,DVD,Blue-ray Recorder

Specifications

Size	Fig.	A (Max.)	B (Max.)	C (Max.)	D (Nom.)	E (Nom.)	F (Nom.)	Pins (Optional)	fsw (kHz)	Output Power (W)[2]
EI13	1	15	14	12	2.5	7.5	Φ0.6	5x5	100	5
EI16	1	18	15	18	3.25	10.5	Φ0.6	5x5	100	10
EI19	1	24	18	20	4.0	10.0	Φ0.8	5x5	100	15
EI22	1	24	18	21	4.0	10.3	Φ0.8	5x5	100	25
EI25	2	27	19	23	5.0	15.2	Φ0.8	4x4	100	30
EI28	1	30	24	24	5.0	17.5	Φ0.8	5x5	100	40
EI33	3	35	29	31	5.0	22.6	Φ0.8	6x6	100	60
EI35	4	37	29	30	5.0	20.0	Φ0.8	7x7	100	80

1. Operating Temperature: -40℃~+125℃(Includes temperature when the coil is heated).
2. Output power is only for reference at flyback topology and switching frequency 100kHz.

Mechanical

Fig. 1

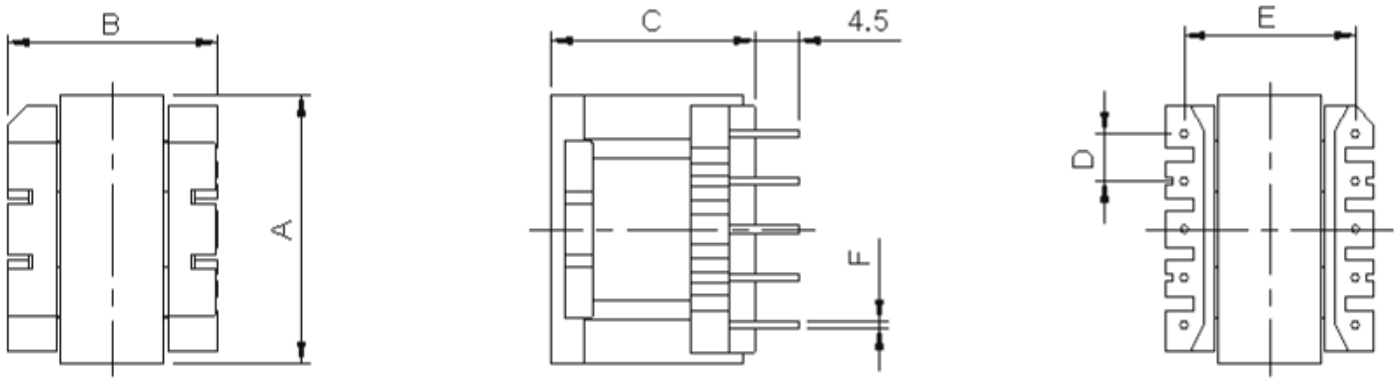


Fig. 2

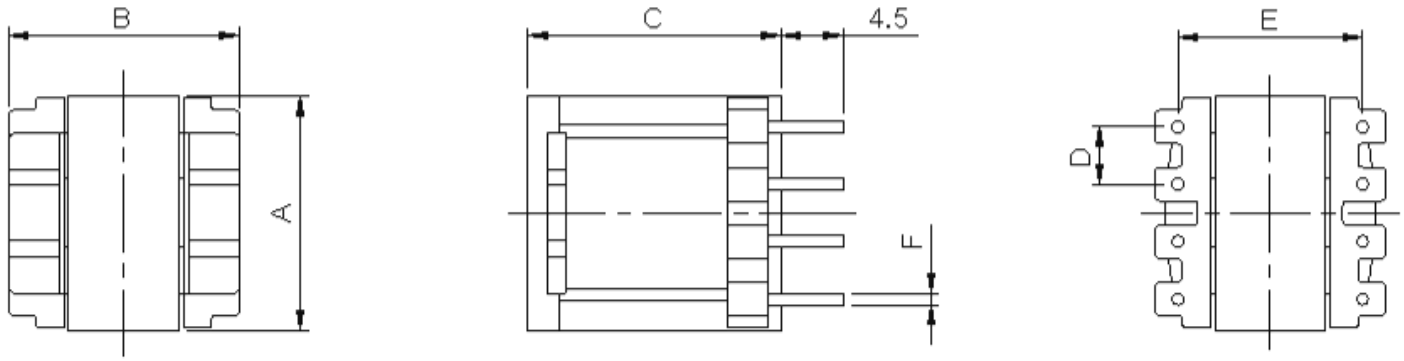


Fig. 3

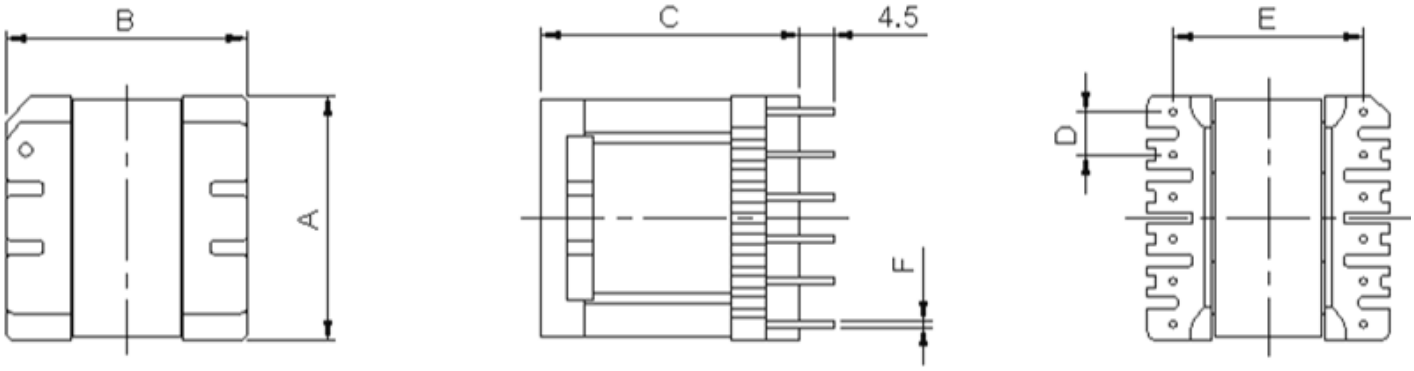
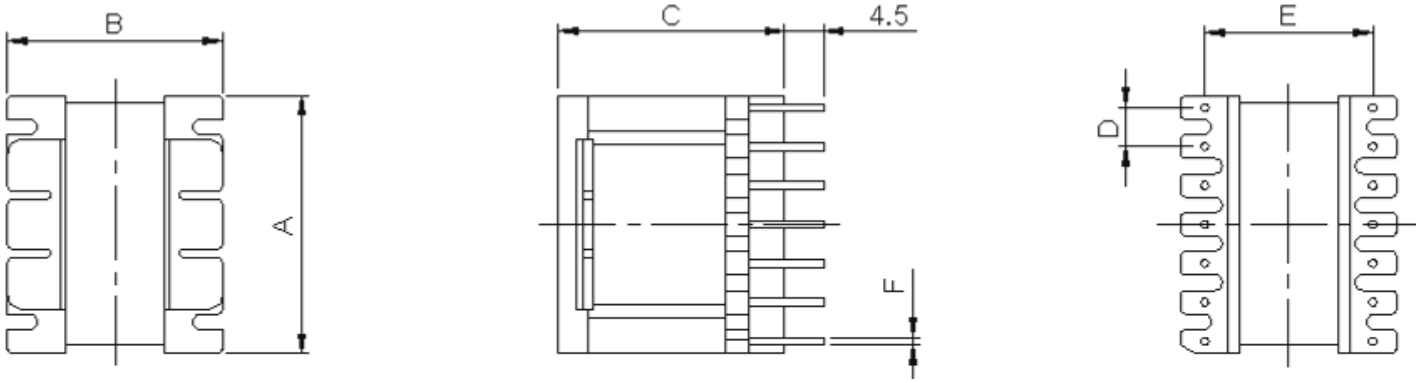


Fig. 4

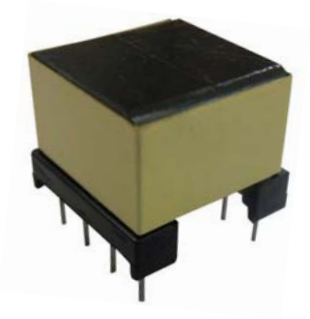


THT POWER TRANSFORMERS

EP Platforms – Horizontal

Features

- High power density and high efficiency
- Multiple-output is available
- Operating frequency up to 500kHz
- Custom designs available



Application

- Transformer for PoE,DVC, DSC,OA, Adaptor,TV,Automotive,DVD,Blue-ray Recorder

Specifications

Size	Fig.	A (Max.)	B (Max.)	C (Max.)	D (Nom.)	E (Nom.)	F (Nom.)	Pins (Optional)	fsw (kHz)	Output Power (W)[2]
EP7	1	12	11	11	2.54	5.08	Φ0.6	3x3	100	5
EP10	2	13	13	13	2.50	7.50	Φ0.6	4x4	100	10
EP13	3	16	16	14	2.50	10.0	Φ0.6	5x5	100	15
EP17	2	21	21	18	5.00	15.0	Φ0.6	4x4	100	25

1. Operating Temperature: -40℃~+125℃(Includes temperature when the coil is heated).
2. Output power is only for reference at flyback topology and switching frequency 100kHz.

Mechanical

Fig. 1

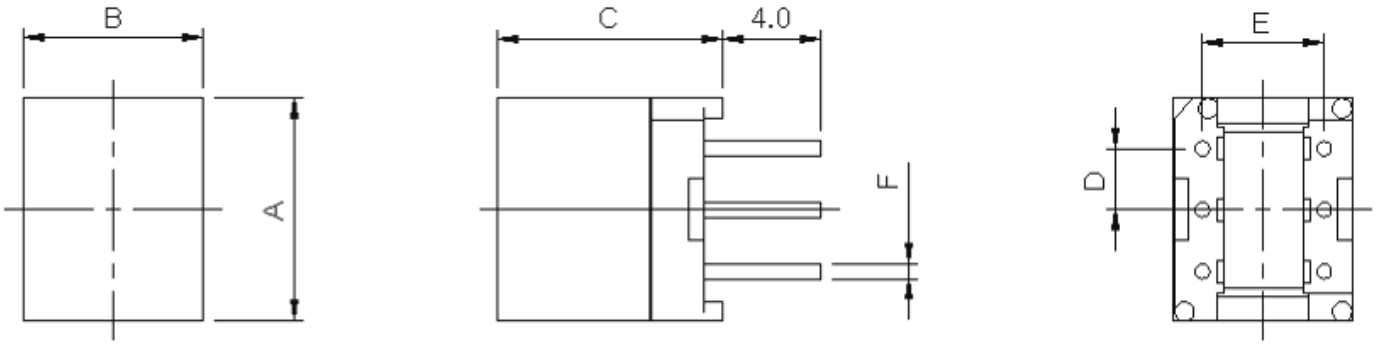


Fig. 2

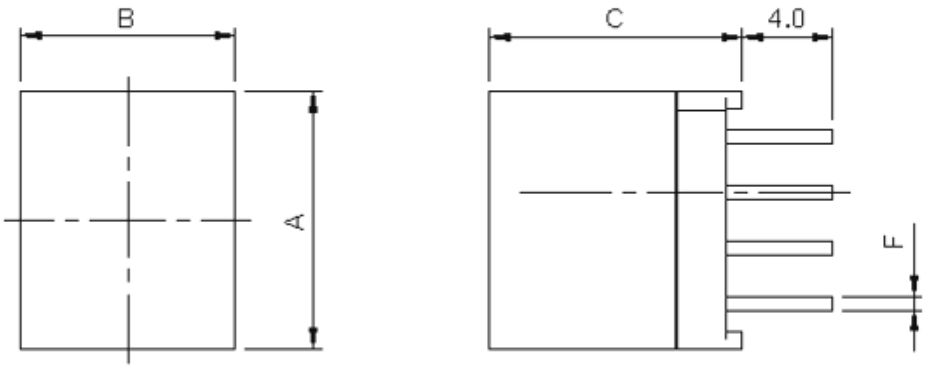
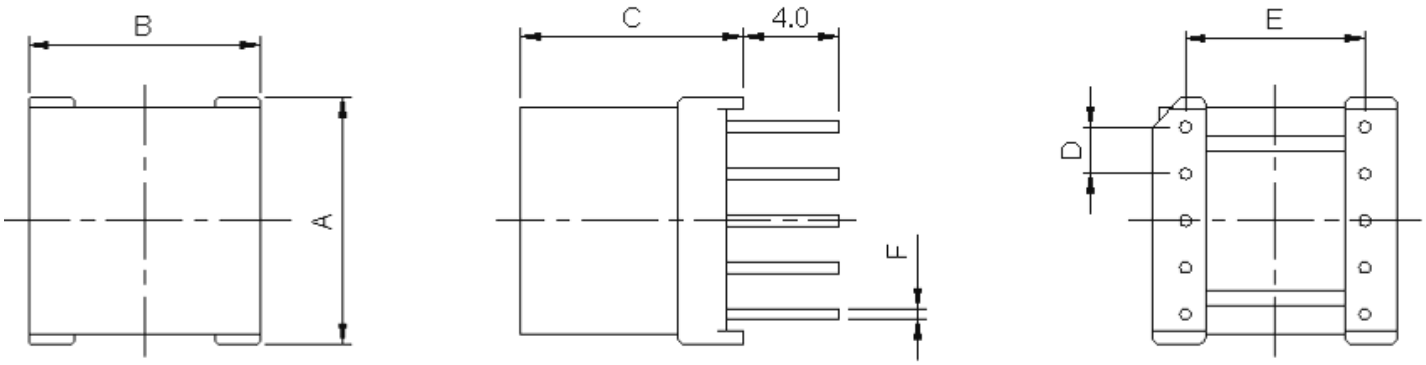


Fig. 3



THT POWER TRANSFORMERS

ER Platforms – Vertical

Features

- High power density and high efficiency
- Multiple-output is available
- Operating frequency up to 500kHz
- Custom designs available

Application

- Transformer for DVC, DSC,OA, Adaptor,TV,Automotive,DVD,Blue-ray Recorder

Specifications

Size	Fig.	A (Max.)	B (Max.)	C (Max.)	D (Nom.)	E (Nom.)	F (Nom.)	Pins (Optional)	fsw (kHz)	Output Power $(W)^2$
ER28	1	30	25	32	5.0	17.5	Φ0.8	5x5	100	40
ER28L	3	32	29	38	5.0	20.0	Φ0.8	6x6	100	60
ER33	2	38	30	39	5.0	22.5	Φ1.0	7x7	100	80
ER35L	3	33	31	45	5.0	22.5	Φ1.0	6x6	100	100
	2	37	31	45	5.0	22.5	Φ1.0	7x7	100	
ER39	4	41	34	46	5.0	25.2	Φ1.0	6x6	100	150
	2	41	34	52	5.0	25.2	Φ1.0	7x7	100	
ER42	5	45	32	50	5.0	25.0	Φ1.0	7x7	100	250

1. Operating Temperature: -40℃~+125℃(Includes temperature when the coil is heated).
2. Output power is only for reference at flyback topology and switching frequency 100kHz.

Mechanical

Fig. 1

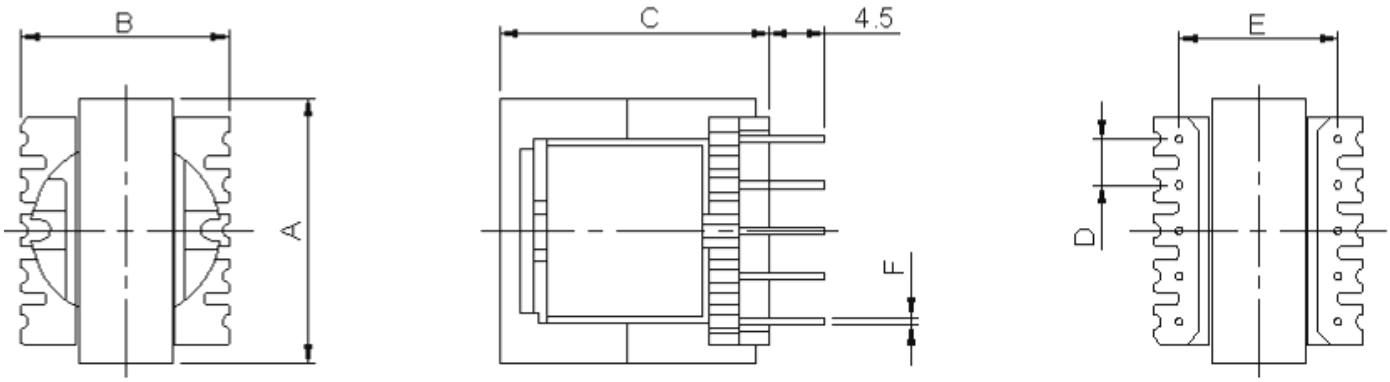


Fig. 2

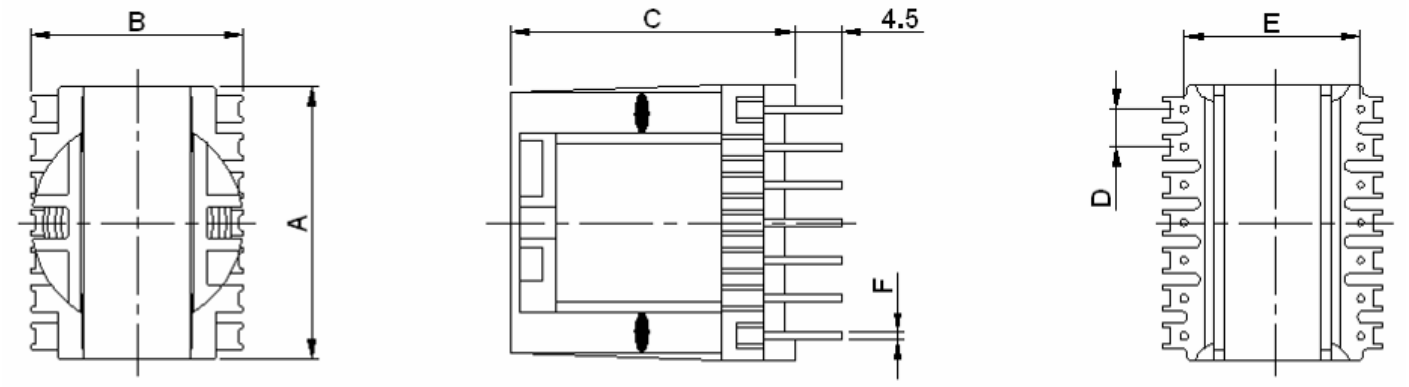


Fig. 3

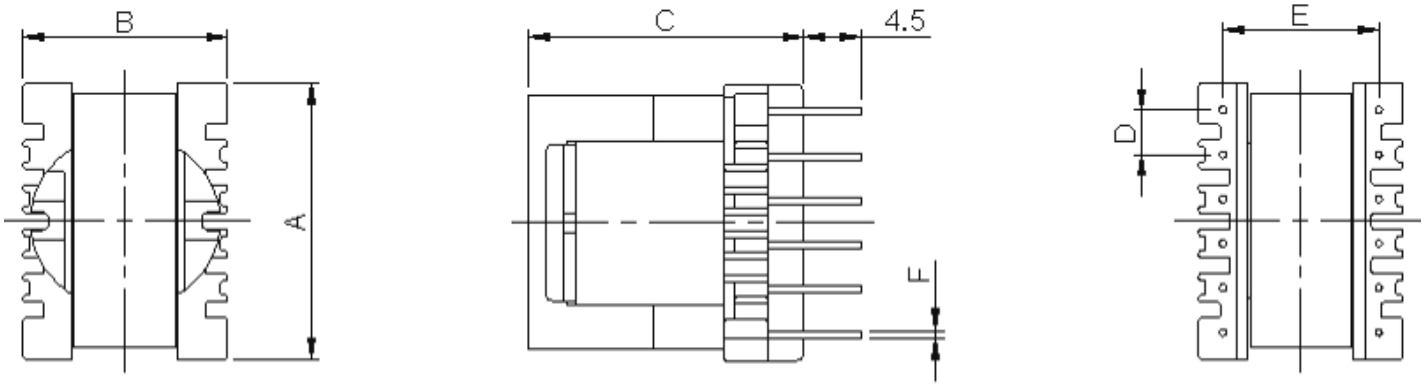


Fig. 4

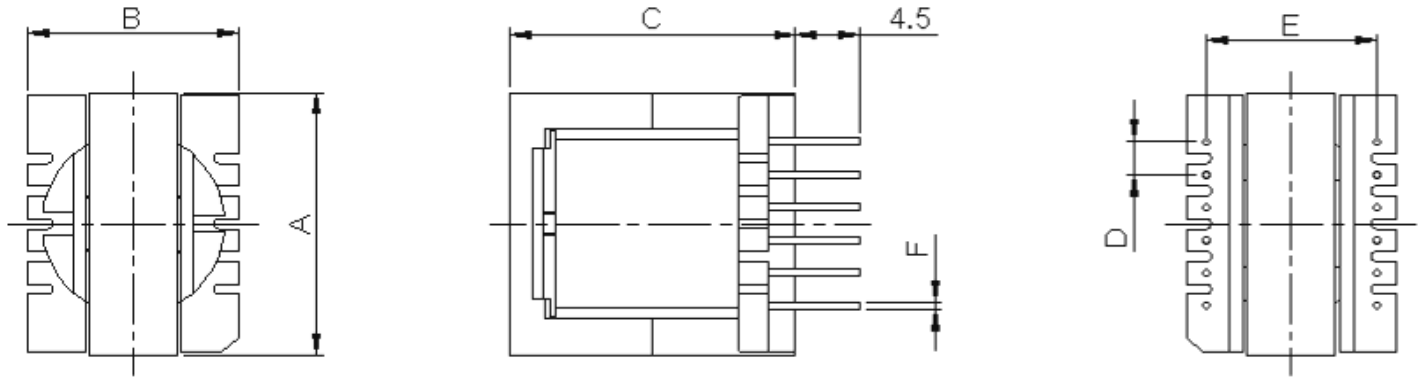
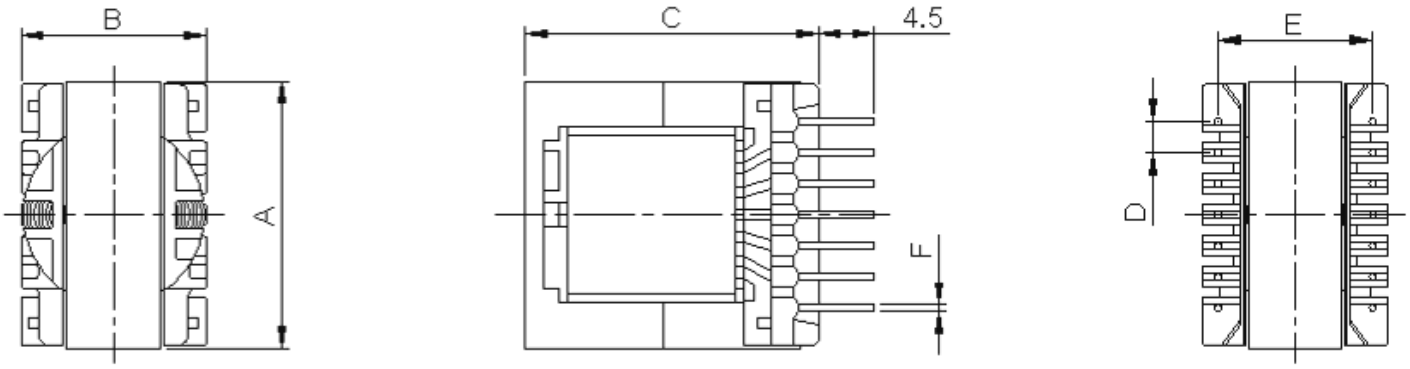


Fig. 5



THT POWER TRANSFORMERS

ER Platforms – Horizontal

Features

- High power density and high efficiency
- Multiple-output is available
- Operating frequency up to 500kHz
- Custom designs available

Application

- Transformer for DVC, DSC,OA, Adaptor,TV,Automotive,DVD,Blue-ray Recorder

Specifications

Size	Fig.	A (Max.)	B (Max.)	C (Max.)	D (Nom.)	E (Nom.)	F (Nom.)	Pins (Optional)	fsw (kHz)	Output Power (W)[2]
ERH28	1	31	31	26	5.0	25.0	Φ0.8	6x6	100	40
ERH28L	1	32	39	28	5.0	30.0	Φ0.8	6x6	100	60
ERH35	2	42	45	33	5.0	35.0	Φ1.0	8x8	100	100
ERH40	2	42	48	33	5.0	35.2	Φ1.0	8x8	100	200

1. Operating Temperature: -40℃~+125℃(Includes temperature when the coil is heated).
2. Output power is only for reference at flyback topology and switching frequency 100kHz.

Mechanical

Fig. 1

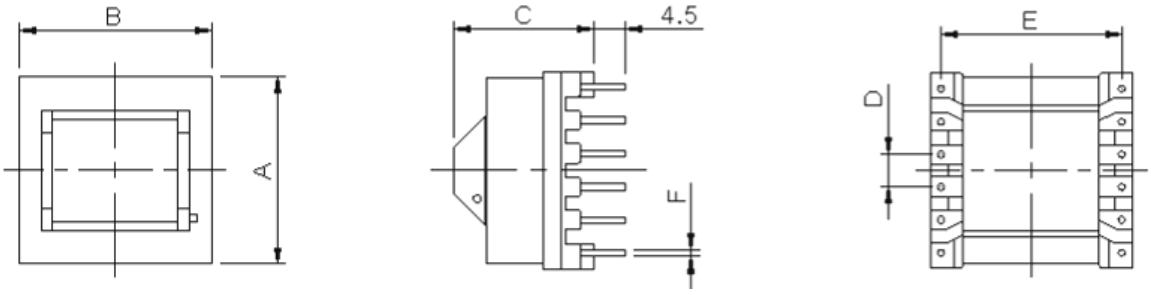
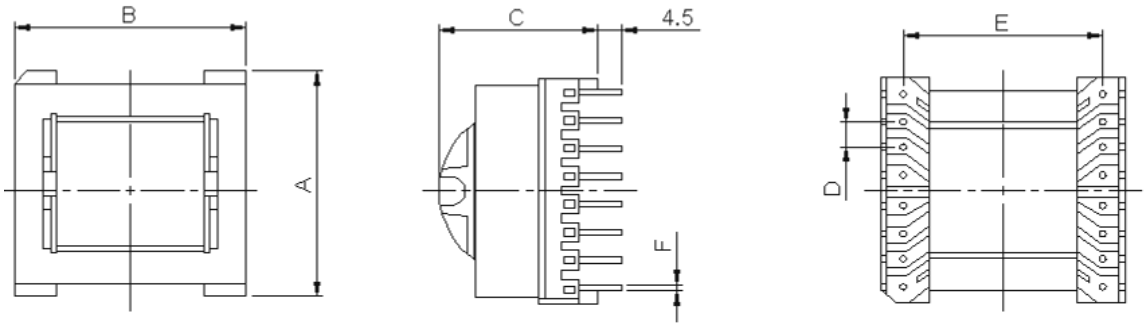


Fig. 2



THT POWER TRANSFORMERS

PQ Platforms – Vertical

Features

- High power density and high efficiency
- Multiple-output is available
- Operating frequency up to 500kHz
- Custom designs available

Application

- Transformer for DVC, DSC,OA, Adaptor,TV,Automotive,DVD,Blue-ray Recorder

Specifications

Size	Fig.	A (Max.)	B (Max.)	C (Max.)	D (Nom.)	E (Nom.)	F (Nom.)	Pins (Optional)	fsw (kHz)	Output Power (W)[2]
PQ2016	1	25	25	21	2.54	3.80	20.32	Φ0.6	100	25
PQ2020	1	25	25	26	2.54	3.80	20.35	Φ0.7	100	35
PQ2620	2	28	32	27	3.81	7.62	25.40	Φ0.6	100	55
PQ2625	2	28	32	32	3.81	7.62	25.40	Φ0.8	100	65
PQ3220	2	35	37	23	5.08	7.62	30.50	Φ0.8	100	80
PQ3230	2	35	37	34	5.00	7.50	30.60	Φ0.8	100	150
PQ3535	2	37	42	40	5.10	10.20	35.60	Φ1.0	100	250

1. Operating Temperature: -40℃~+125℃(Includes temperature when the coil is heated).
2. Output power is only for reference at flyback topology and switching frequency 100kHz.

Mechanical

Fig. 1

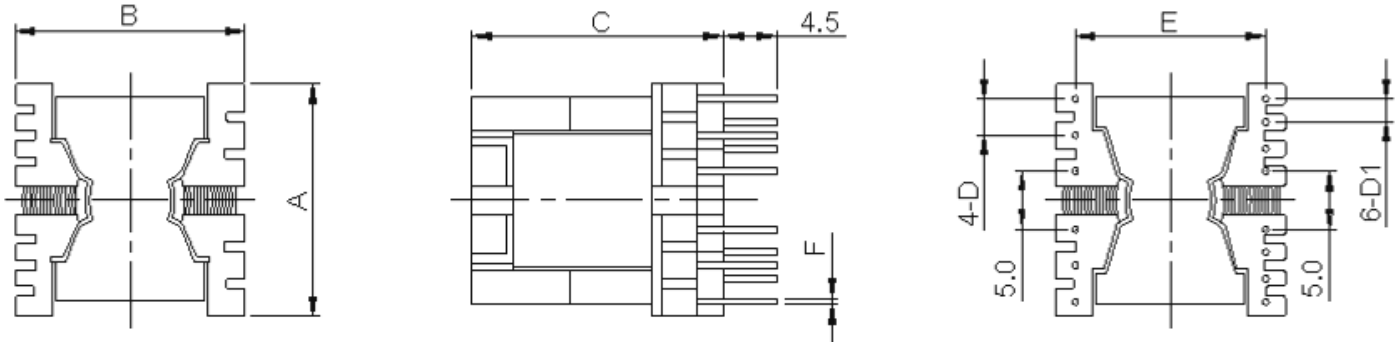
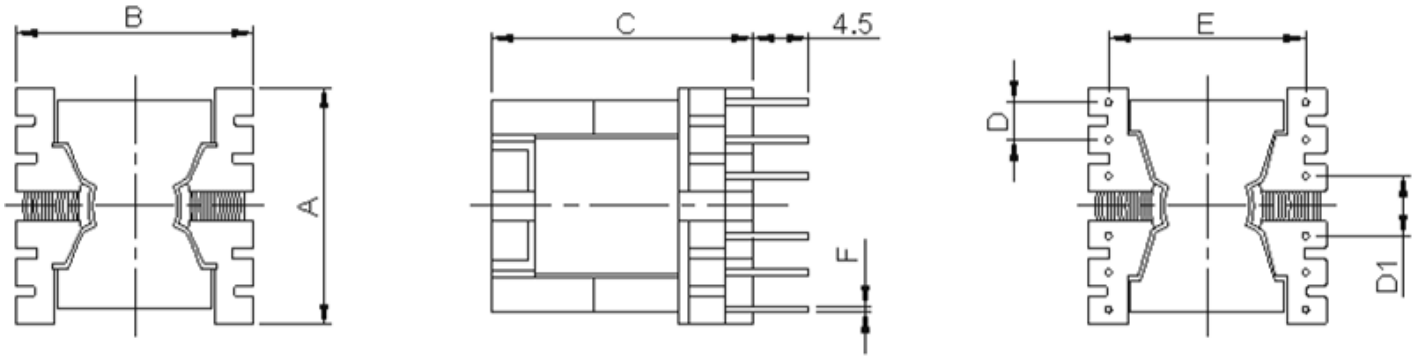


Fig. 2



SMD GATE DRIVE TRANSFORMERS

Toroidal Series

Features

- Frequency range 10kHz to 500kHz
- 1000Vrms isolation between windings
- Custom designs available

Application

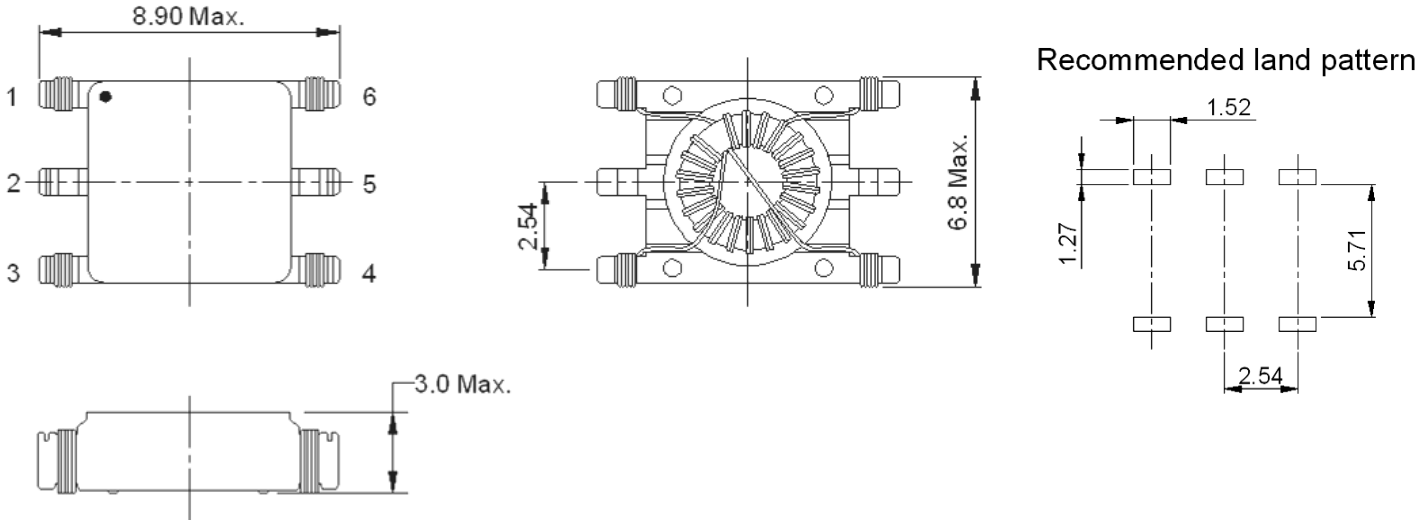
- Transformer for coupling gate-drive circuit of isolated AC/DC,DC/DC converters

Electrical Specifications @25℃

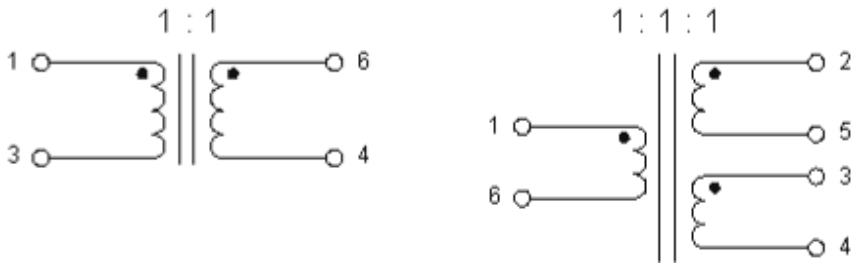
Ordering Code	Turns Ratio	Primary Inductance (μH Min.)	Leakage Inductance (μH Max.)	D.C.R. (Ω Max.)		Isolation Voltage
				Primary	Secondary	
GDT-0001	1:1	780.0	0.45	0.600	0.600	1000Vrms
GDT-0002	1:1	1100.0	0.50	0.570	0.570	1000Vrms
GDT-0003	1:1:1	300.0	0.70	0.500	0.500	1000Vrms
GDT-0004	1:1:1	600.0	0.75	0.750	0.750	1000Vrms

1. Operating Temperature: -40℃~+125℃(Includes temperature when the coil is heated).

Mechanical (mm)



Schematic



SMD CURRENT SENSE TRANSFORMERS

EE5 Platforms

Features

- Rating current up to 10A
- Frequency up to 500kHz
- 500Vrms isolation between primary and secondary
- Custom designs available

Application

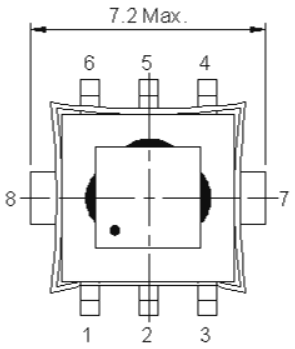
- Senses for SMPS,Feedback Control,Overload sensing,Load drop/shut down detection

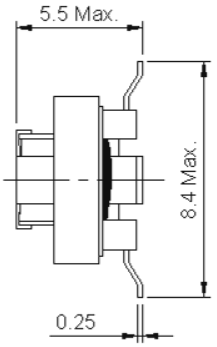
Electrical Specifications @25℃

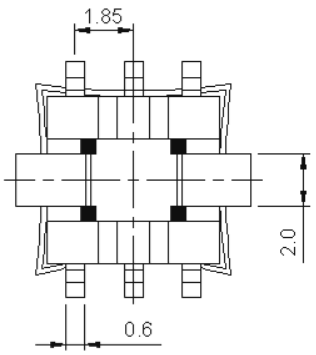
Ordering Code	Turns Ratio	Secondary Inductance (mH Min.)	D.C.R. (Ω Max.)		Rated Current (A)	Isolation Voltage	Terminating Resistance to produce $1V_{out}/1A_{IN}$
			Primary	Secondary			
EE5020	1:20	0.08	0.007	0.550	10	500Vrms	20Ω
EE5030	1:30	0.18	0.007	0.850	10	500Vrms	30Ω
EE5040	1:40	0.32	0.007	1.120	10	500Vrms	40Ω
EE5050	1:50	0.50	0.007	1.500	10	500Vrms	50Ω
EE5060	1:60	0.72	0.007	1.800	10	500Vrms	60Ω
EE5070	1:70	0.98	0.007	4.500	10	500Vrms	70Ω
EE5100	1:100	2.00	0.007	5.500	10	500Vrms	100Ω
EE5125	1:125	3.00	0.007	6.500	10	500Vrms	125Ω
EE5150	1:150	4.30	0.007	17.000	10	500Vrms	150Ω
EE5200	1:200	8.00	0.007	32.000	10	500Vrms	200Ω

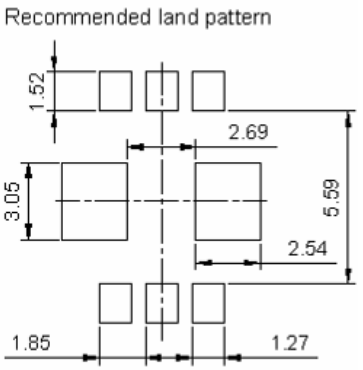
1. Operating Temperature: -40℃~+125℃(Includes temperature when the coil is heated).

Mechanical (mm)

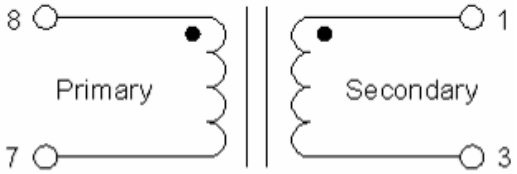








Schematic

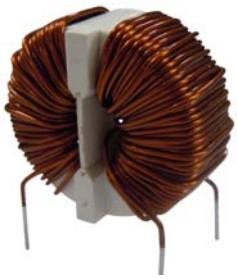


THT COMMON MODE CHOKES

Toroidal Series

Features

- Inductance is up to 68mH
- 1500Vrms isolation between windings
- Wide range of inductance and current available



Application

- Common mode Chokes for DVC, DSC,OA, Adaptor,TV,DVD,Blue-ray Recorder

Electrical Specifications @25℃

Type	Fig.	Inductance @1kHz (mH Min.)	D.C.R. (Ω Max.)	Irated (A)[2]
TCC-0001	1	0.24	0.005	14.40
TCC-0002	1	0.55	0.006	12.00
TCC-0003	1	0.98	0.009	11.00
TCC-0004	1	1.30	0.014	9.80
TCC-0005	1	2.20	0.020	6.00
TCC-0006	1	3.30	0.030	5.00
TCC-0007	1	4.60	0.045	4.00
TCC-0008	1	6.80	0.100	2.80
TCC-0009	1	8.00	0.110	2.50
TCC-0010	1	10.00	0.140	2.10
TC16-0001	2	0.20	0.080	3.00
TC12-0001	2	0.80	0.020	6.00
TC25-0002	2	0.90	0.020	6.00
TC25-0003	2	3.50	0.050	4.00
TC20-0001	2	4.90	0.080	3.00
TC18-0001	2	6.00	0.050	4.00
TC16-0002	2	13.00	0.025	5.50
TC38-0001	2	15.00	0.070	3.50
TC25-0001	2	68.00	1.300	0.70

1. Operating Temperature: -40℃~+120℃(Includes temperature when the coil is heated)
2. Irated: DC current which causes the coil temperature rise 40℃(Ta=20℃)

Mechanical

Fig. 1

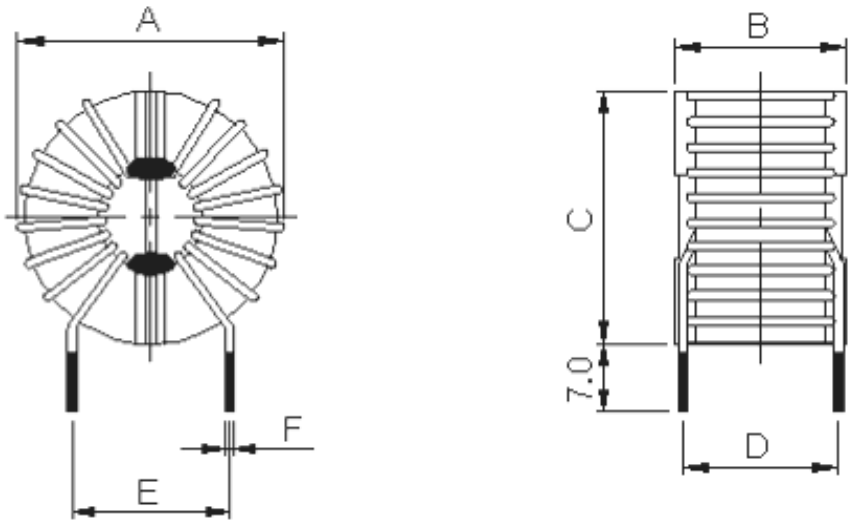
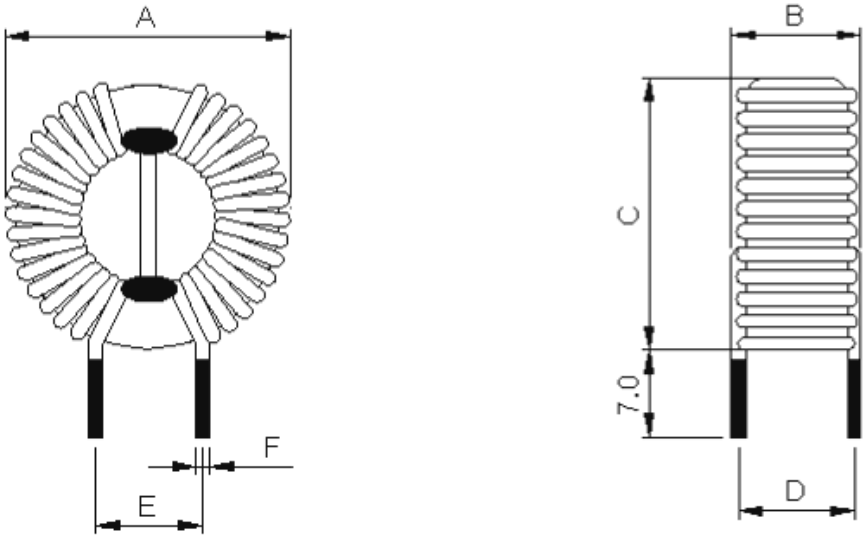


Fig. 2



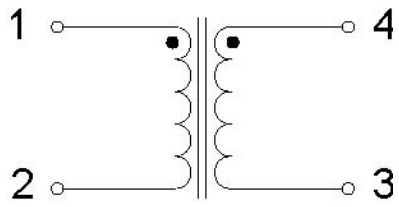
THT COMMON MODE CHOKES

Toroidal Series

Dimensions (mm)

Ordering Code	Fig.	A (Max.)	B (Max.)	C (Nom.)	D (Max.)	E (Nom.)	F (Nom.)
TCC-0001	1	35	21	34	18	11	Φ1.5
TCC-0002	1	35	21	34	18	11	Φ1.5
TCC-0003	1	35	20	33	17	11	Φ1.2
TCC-0004	1	35	20	33	17	11	Φ1.1
TCC-0005	1	34	20	32	17	10	Φ1.0
TCC-0006	1	33	20	32	17	10	Φ0.9
TCC-0007	1	33	20	32	17	10	Φ0.8
TCC-0008	1	32	20	31	17	10	Φ0.6
TCC-0009	1	32	20	31	17	10	Φ0.6
TCC-0010	1	32	20	31	17	10	Φ0.5
TC16-0001	1	22	14	22	11	12	Φ1.0
TC12-0001	2	16	8	16	6	10	Φ0.6
TC25-0002	2	31	18	31	16	18	Φ1.3
TC25-0003	2	31	18	31	16	18	Φ1.0
TC20-0001	2	25	17	25	11	10	Φ0.7
TC18-0001	2	23	13	23	10	5	Φ0.7
TC16-0002	2	22	14	22	11	12	Φ0.4
TC38-0001	2	51	29	51	25	35	Φ1.1
TC25-0001	2	27	19	27	16	20	Φ0.3

Schematic



THT COMMON MODE CHOKES

UU Platforms

Features

- Inductance is up to 50mH
- 1500Vrms isolation between windings
- Wide range of inductance and current available

Application

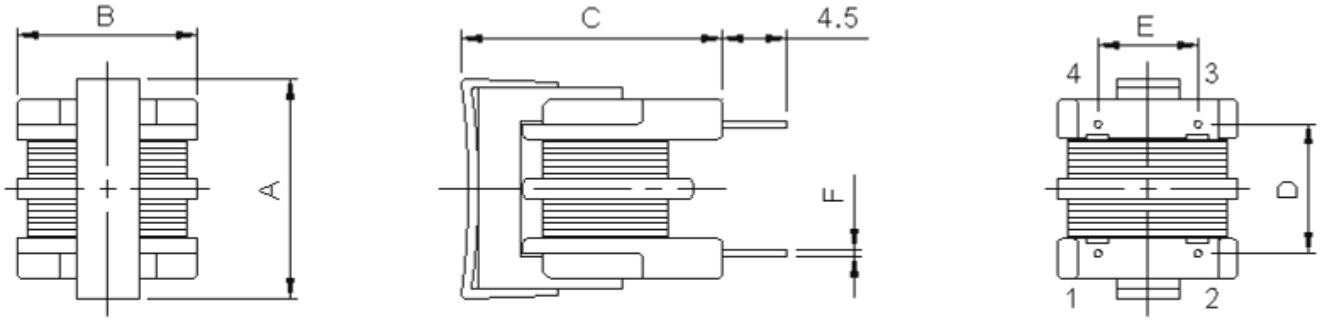
- Common mode Chokes for DVC, DSC,OA, Adaptor,TV,DVD,Blue-ray Recorder

Electrical Specifications @25℃

Type	Ordering Code	Inductance @1kHz (mH Min.)	D.C.R. (Ω Max.)	Irated (A)[2]
UU9.8	UU9.8-0001	0.47	0.150	1.00
	UU9.8-0002	0.68	0.250	0.85
	UU9.8-0003	1.00	0.350	0.70
	UU9.8-0004	2.20	0.700	0.50
	UU9.8-0005	4.70	1.600	0.34
	UU9.8-0006	6.80	2.500	0.25
	UU9.8-0007	10.00	4.000	0.20
UU10.5	UU10.5-0001	3.30	0.720	0.65
	UU10.5-0002	6.80	1.260	0.43
	UU10.5-0003	12.00	2.200	0.34
	UU10.5-0004	22.00	3.640	0.25
	UU10.5-0005	33.00	5.740	0.20
	UU10.5-0006	50.00	9.200	0.15
UU16	UU16-0001	1.50	0.130	1.85
	UU16-0002	4.00	0.270	1.20
	UU16-0003	8.00	0.460	0.90
	UU16-0004	20.00	1.600	0.50
	UU16-0005	30.00	2.500	0.40

1. Operating Temperature: -40℃~+120℃(Includes temperature when the coil is heated)
2. Irated: DC current which causes the coil temperature rise 40℃(Ta=20℃)

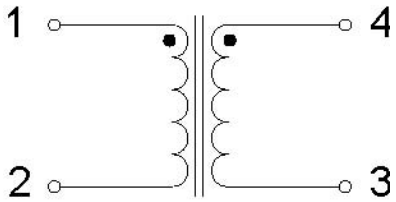
Mechanical



Dimensions (mm)

Ordering Code	A (Max.)	B (Max.)	C (Nom.)	D (Max.)	E (Nom.)	F (Nom.)
UU9.8	18	12	17	8.0	7.0	Φ0.6
UU10.5	19	18	24	13.0	10.0	Φ0.7
UU16	24	21	29	13.0	10.0	Φ0.7

Schematic



THT COMMON MODE CHOKES

ET Platforms –Vertical

Features

- Inductance is up to 80mH
- 1500Vrms isolation between windings
- Wide range of inductance and current available

Application

- Common mode Chokes for DVC, DSC,OA, Adaptor,TV,DVD,Blue-ray Recorder

Electrical Specifications @25℃

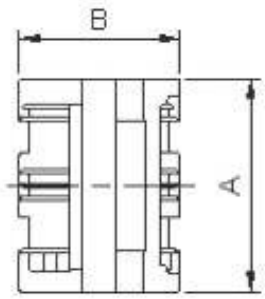
Type	Ordering Code	Inductance @1kHz (mH Min.)	D.C.R. (Ω Max.)	Irated (A)[2]
ET24	ET24-0001	3.3	0.110	2.30
	ET24-0002	6.8	0.170	1.70
	ET24-0003	8.2	0.180	1.60
	ET24-0004	15.0	0.390	1.00
	ET24-0005	20.0	0.400	0.95
	ET24-0006	39.0	1.000	0.67
	ET24-0007	47.0	1.000	0.67
	ET24-0008	68.0	2.000	0.45
	ET24-0009	80.0	2.100	0.43
ET28	ET28-0001	1.8	0.080	2.50
	ET28-0002	6.8	0.230	1.60
	ET28-0003	12.0	0.380	1.20
	ET28-0004	22.0	0.650	1.00
	ET28-0005	39.0	1.450	0.70
	ET28-0006	68.0	1.850	0.60
	ET28-0007	80.0	2.200	0.40
ET35	ET35-0001	5.0	0.060	6.00
	ET35-0002	10.0	0.120	3.00
	ET35-0003	39.0	0.350	2.20
	ET35-0004	47.0	0.500	1.60
	ET35-0005	80.0	0.700	1.20

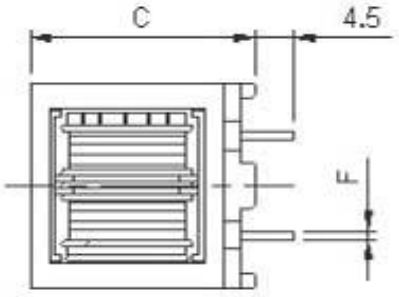
1. Operating Temperature: -40℃~+120℃(Includes temperature when the coil is heated)
2. Irated: DC current which causes the coil temperature rise 40℃(Ta=20℃)

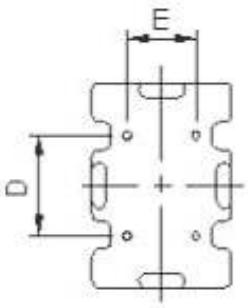
THT COMMON MODE CHOKES

ET Platforms –Vertical

Mechanical



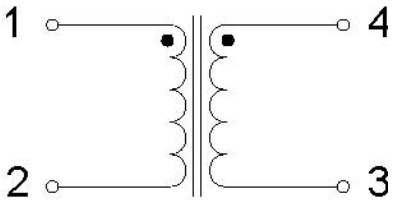




Dimensions (mm)

Ordering Code	A (Max.)	B (Max.)	C (Nom.)	D (Max.)	E (Nom.)	F (Nom.)
ET24	26	19	32	13.0	10.0	Φ0.8
ET28	31	23	37	13.0	10.0	Φ0.8
ET35	38	27	44	21.0	15.0	Φ1.2

Schematic



THT COMMON MODE CHOKES

ET Platforms – Horizontal

Features

- Inductance is up to 80mH
- 1500Vrms isolation between windings
- Wide range of inductance and current available

Application

- Common mode Chokes for DVC, DSC,OA, Adaptor,TV,DVD,Blue-ray Recorder

Electrical Specifications @25℃

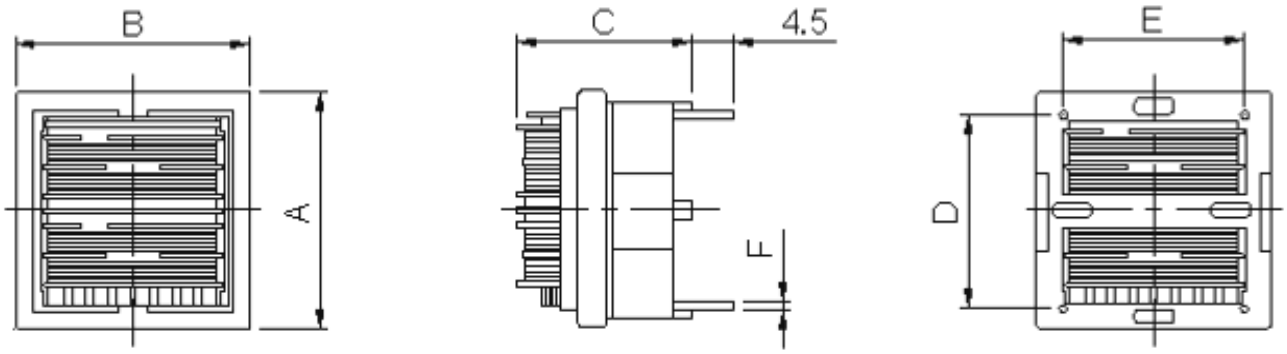
Type	Ordering Code	Inductance @1kHz (mH Min.)	D.C.R. (Ω Max.)	Irated (A)[2]
ET24H	ET24H-0001	3.3	0.110	2.30
	ET24H-0002	6.8	0.170	1.70
	ET24H-0003	8.2	0.180	1.60
	ET24H-0004	15.0	0.390	1.00
	ET24H-0005	20.0	0.400	0.95
	ET24H-0006	39.0	1.000	0.67
	ET24H-0007	47.0	1.000	0.67
	ET24H-0008	68.0	2.000	0.45
	ET24H-0009	80.0	2.100	0.43
ET28H	ET28H-0001	1.8	0.080	2.50
	ET28H-0002	6.8	0.230	1.60
	ET28H-0003	12.0	0.380	1.20
	ET28H-0004	22.0	0.650	1.00
	ET28H-0005	39.0	1.450	0.70
	ET28H-0006	68.0	1.850	0.60
	ET28H-0007	80.0	2.200	0.40
ET35H	ET35H-0001	5.0	0.060	6.00
	ET35H-0002	10.0	0.120	3.00
	ET35H-0003	39.0	0.350	2.20
	ET35H-0004	47.0	0.500	1.60
	ET35H-0005	80.0	0.700	1.20

1. Operating Temperature: -40℃~+120℃(Includes temperature when the coil is heated)
2. Irated: DC current which causes the coil temperature rise 40℃(Ta=20℃)

THT COMMON MODE CHOKES

ET Platforms – Horizontal

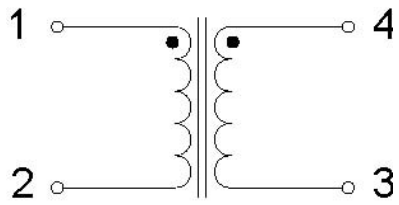
Mechanical



Dimensions (mm)

Ordering Code	A (Max.)	B (Max.)	C (Nom.)	D (Max.)	E (Nom.)	F (Nom.)
ET24H	25	25	20	21.0	15.0	Φ0.8
ET28H	31	31	25	24.0	20.0	Φ0.8
ET35H	38	38	30	30.0	25.0	Φ1.2

Schematic



THT COMMON MODE CHOKES

UT Platforms

Features

- Inductance is up to 47mH
- 1500Vrms isolation between windings
- Wide range of inductance and current available

Application

- Common mode Chokes for DVC, DSC,OA, Adaptor,TV,DVD,Blue-ray Recorder

Electrical Specifications @25℃

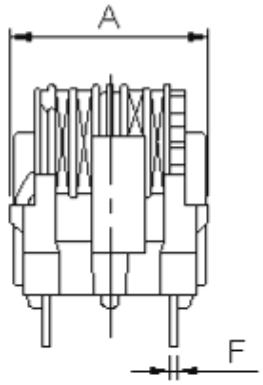
Type	Ordering Code	Inductance @1kHz (mH Min.)	D.C.R. (Ω Max.)	Irated (A)[2]
UT20	UT20-0001	0.33	0.030	3.20
	UT20-0002	0.47	0.050	2.60
	UT20-0003	0.68	0.070	2.20
	UT20-0004	1.00	0.080	1.80
	UT20-0005	2.20	0.240	1.30
	UT20-0006	3.90	0.400	1.00
	UT20-0007	10.00	1.000	0.60
	UT20-0008	22.00	2.050	0.40
	UT20-0009	33.00	3.400	0.30
	UT20-0010	47.00	3.800	0.25

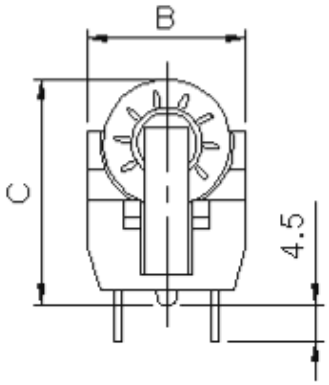
1. Operating Temperature: -40℃~+120℃(Includes temperature when the coil is heated)
2. Irated: DC current which causes the coil temperature rise 40℃(Ta=20℃)

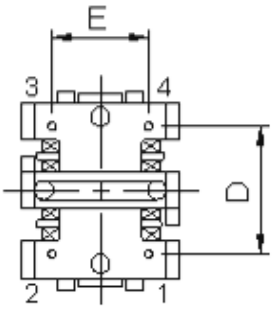
THT COMMON MODE CHOKES

UT Platforms

Mechanical



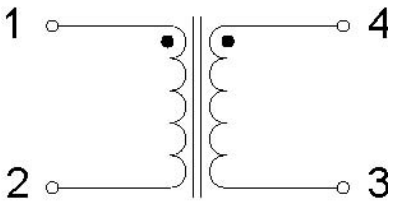




Dimensions (mm)

Ordering Code	A (Max.)	B (Max.)	C (Nom.)	D (Max.)	E (Nom.)	F (Nom.)
UT20	23	18	23	13.0	10.0	Φ0.8

Schematic



SMD COMMON MODE CHOKES

Toroidal Series

Features

- Wide variety of inductor size and current ratings available
- Designed for DC/DC converters
- Dielectric strength: 1000Vrms
- Customer designs available

Application

- Common mode Chokes for DVC, DSC,OA, Adaptor,TV,DVD,Blue-ray Recorder

Specifications

Size	Fig	A (Max)	B (Max)	C (Max)	D (Nom)	E (Nom)
4L3-B	1	13.50	13.50	5.50	8.38	10.41
4L4-A	2	14.50	16.50	9.00	8.64	13.46
4L4-B	2	15.00	18.50	10.00	9.40	15.49
4L4-C	2	17.50	19.60	10.00	11.30	16.76
4L7	3	31.50	25.50	12.90	15.24	27.86

1. Operating temperature -40℃ to 110℃, storage temperature -40℃ to 125℃

Mechanical

Fig. 1

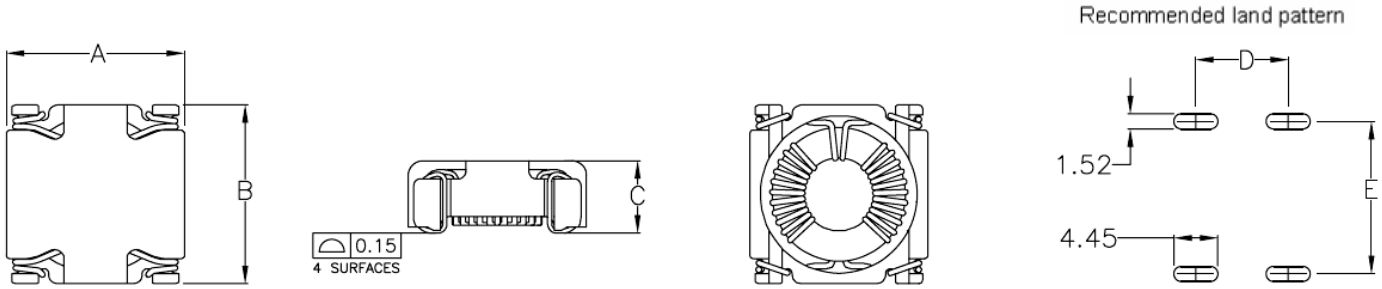


Fig. 2

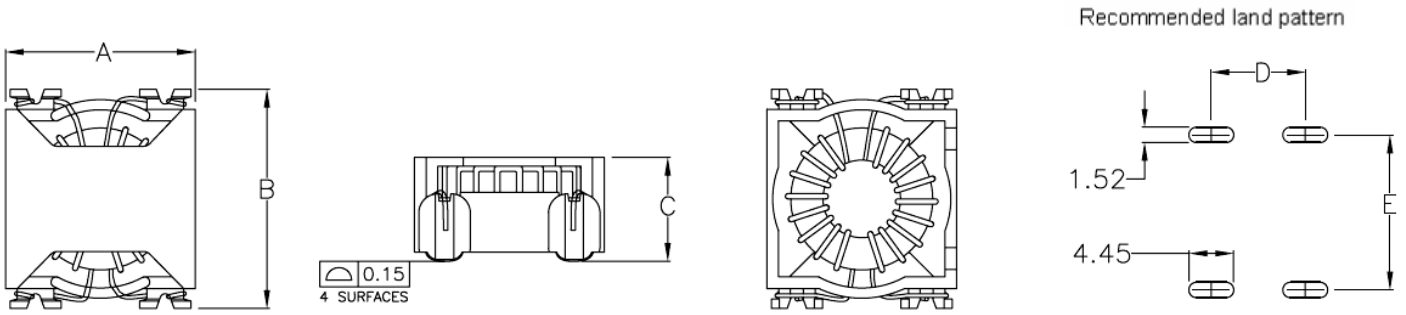
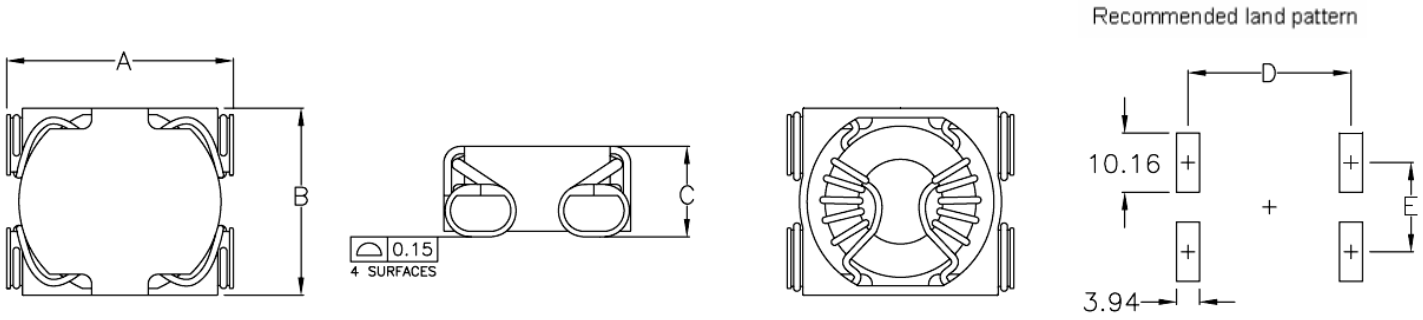

A
B
C
0.15
4 SURFACES
Recommended land pattern
D
1.52
4.45
E

Fig. 3


A
B
C
0.15
4 SURFACES
Recommended land pattern
D
10.16
E
3.94

AUTOMOTIVE INDUCTORS

Rod Inductor Series

Features

- Low cost solution
- Good saturation current
- Custom designs available

Application

- Inductors for Automotive

Electrical Specifications @25℃

Ordering Code	Fig.	Inductance @1kHz (μH)	D.C.R. (Ω Max.)	Saturation Current (A)[2]	Temperature Rise Current (A)[3]
RH4-0003	1	4.0±20%	0.035	2.20	3.90
RH3-0001	2	4.0±20%	0.020	3.50	5.20
RH4-0001	3	4.2±20%	0.010	7.50	7.30
RH4-0002	3	4.5±20%	0.011	6.10	7.00
RH3-0002	3	7.0±20%	0.050	5.00	3.10
RHB6-0001	4	0.5 Min.	0.002	23.00	16.00
SR03-0001	5	1.1±20%	0.005	15.00	10.50
SR05-0001	5	1.7±20%	0.003	23.00	13.50
SR05-0002	5	8.3±20%	0.013	10.40	6.50
SR10-0001	5	8.9±20%	0.008	20.00	8.30
SR04-0001	6	2.2±20%	0.007	16.00	9.20
SR06-0001	7	2.4±20%	0.004	21.00	11.70
SR04-0002	8	3.4±20%	0.010	14.50	7.30

1. Operating Temperature: -40℃~+120℃(Includes temperature when the coil is heated)
2. Saturation Current: DC current which causes the inductance to drop 30% from the nominal value
3. Temperature Rise Current: DC current which causes the coil temperature rise 40℃(Ta=20℃)

Mechanical

Fig. 1

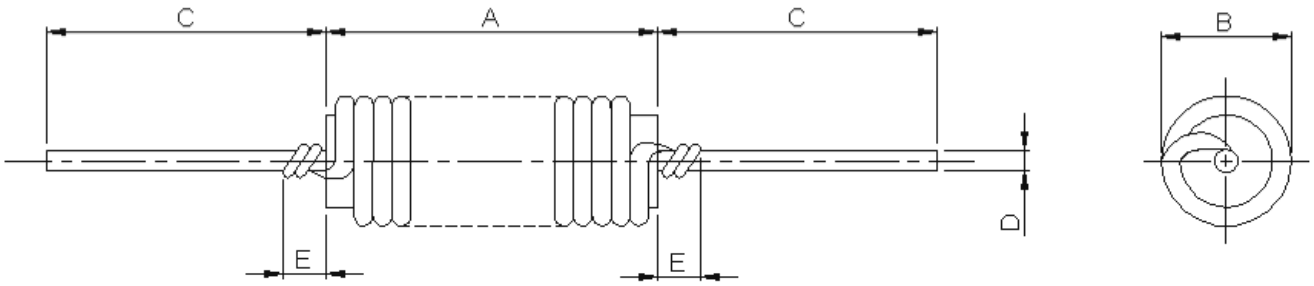


Fig. 2

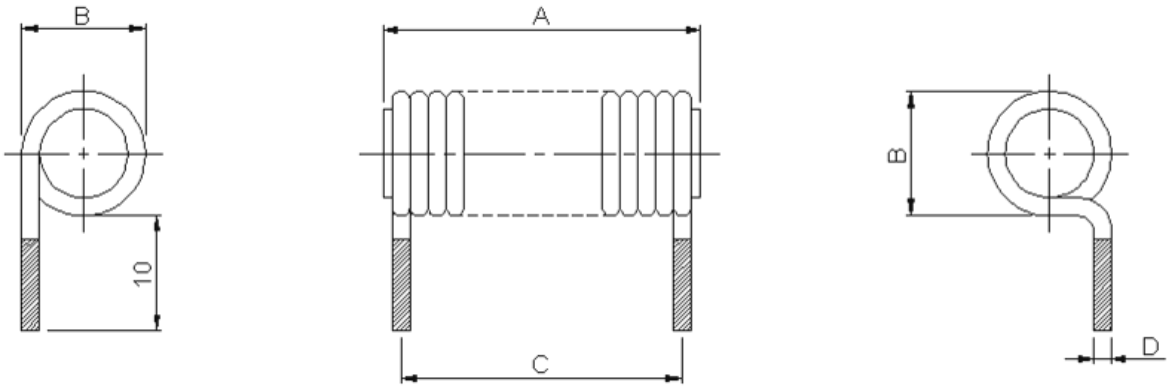


Fig. 3

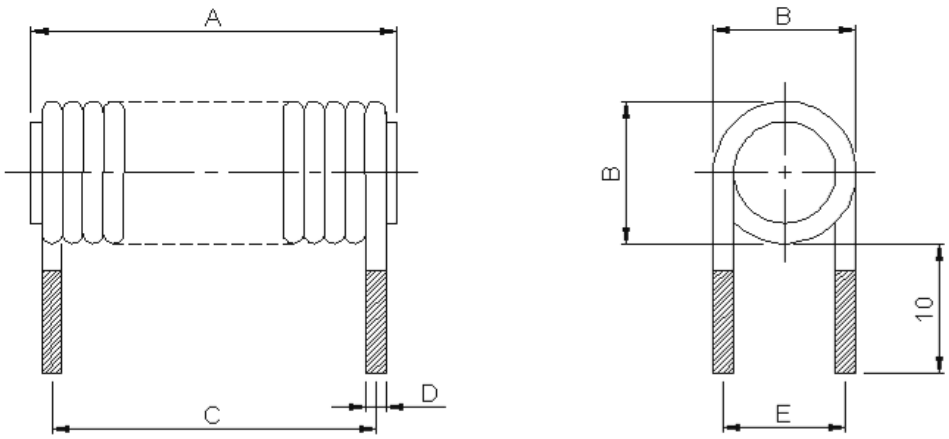


Fig. 4

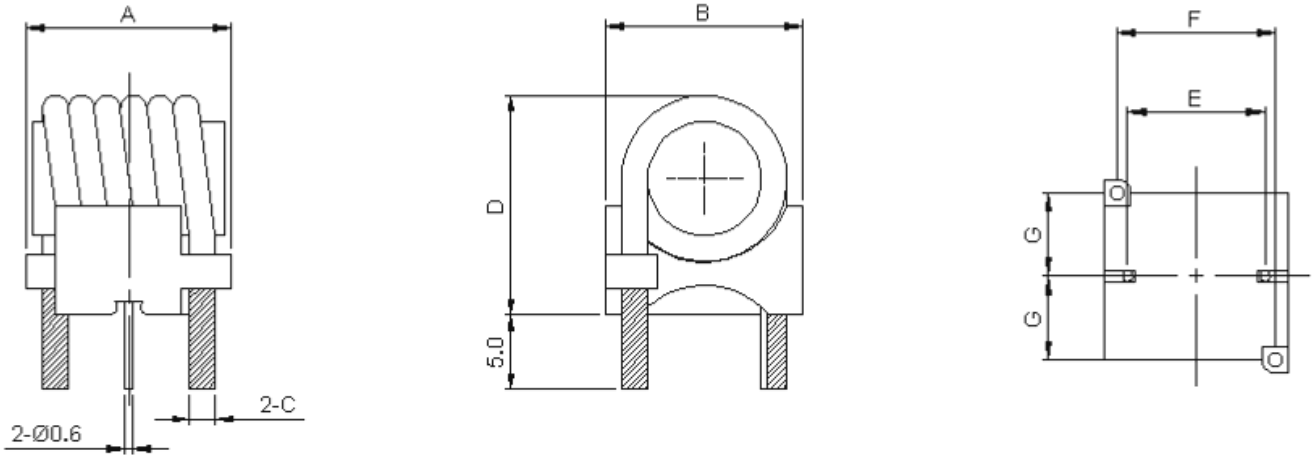


Fig. 5

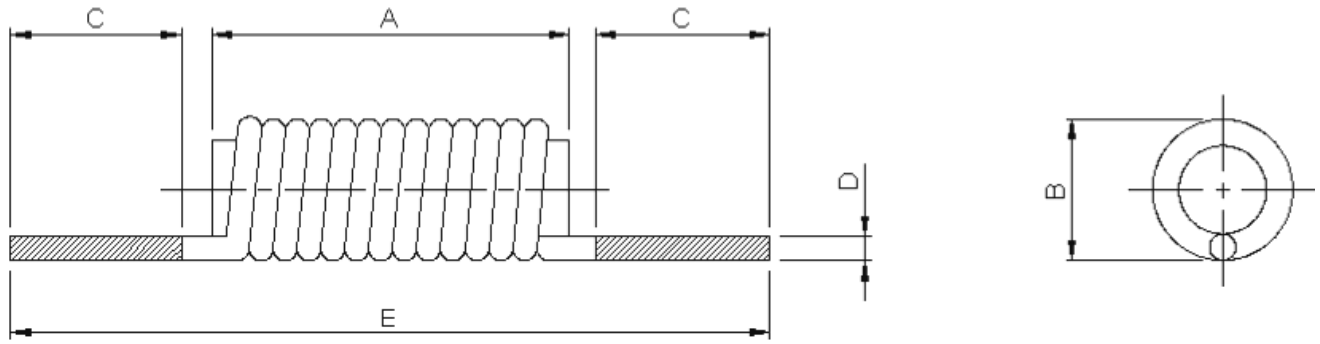


Fig. 6

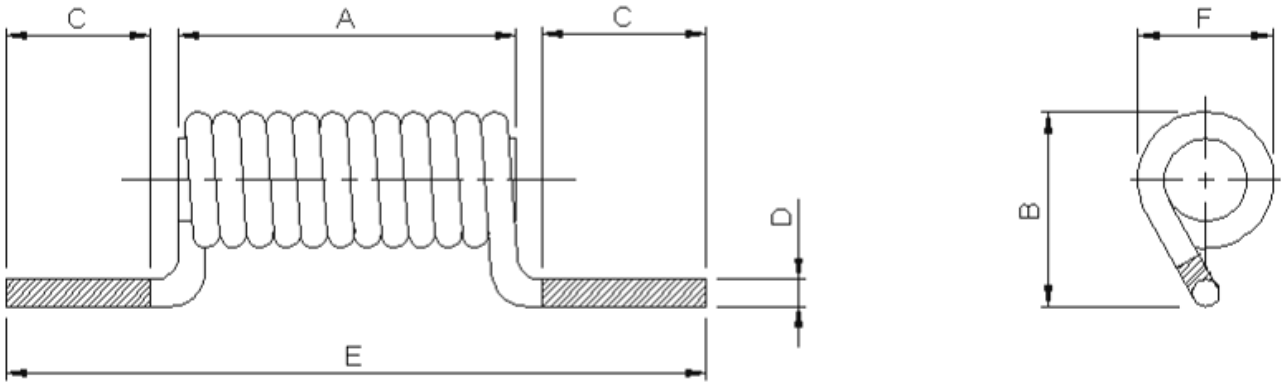


Fig. 7

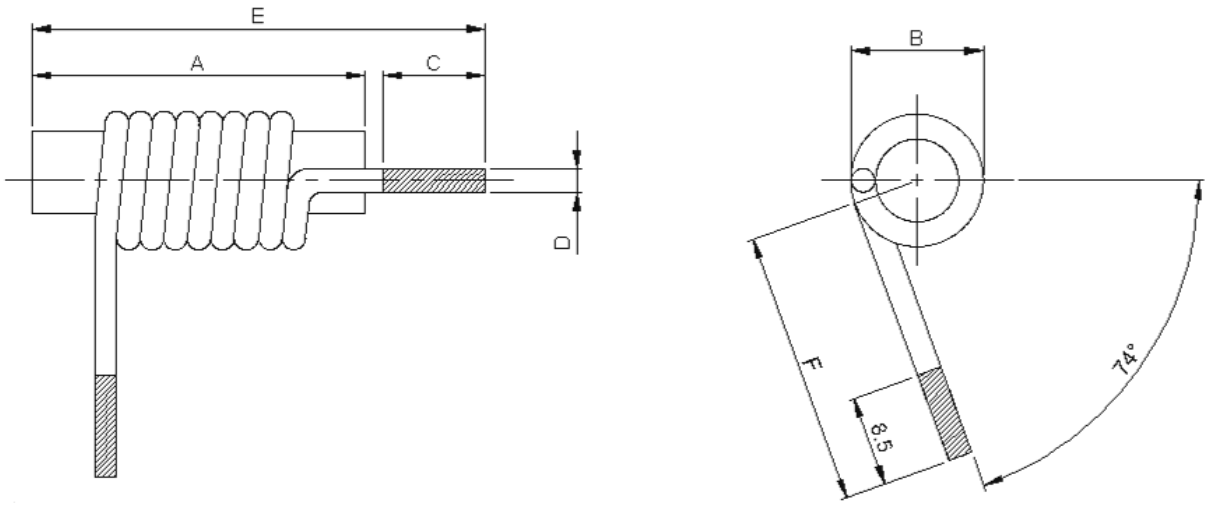
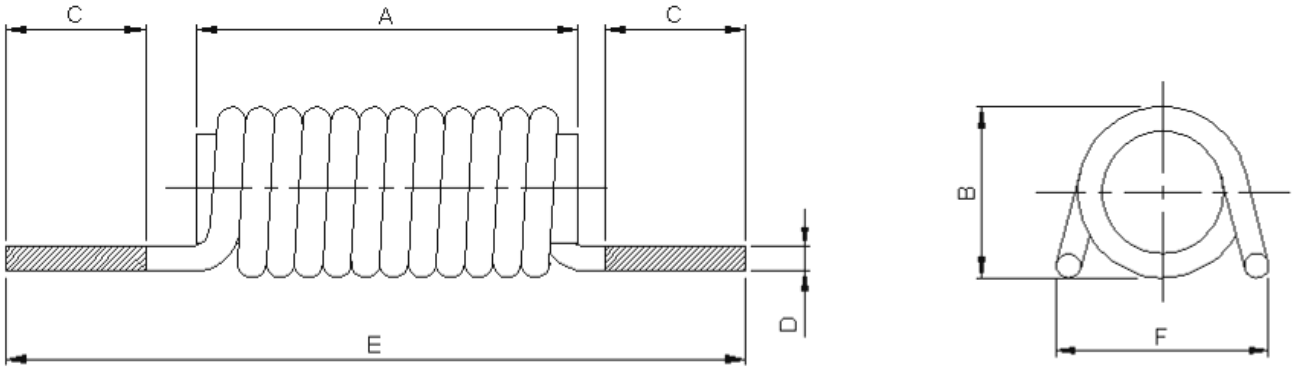


Fig. 8



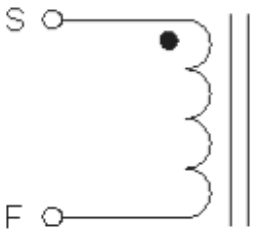
AUTOMOTIVE INDUCTORS

Rod Inductor Series

Dimensions (mm)

Ordering Code	Fig.	A (Max.)	B (Max.)	C (Max.)	D (Nom.)	E	F (Nom.)	G (Nom.)
RH4-0003	1	13.0	6.0	20.0	0.70	3.5 Nom.	-	-
RH3-0001	2	16.0	6.0	13.5	0.60	-	-	-
RH4-0001	3	19.0	7.0	16.0	0.90	5.0 Nom.	-	-
RH4-0002	3	19.0	7.0	16.0	0.85	5.0 Nom.	-	-
RH3-0002	3	14.0	5.0	12.0	0.40	3.5 Nom.	-	-
RHB6-0001	4	12.5	11.5	1.5	15.0	7.0 Nom.	8.0	4.5
SR03-0001	5	14.0	5.5	8.0	0.85	38.0 Max.		
SR05-0001	5	22.0	10.5	8.0	1.70	45.0 Max.		
SR05-0002	5	16.0	10.5	4.0	1.00	26.0 Max.	6.5	
SR10-0001	5	21.0	9.5	5.0	1.40	27.0 Max.	42.0	
SR04-0001	6	16.0	6.5	4.0	0.80	34.0 Max.	7.0	
SR06-0001	7	26.0	9.0	5.0	0.90	37.0 Max.		
SR04-0002	8	32.0	16.0	4.0	1.50	87.0 Max.		

Schematic



RFID COILS and TAGS

Toroidal Series

Features

- High sensitivity
- Protocol standard ISO 11784/11785
- Custom designs available

Application

- RFID for Movement Tracking,Smart Card, Tag,Navigation System

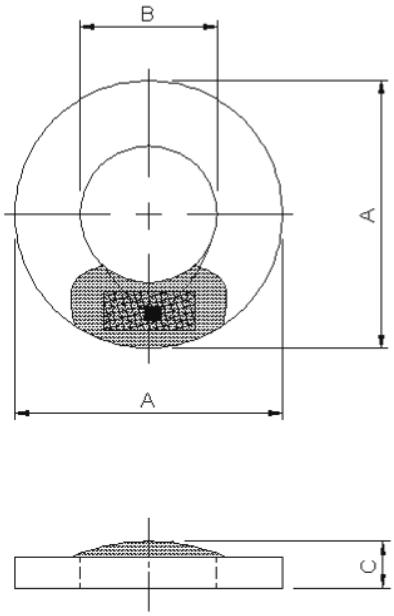
Electrical Specifications @25℃

Ordering Code	Data Memory	Frequency (kHz)	Reading Distance (cm REF.)[2]	Chip type
RFID-0001	512bits	134.2	60	Read/Write
RFID-0002	512bits	134.2	65	Read/Write

1. Operating Temperature: -35℃~+85℃.

2. Reading distance is based on the Gate Reader Dependent:HiPR-603A+EdiTiD.

Mechanical (mm)



Ordering Code	A (Max.)	B (Min.)	C (Max.)
RFID-0001	16.5	8.7	3.7
RFID-0002	25.5	12.8	2.8

THT ANTENNAS

AM Loop Antenna

Features

- High sensitivity
- Low cost
- Easy assembly
- Terminal or plug is available
- Custom designs available

Application

- AM Antennas for Hi-Fi stereo system, Mini sound system

Electrical Specifications @25℃

Ordering Code	Fig.	Inductance @1kHz (μH±10%)	D.C.R. (Ω Max.)	Q @1MHz (Min.)
LAB-001	1	18.10	0.750	40
LAB-002	1	18.80	1.000	30
LAB-003	1	19.20	1.200	30
LAD-001	2	18.10	0.750	40
LAD-002	2	18.80	1.000	30
LAD-003	2	19.20	1.200	30

1. Operating Temperature: -10℃~+60℃

Mechanical

Fig. 1

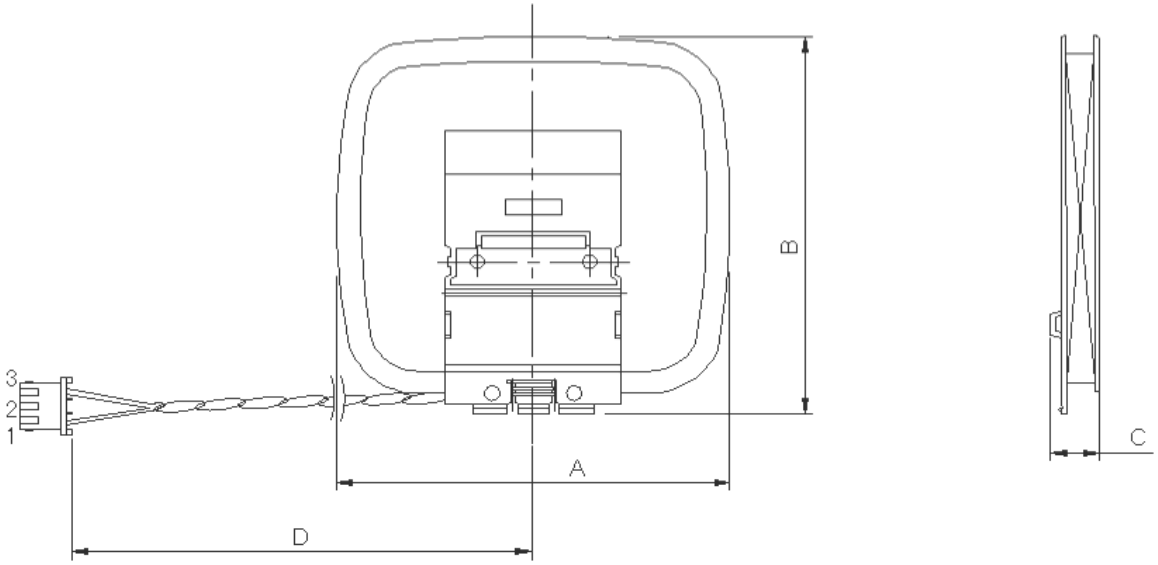
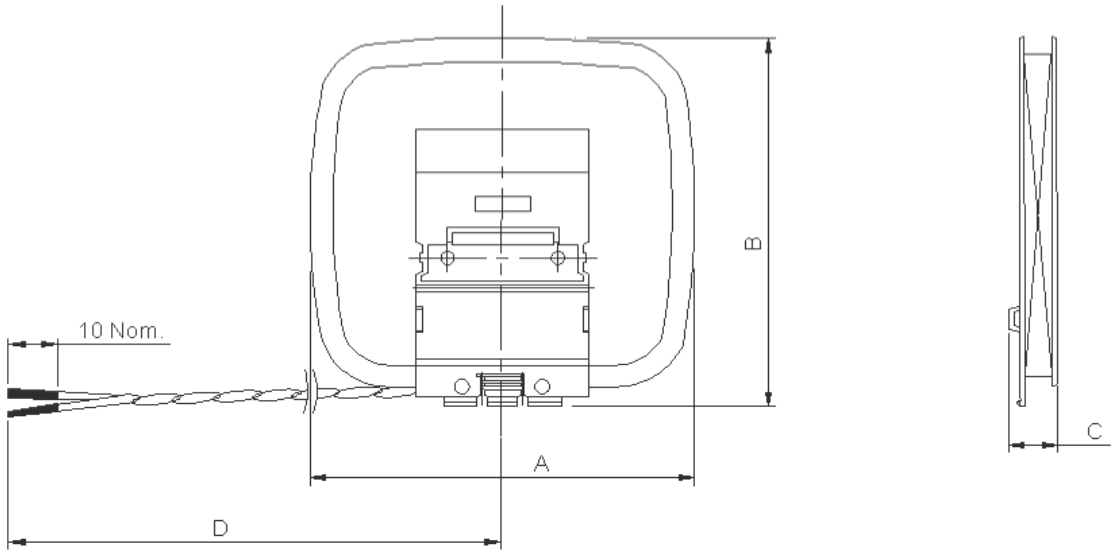


Fig. 2



Dimensions (mm)

Ordering Code	Fig.	A (Max.)	B (Max.)	C (Max.)	D (Nom.)	Terminal or plug
LAB-001	1	135	124	19	800	Housing: Molex 5264-03 Terminal: Molex 5263-PBT Or equivalents
LAB-002	1	135	124	19	1600	
LAB-003	1	135	124	19	2000	
LAD-001	2	135	124	19	800	
LAD-002	2	135	124	19	1600	
LAD-003	2	135	124	19	2000	

THT ANTENNAS

FM+AM Loop Antenna

Features

- High sensitivity
- Low cost
- Easy assembly
- Terminal or plug is available
- Custom designs available

Application

- FM/AM Antennas for Hi-Fi stereo system, Mini sound system

Electrical Specifications @25℃

Ordering Code	Fig.	Inductance @1kHz (μH±10%)	D.C.R. (Ω Max.)	Q @1MHz (Min.)
LAA-001	1	18.10	0.750	40
LAA-002	1	18.80	1.000	30
LAA-003	1	19.20	1.200	30
LAC-001	2	18.10	0.750	40
LAC-002	2	18.80	1.000	30
LAC-003	2	19.20	1.200	30

1. Operating Temperature: -10℃~+60℃

Mechanical

Fig. 1

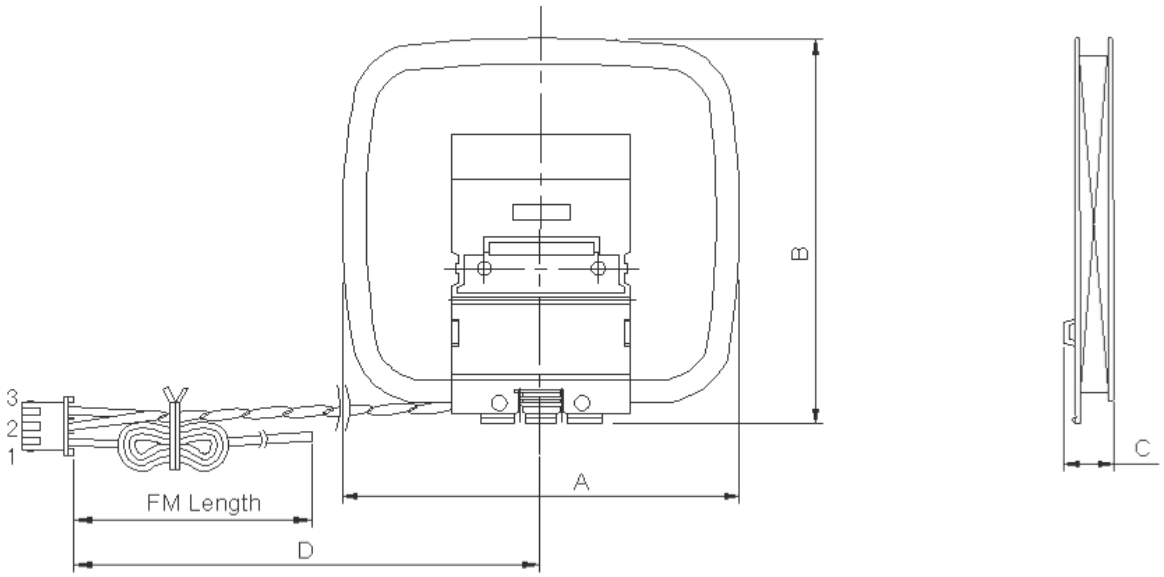
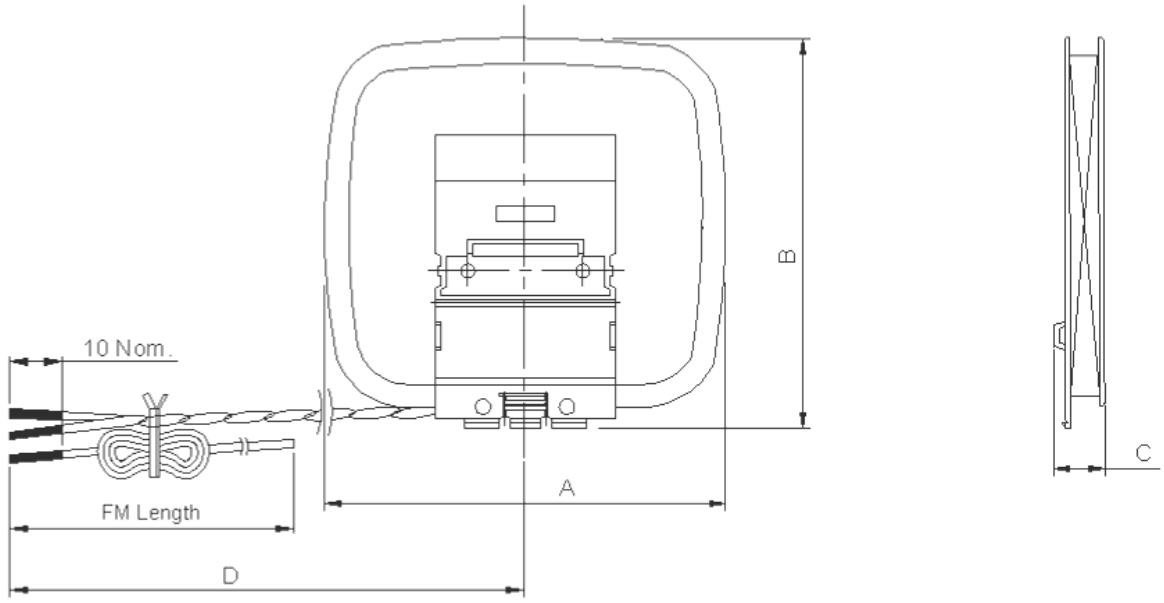


Fig. 2



Dimensions (mm)

Ordering Code	Fig.	A (Max.)	B (Max.)	C (Max.)	D (Nom.)	FM Length (Nom.)	Terminal or plug
LAA-001	1	135	124	19	800	2000	Housing: Molex 5264-03 Terminal: Molex 5263-PBT Or equivalents
LAA-002	1	135	124	19	1600	1500	
LAA-003	1	135	124	19	2000	1500	
LAC-001	2	135	124	19	800	2000	N/A
LAC-002	2	135	124	19	1600	1500	
LAC-003	2	135	124	19	2000	1500	

THT TRIGGER COILS

Features

- High voltage output
- Custom designs available

Features

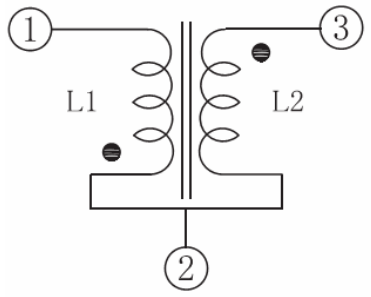
- Xe flash tube trigger for DVC,DSC, Mobile Phone

Electrical Specifications @25℃

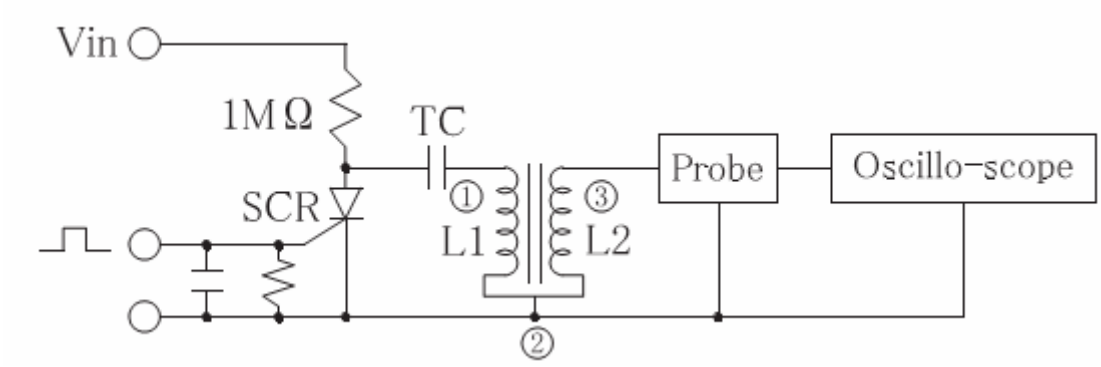
Ordering Code	Fig.	Turns Ratio	Secondary Inductance (mH Typ.)	D.C.R. (Ω Max.)		Primary Capacitance (μF)	Input Voltage	Output Voltage(Min.)
				Primary	Secondary			
2333AL60	1	1:36	20.0	0.600	200.0	0.033	300Vrms	8kVrms
2333AL70	2	1:36	20.0	0.600	200.0	0.047	300Vrms	8kVrms
2333AL80	3	1:120	20.0	0.600	200.0	0.220	100Vrms	6kVrms

1. Operating Temperature: -40℃~+85℃. Storage Temperature: -40℃~+85℃

Schematic



Test Circuit



Mechanical (mm)

Fig. 1

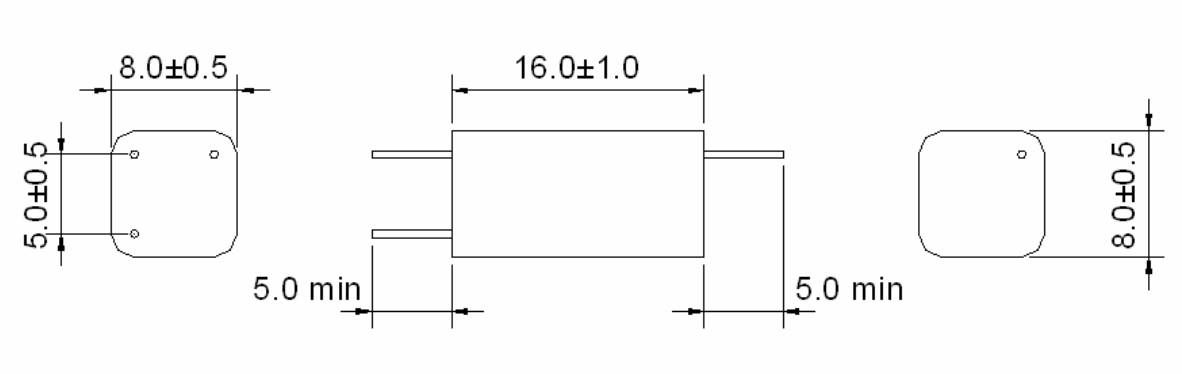


Fig. 2

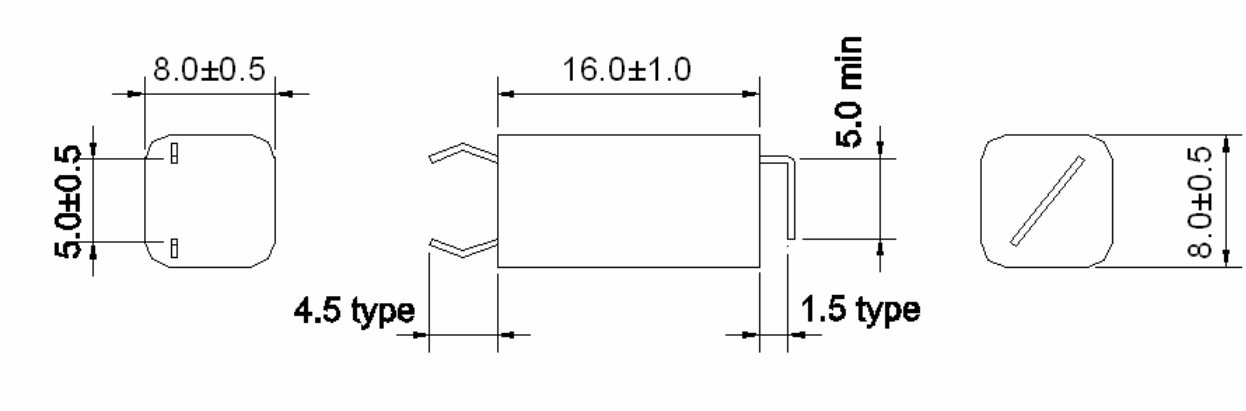
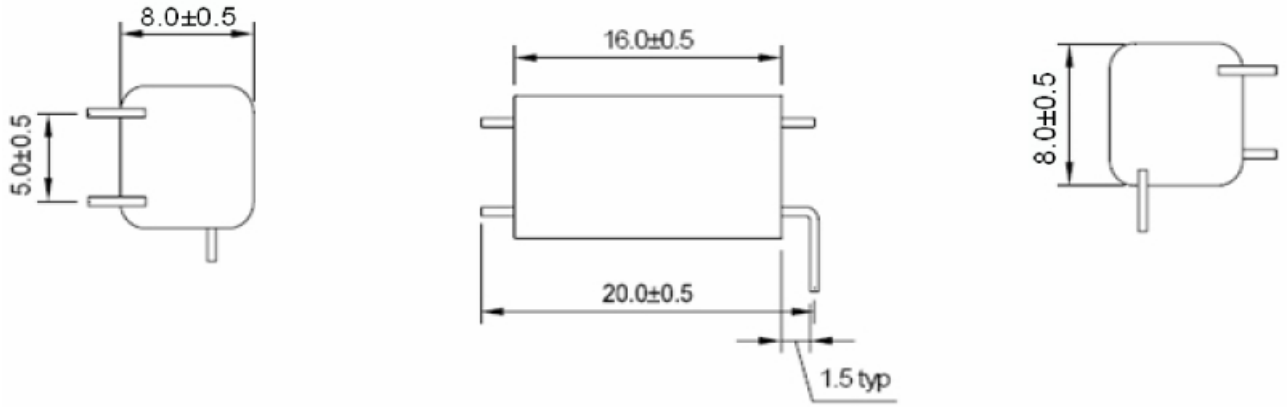


Fig. 3



THT POWER INDUCTORS

Toroidal Series

Features

- Low cost solution
- Good saturation current
- Frequency up to 1MHz
- Custom designs available





Application

- Inductors for DVC, DSC,PC,Printer,Display Monitor, Game Machine,TV

Electrical Specifications @25℃

Ordering Code	Fig.	Inductance @1kHz (μH Min.)	D.C.R. (Ω Max.)	Saturation Current (A)[2]	Temperature Rise Current (A)[3]
TV32-0001	1	35.0	0.030	8.00	5.80
TV38-0001	1	50.0	0.020	11.20	6.20
TV39-0001	1	50.0	0.010	16.00	6.70
TV30-0002	1	55.0	0.020	7.20	6.20
TV19-0002	1	60.0	0.050	1.50	4.50
TV30-0003	1	68.0	0.300	4.40	0.80
TV25-0001	1	90.0	0.030	4.80	5.80
TV15-0001	1	120.0	0.300	0.90	1.10
TV21-0001	1	120.0	0.050	0.03	4.50
TV18-0001	1	300.0	0.600	1.00	0.80
TV28-0001	1	350.0	0.080	3.20	2.40
TV28-0002	1	650.0	0.150	2.40	1.40
TV30-0001	1	730.0	0.200	6.40	1.20
TV17-0001	1	1700.0	0.200	1.00	1.20
TV19-0001	1	10000.0	0.500	1.60	1.00
TVB29-0001	2	40.0	0.020	7.20	6.10
TVB29-0003	2	55.0	0.020	7.20	6.10
TVB26-0002	2	62.0	0.120	3.80	1.60
TVB29-0002	2	70.0	0.020	4.80	6.10
TVB26-0001	2	90.0	0.030	4.80	5.70
TVB36-0001	2	100.0	0.030	6.80	5.70
TVB28-0002	2	270.0	0.080	3.70	2.20
TVB28-0004	2	380.0	0.080	3.70	2.30

THT POWER INDUCTORS

Toroidal Series

Ordering Code	Fig.	Inductance @1kHz (μH Min.)	D.C.R. (Ω Max.)	Saturation Current (A)[2]	Temperature Rise Current (A)[3]
TVB49-0001	2	400.0	0.100	4.50	1.80
TVB28-0001	2	650.0	0.150	2.40	1.30
TVB28-0005	2	700.0	0.180	1.50	1.00
TVB28-0003	2	1000.0	0.220	1.50	0.70
TVP29-0001	3	40.0	0.020	7.20	6.10
TVP29-0003	3	55.0	0.020	7.20	6.10
TVP26-0002	3	62.0	0.120	3.80	1.60
TVP29-0002	3	70.0	0.020	4.80	6.10
TVP26-0001	3	90.0	0.030	4.80	5.70
TVP36-0001	3	100.0	0.030	6.80	5.70
TVP28-0002	3	270.0	0.080	3.70	2.20
TVP28-0004	3	380.0	0.080	3.70	2.30
TVP49-0001	3	400.0	0.100	4.50	1.80
TVP28-0001	3	650.0	0.150	2.40	1.30
TVP28-0005	3	700.0	0.180	1.50	1.00
TVP28-0003	3	1000.0	0.220	1.50	0.70
THB18-0001	4	45.0	0.040	1.50	4.90
THB40-0001	4	550.0	0.070	4.10	2.60
TH19-0001	5	20.0	0.020	8.80	6.20
TH18-0001	5	35.0	0.040	1.50	5.00
TH17-0001	5	100.0	0.100	0.90	1.90
TH40-0001	5	650.0	0.070	4.10	2.60

1. Operating Temperature: -40℃~+120℃(Includes temperature when the coil is heated)
2. Saturation Current: DC current which causes the inductance to drop 30% from the nominal value
3. Temperature Rise Current: DC current which causes the coil temperature rise 40℃(Ta=20℃)

Mechanical

Fig. 1

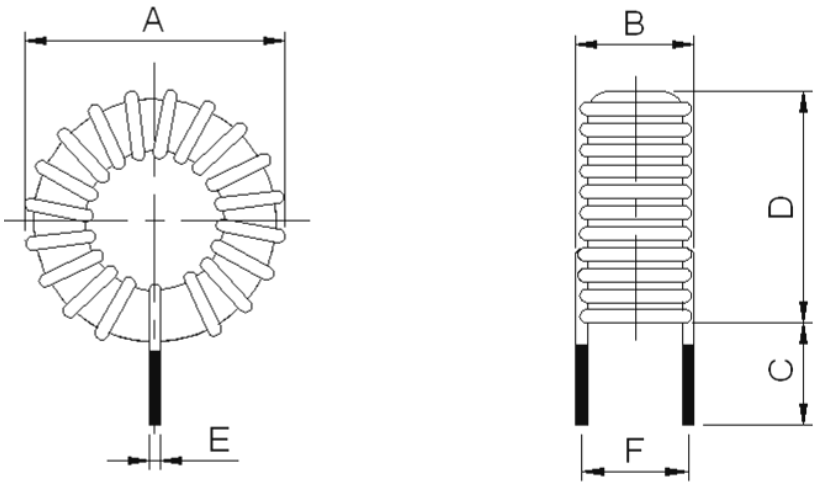


Fig. 2

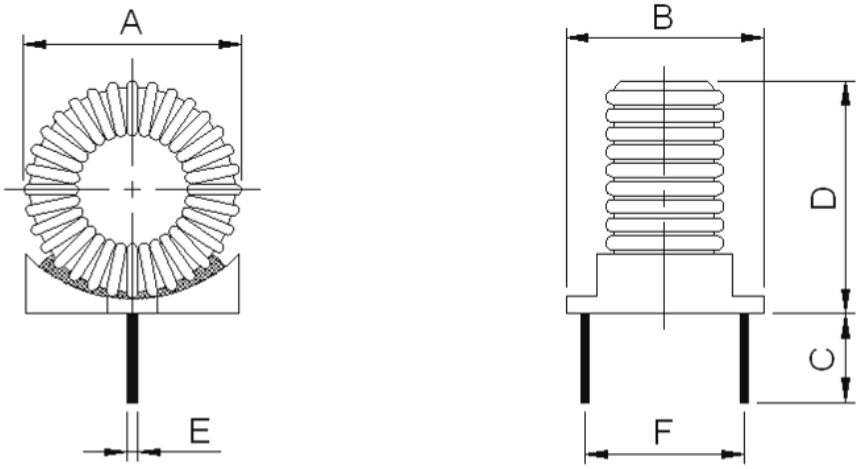


Fig. 3

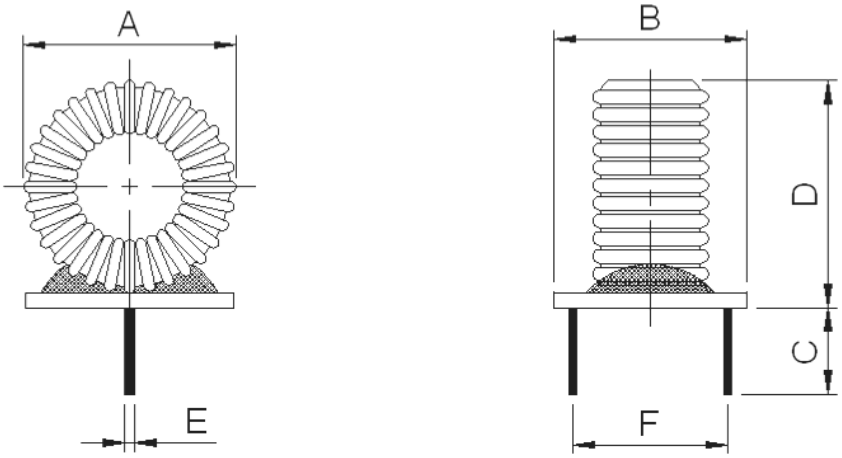


Fig. 4

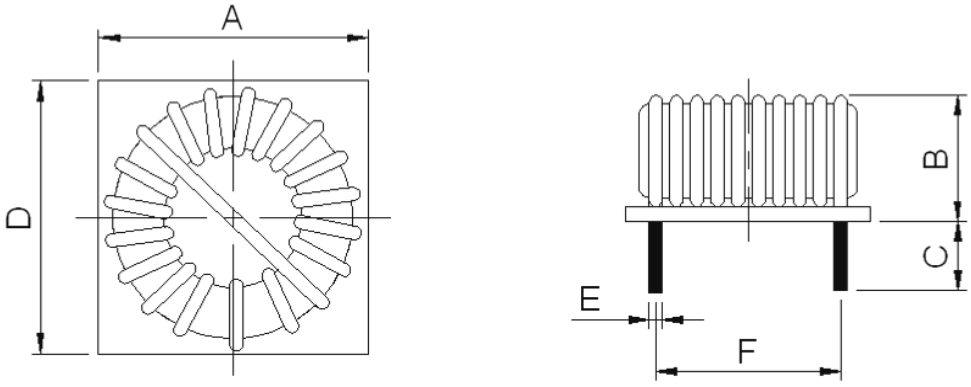
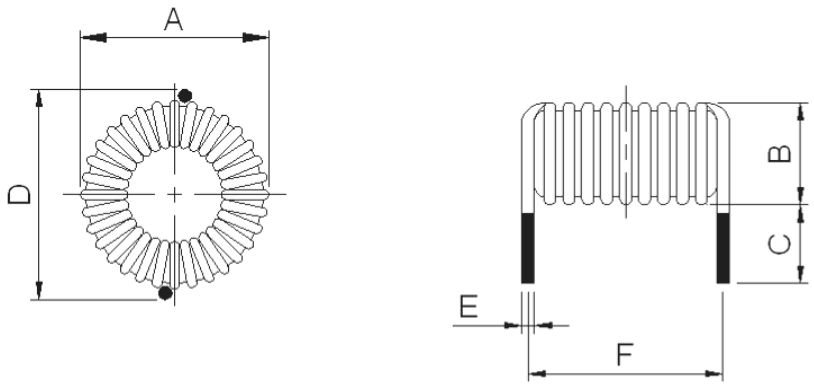


Fig. 5



Dimensions (mm)

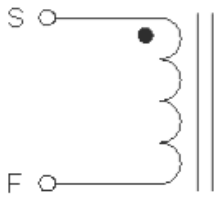
Ordering Code	Fig.	A (Max.)	B (Max.)	C (Nom.)	D (Max.)	E (Nom.)	F (Nom.)
TV32-0001	1	36	21	5	36	2.0	19.0
TV38-0001	1	44	26	5	44	2.2	24.0
TV39-0001	1	45	39	5	45	3.6	35.0
TV30-0002	1	35	14	5	35	1.6	12.0
TV19-0002	1	23	13	5	23	1.1	8.0
TV30-0003	1	35	25	5	35	3.8	13.0
TV25-0001	1	29	22	5	29	1.3	19.0
TV15-0001	1	17	10	5	17	0.6	7.0
TV21-0001	1	25	11	5	25	0.7	9.0
TV18-0001	1	22	12	5	22	0.8	10.0
TV28-0001	1	34	18	5	34	1.1	18.0
TV28-0002	1	34	21	5	34	1.1	18.0
TV30-0001	1	35	20	5	35	0.8	17.0
TV17-0001	1	19	12	5	19	0.8	9.5
TV19-0001	1	23	12	5	23	0.6	11.0
TVB29-0001	2	36	17	5	38	1.6	15.0
TVB29-0003	2	36	17	5	39	1.6	15.0
TVB26-0002	2	29	15	5	31	1.2	13.0
TVB29-0002	2	36	20	5	39	3.2	17.0
TVB26-0001	2	29	23	5	31	1.5	20.0
TVB36-0001	2	44	30	5	47	1.5	27.0
TVB28-0002	2	35	21	5	36	1.2	18.0
TVB28-0004	2	35	23	5	39	1.3	20.0
TVB49-0001	2	54	24	5	59	1.3	21.0
TVB28-0001	2	35	22	5	37	1.2	19.0
TVB28-0005	2	35	22	5	38	1.0	19.0
TVB28-0003	2	35	21	5	38	1.0	18.0
TVP29-0001	3	36	17	5	38	1.6	15.0
TVP29-0003	3	36	17	5	39	1.6	15.0

THT POWER INDUCTORS

Toroidal Series

Ordering Code	Fig.	A (Max.)	B (Max.)	C (Nom.)	D (Max.)	E (Nom.)	F (Nom.)
TVP26-0002	3	29	15	5	31	1.2	13.0
TVP29-0002	3	36	20	5	39	3.2	17.0
TVP26-0001	3	29	23	5	31	1.5	20.0
TVP36-0001	3	44	30	5	47	1.5	27.0
TVP28-0002	3	35	21	5	36	1.2	18.0
TVP28-0004	3	35	23	5	39	1.3	20.0
TVP49-0001	3	54	24	5	59	1.3	21.0
TVP28-0001	3	35	22	5	37	1.2	19.0
TVP28-0005	3	35	22	5	38	1.0	19.0
TVP28-0003	3	35	21	5	38	1.0	18.0
THB18-0001	4	20	14	5	20	0.9	18.5
THB40-0001	4	42	30	5	42	1.6	44.0
TH19-0001	5	21	23	5	21	1.6	29.0
TH18-0001	5	20	14	5	20	0.9	18.5
TH17-0001	5	19	12	5	19	0.8	14.0
TH40-0001	5	44	29	5	44	1.6	44.0

Schematic



THT POWER INDUCTORS

Unshielded Drum Core Series

Features

- Low cost solution
- High inductance is up to 39mH
- Hot shrinkable tube protection available
- Custom designs available

Application

- Inductors for DVC, DSC,PC,Printer,Display Monitor, Game Machine,TV

Electrical Specifications @25℃

Ordering Code	Fig.	Inductance @1kHz (μH Min.)	D.C.R. (Ω Max.)	Saturation Current (A)[2]	Temperature Rise Current (A)[3]
DR4T-0001	1	12.0	0.120	1.60	1.65
DR9T-0001	1	15.0	0.070	1.70	2.40
DR7T-0002	1	100.0	0.240	0.69	1.20
DR7T-0001	1	220.0	0.730	0.70	0.69
DR12T-0001	1	390.0	0.350	0.90	1.10
DR8T-0001	1	500.0	1.250	0.25	0.52
DR16T-0001	1	520.0	0.350	1.60	1.10
DR5T-0001	1	1000.0	5.000	0.03	0.24
DR6T-0001	1	1000.0	4.000	0.30	0.27
DR10T-0001	1	1200.0	0.960	0.65	0.60
DR10T-0002	1	1200.0	2.000	0.80	0.41
DR15T-0001	1	1600.0	1.200	0.39	0.53
DR8T-0002	1	2200.0	5.600	0.25	0.22
DR6T-0002	1	39000.0	96.000	0.01	0.02
DR10T-0003	1	39000.0	29.000	0.07	0.11
DR4-0001	2	12.0	0.120	1.60	1.70
DR9-0001	2	15.0	0.070	1.70	2.45
DR7-0002	2	100.0	0.240	0.69	1.25
DR7-0001	2	220.0	0.730	0.70	0.72
DR12-0001	2	390.0	0.350	0.90	1.15
DR8-0001	2	500.0	1.250	0.25	0.55
DR16-0001	2	520.0	0.350	1.60	1.15
DR5-0001	2	1000.0	5.000	0.03	0.28
DR6-0001	2	1000.0	4.000	0.30	0.30
DR10-0001	2	1200.0	0.960	0.65	0.65
DR10-0002	2	1200.0	2.000	0.80	0.45
DR15-0001	2	1600.0	1.200	0.39	0.58
DR8-0002	2	2200.0	5.600	0.25	0.25
DR6-0002	2	39000.0	96.000	0.01	0.03
DR10-0003	2	39000.0	29.000	0.07	0.15

1. Operating Temperature: -40℃~+120℃(Includes temperature when the coil is heated)
2. Saturation Current: DC current which causes the inductance to drop 30% from the nominal value
3. Temperature Rise Current: DC current which causes the coil temperature rise 40℃(Ta=20℃)

Mechanical

Fig. 1

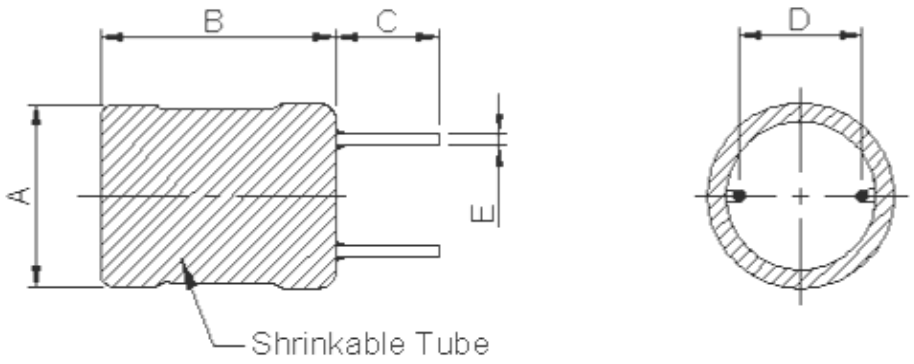
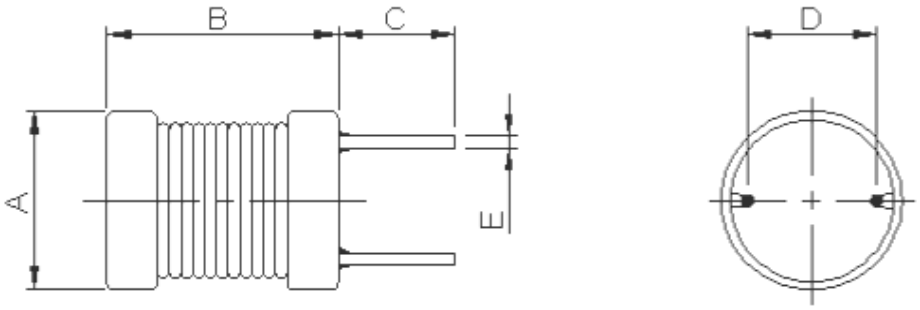


Fig. 2



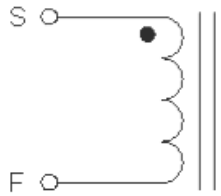
THT POWER INDUCTORS

Unshielded Drum Core Series

Dimensions (mm)

Ordering Code	Fig.	A (Max.)	B (Max.)	C (Nom.)	D (Max.)	E (Nom.)
DR4T-0001	1	6.0	8.5	5.0	2.0	0.5
DR9T-0001	1	11.0	14.5	5.0	5.0	0.8
DR7T-0002	1	9.0	11.5	5.0	5.0	0.6
DR7T-0001	1	9.0	9.5	5.0	5.0	0.6
DR12T-0001	1	14.0	17.5	5.0	7.5	0.8
DR8T-0001	1	10.0	10.5	5.0	5.0	0.6
DR16T-0001	1	18.0	20.5	5.0	9.5	0.8
DR5T-0001	1	7.0	9.5	5.0	2.5	0.6
DR6T-0001	1	8.0	10.5	5.0	3.0	0.6
DR10T-0001	1	12.0	14.5	5.0	5.0	0.8
DR10T-0002	1	12.0	17.5	5.0	7.0	0.8
DR15T-0001	1	17.0	20.5	5.0	10.0	0.8
DR8T-0002	1	10.0	12.5	5.0	5.0	0.6
DR6T-0002	1	8.0	12.5	5.0	3.0	0.6
DR10T-0003	1	12.0	18.5	5.0	7.0	0.8
DR4-0001	2	5.0	7.0	5.0	2.0	0.5
DR9-0001	2	10.0	13.0	5.0	5.0	0.8
DR7-0002	2	8.0	10.0	5.0	5.0	0.6
DR7-0001	2	8.0	8.0	5.0	5.0	0.6
DR12-0001	2	13.0	16.0	5.0	7.5	0.8
DR8-0001	2	9.0	9.0	5.0	5.0	0.6
DR16-0001	2	17.0	19.0	5.0	9.5	0.8
DR10-0001	2	11.0	13.0	5.0	5.0	0.8
DR10-0002	2	11.0	16.0	5.0	7.0	0.8
DR15-0001	2	16.0	19.0	5.0	10.0	0.8
DR8-0002	2	9.0	11.0	5.0	5.0	0.6
DR6-0002	2	7.0	11.0	5.0	3.0	0.6
DR10-0003	2	11.0	17.0	5.0	7.0	0.8

Schematic



THT POWER INDUCTORS

Air Coil Series

Features

- Low cost solution
- Wide range of inductance and current available
- Custom designs available

Application

- Inductors for speaker and audio

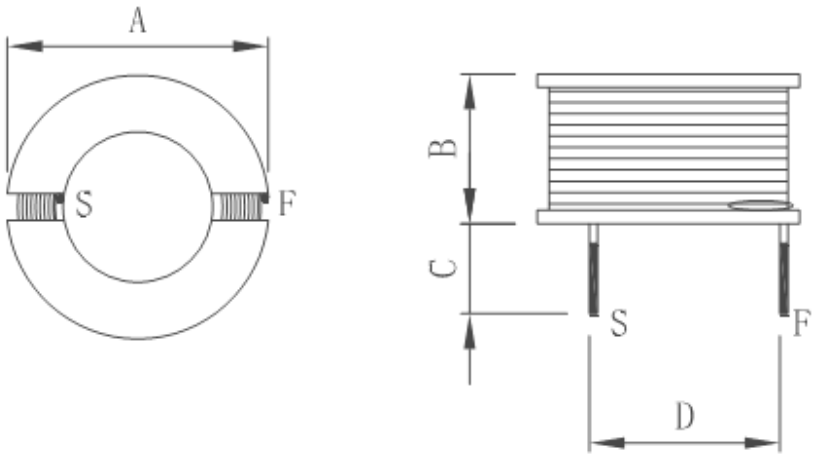
Electrical Specifications @25℃

Ordering Code	Fig.	Inductance @1kHz (mH Min.)	D.C.R (Ω Max.)	Rated Current (A)[2]
8C23BU50	1	0.7	2.2 MAX	1.1
8C23BU60	1	0.9	2.5 MAX	1.0

1. Operating Temperature: -40℃~+125℃.
2. The rated current is DC current which causes the coil temperature rise 40℃(Ta=20℃).

Mechanical

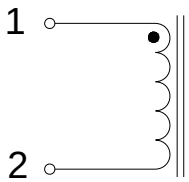
Fig. 1



Dimension (mm)

Ordering Code	Fig	A (Max.)	B (Max.)	C (Nom.)	D(Nom.)
8C23BU50	1	24.8	14.0	10	14.0
8C23BU60	1	24.8	14.0	10	14.0

Schematic



THT POWER INDUCTORS

Rod Inductor Series

Features

- Low cost solution
- Good saturation current
- Custom designs available

Application

- Inductors for speaker and audio

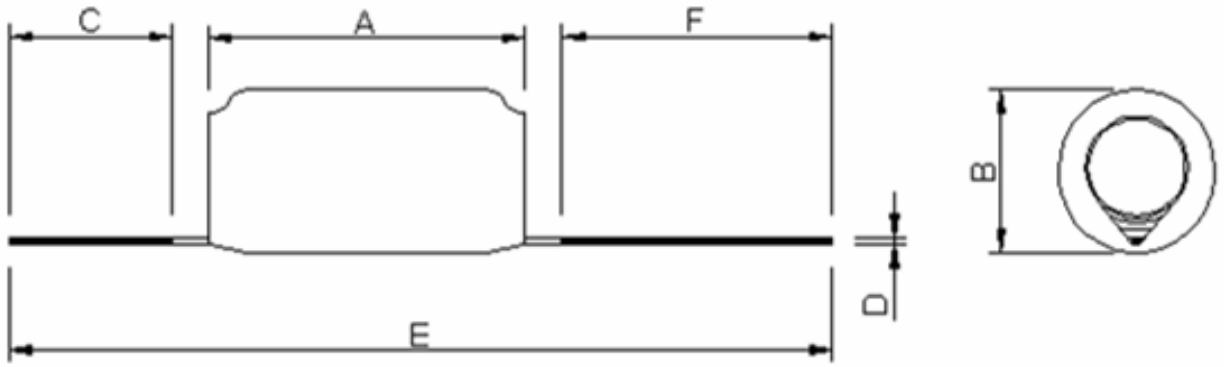
Electrical Specifications @25℃

Ordering Code	Fig.	Inductance@1kHz (μH)	D.C.R. (Ω Max.)	Saturation Current (A)[2]	Temperature Rise Current (A)[3]
3M72AA40	1	330±15%	0.20	4.20	3.4
3M72AA20	1	390±15%	0.23	4.00	3.2
3M72AA50	1	420±15%	0.25	3.80	3.1
3M72AA30	1	470±15%	0.27	3.70	3.0

1. Operating Temperature: -40℃~+120℃(Includes temperature when the coil is heated)
2. Saturation Current: DC current which causes the inductance to drop 30% from the nominal value
3. Temperature Rise Current: DC current which causes the coil temperature rise 40℃(Ta=20℃)

Mechanical

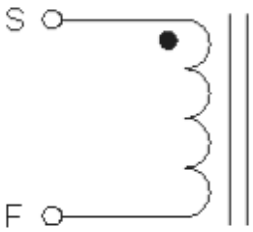
Fig. 1



Dimensions (mm)

Ordering Code	Fig.	A (Max.)	B (Max.)	C (Max.)	D (Nom.)	E (Max.)	F (Nom.)
3M72AA40	1	32.0	19.0	35.0	0.70	112.0	40
3M72AA20	1	32.0	19.0	35.0	0.70	112.0	40
3M72AA50	1	32.0	19.0	35.0	0.70	112.0	40
3M72AA30	1	32.0	19.0	35.0	0.70	112.0	40

Schematic



SMD POWER INDUCTORS

Unshielded Drum Core – FDB3316 Series

Features

- Excellent solderability and heat resistance

Application

- Inductors for DVC, DSC,PC,Printer,Display Monitor, Game Machine,TV

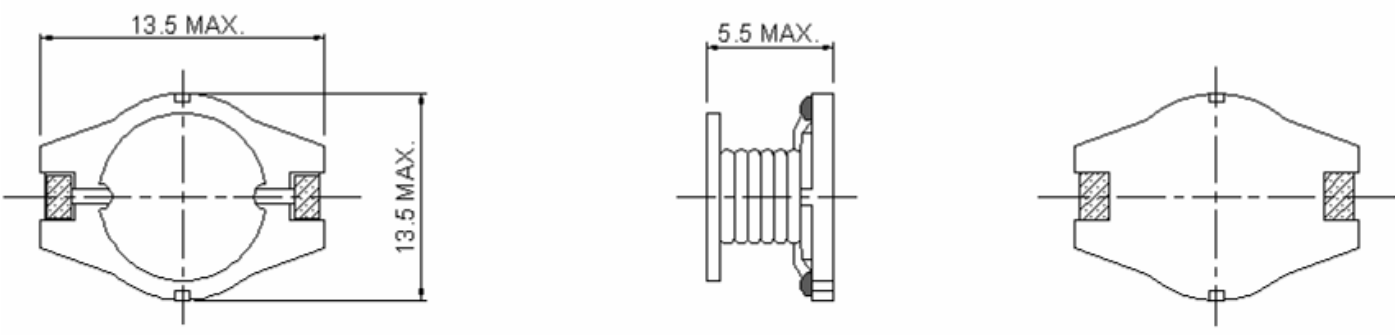
Electrical Specifications @25℃

Ordering Code	Indicate	Inductance @100kHz (μH)	D.C.R. (Ω Max.)	Rated current (Max.) [2] (A)
FDB3316-2R2	2R2	2.2±30%	0.012	6.10
FDB3316-3R3	3R3	3.3±30%	0.015	5.40
FDB3316-4R7	4R7	4.7±30%	0.018	4.80
FDB3316-6R8	6R8	6.8±30%	0.027	4.40
FDB3316-100	100	10.0±25%	0.038	3.90
FDB3316-150	150	15.0±25%	0.046	3.10
FDB3316-220	220	22.0±25%	0.065	2.70
FDB3316-330	330	33.0±25%	0.100	2.10
FDB3316-470	470	47.0±25%	0.140	1.80
FDB3316-101	101	100.0±20%	0.280	1.30
FDB3316-151	151	150.0±20%	0.400	1.00

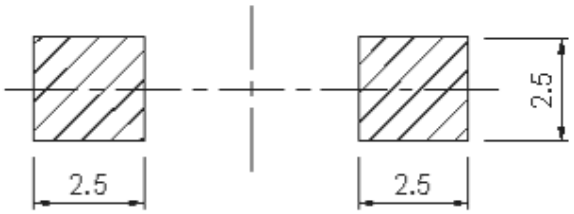
1. Operating Temperature: -40℃~+125℃(Includes temperature when the coil is heated)

2. Rated Current: DC current which causes the inductance to drop 30% from the nominal value or DC current which causes the coil temperature rise 40℃(Ta=20℃) whichever is lower

Mechanical (mm)



Recommended Land Pattern (mm)



SMD POWER INDUCTORS

Unshielded Drum Core –FNR3010 Series

Features

- Excellent solderability and heat resistance

Application

- Inductors for DVC, DSC,PC,Printer,Display Monitor, Game Machine,TV

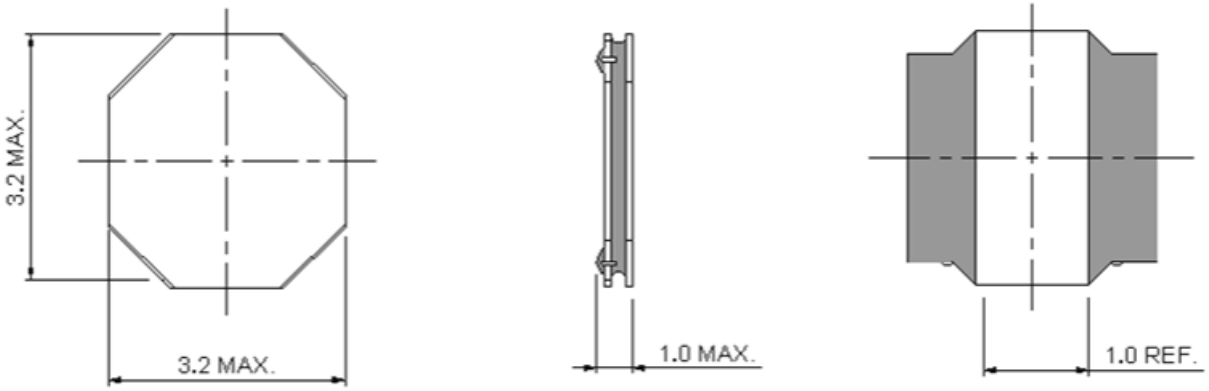
Electrical Specifications @25℃

Ordering Code	Indicate	Inductance @100kHz (μH)	D.C.R. (Ω Max.)	Rated current (Max.) [2] (A)
FNR3010-3R3	1R5	1.5±20%	0.156	1.50
FNR3010-2R2	2R2	2.2±20%	0.168	1.30
FNR3010-3R3	3R3	3.3±20%	0.244	1.20
FNR3010-4R7	4R7	4.7±20%	0.310	1.10
FNR3010-6R8	6R8	6.8±20%	0.450	0.90
FNR3010-8R2	8R2	8.2±20%	0.533	0.85
FNR3010-100	100	10.0±20%	0.650	0.80

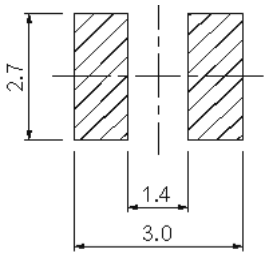
1. Operating Temperature: -40℃~+125℃(Includes temperature when the coil is heated)

2. Rated Current: DC current which causes the inductance to drop 30% from the nominal value or DC current which causes the coil temperature rise 40℃(Ta=20℃) whichever is lower

Mechanical (mm)



Recommended Land Pattern (mm)



SMD POWER INDUCTORS

Unshielded Drum Core –FNR4010 Series

Features

- Excellent solderability and heat resistance

Application

- Inductors for DVC, DSC,PC,Printer,Display Monitor, Game Machine,TV

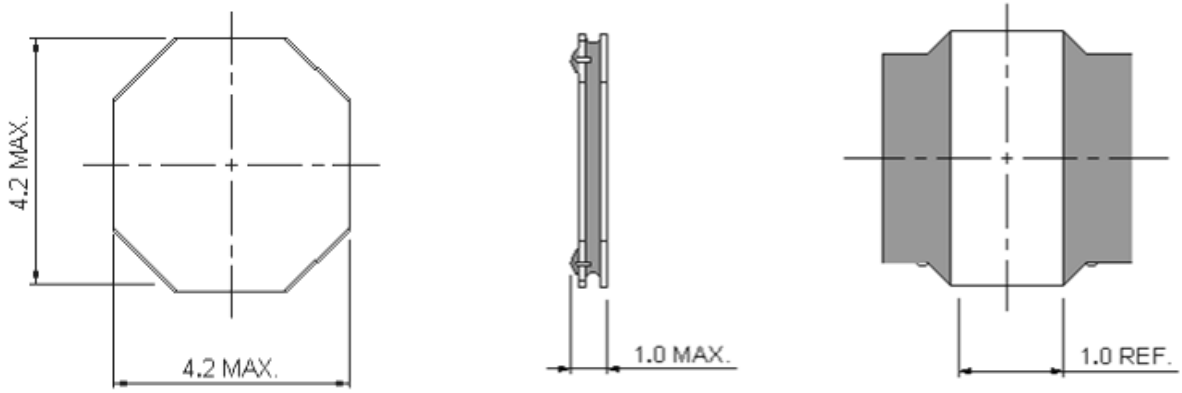
Electrical Specifications @25℃

Ordering Code	Indicate	Inductance @100kHz (μH)	D.C.R. (Ω Max.)	Rated current (Max.) [2] (A)
FNR4010-3R3	3R3	3.3±20%	0.215	1.40
FNR4010-4R7	4R7	4.7±20%	0.265	1.30
FNR4010-6R8	6R8	6.8±20%	0.390	1.00
FNR4010-8R2	8R2	8.2±20%	0.425	0.95
FNR4010-100	100	10.0±20%	0.555	0.85

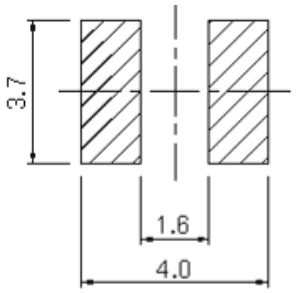
1. Operating Temperature: -40℃~+125℃(Includes temperature when the coil is heated)

2. Rated Current: DC current which causes the inductance to drop 30% from the nominal value or DC current which causes the coil temperature rise 40℃(Ta=20℃) whichever is lower

Mechanical (mm)



Recommended Land Pattern (mm)



SMD POWER INDUCTORS

Unshielded Drum Core – FNR6010 Series

Features

- Excellent solderability and heat resistance

Application

- Inductors for DVC, DSC,PC,Printer,Display Monitor, Game Machine,TV

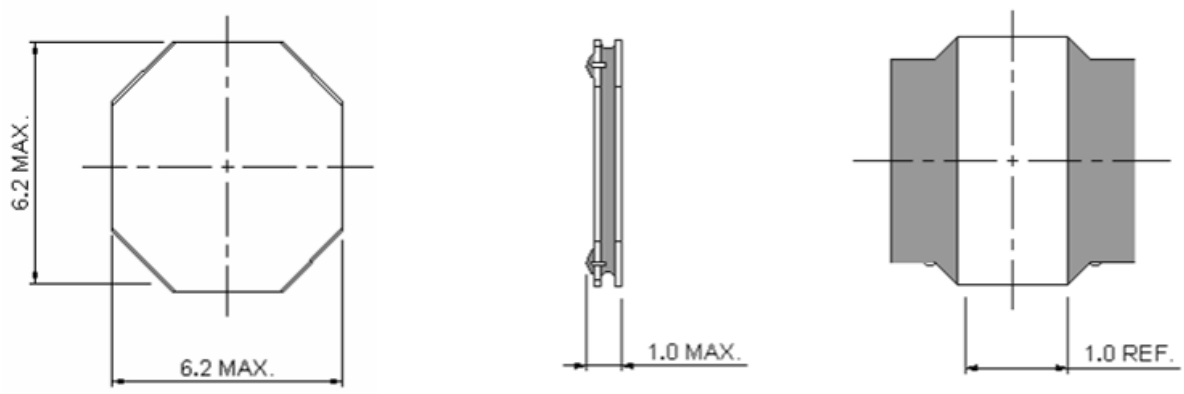
Electrical Specifications @25℃

Ordering Code	Indicate	Inductance @100kHz (μH)	D.C.R. (Ω Max.)	Rated current (Max.) [2] (A)
FNR6010-2R2	2R2	2.2±20%	0.160	2.60
FNR6010-3R3	3R3	3.3±20%	0.220	2.00
FNR6010-4R7	4R7	4.7±20%	0.260	1.80
FNR6010-6R8	6R8	6.8±20%	0.345	1.60
FNR6010-8R2	8R2	8.2±20%	0.425	1.50
FNR6010-100	100	10.0±20%	0.480	1.40

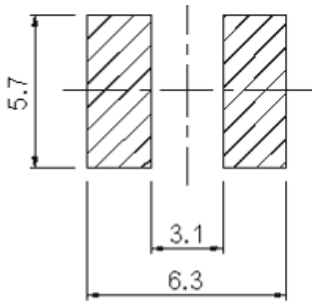
1. Operating Temperature: -40℃~+125℃(Includes temperature when the coil is heated)

2. Rated Current: DC current which causes the inductance to drop 30% from the nominal value or DC current which causes the coil temperature rise 40℃(Ta=20℃) whichever is lower

Mechanical (mm)



Recommended Land Pattern (mm)



SMD POWER INDUCTORS

Unshielded Drum Core – FNR6012 Series

Features

- Excellent solderability and heat resistance

Application

- Inductors for DVC, DSC,PC,Printer,Display Monitor, Game Machine,TV

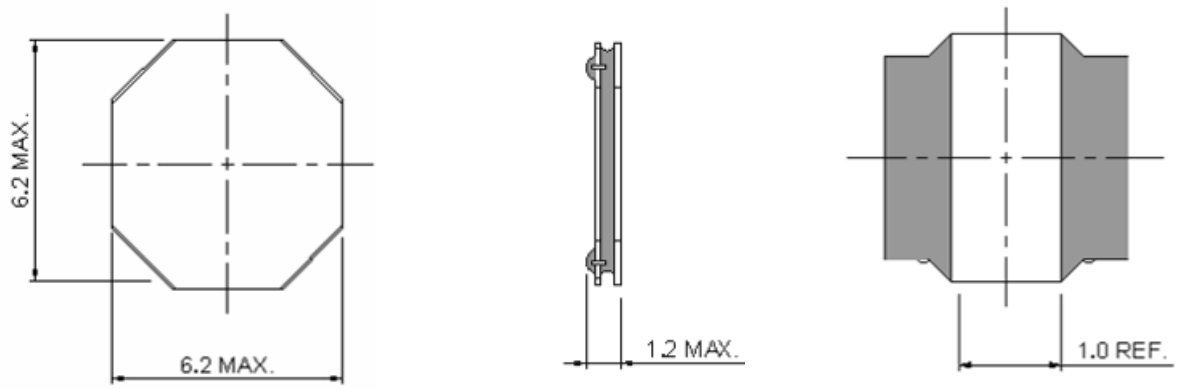
Electrical Specifications @25℃

Ordering Code	Indicate	Inductance @100kHz (μH)	D.C.R. (Ω Max.)	Rated current (Max.) [2] (A)
FNR6012-2R2	2R2	2.2±20%	0.125	2.50
FNR6012-3R3	3R3	3.3±20%	0.195	2.10
FNR6012-4R7	4R7	4.7±20%	0.235	1.70
FNR6012-6R8	6R8	6.8±20%	0.290	1.60
FNR6010-8R2	8R2	8.2±20%	0.350	1.50
FNR6012-100	100	10.0±20%	0.430	1.40
FNR6012-220	220	22.0±20%	0.970	0.80

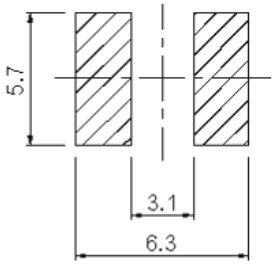
1. Operating Temperature: -40℃~+125℃(Includes temperature when the coil is heated)

2. Rated Current: DC current which causes the inductance to drop 30% from the nominal value or DC current which causes the coil temperature rise 40℃(Ta=20℃) whichever is lower

Mechanical (mm)



Recommended Land Pattern (mm)



SMD POWER INDUCTORS

Shielded Drum Core –FRH2D09A Series

Features

- Excellent solderability and heat resistance

Application

- Inductors for DVC, DSC,PC,Printer,Display Monitor, Game Machine,TV

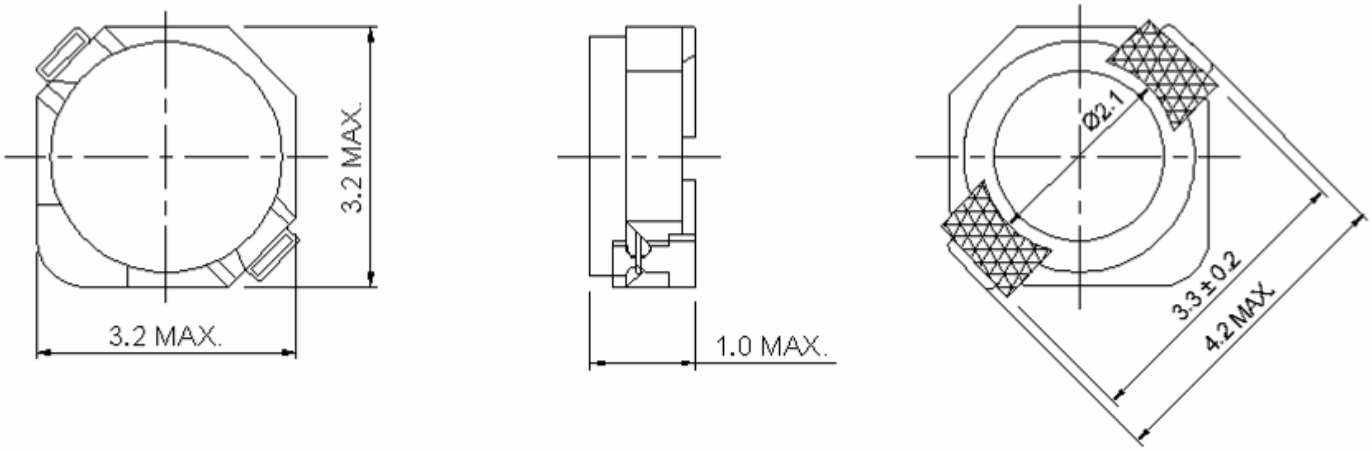
Electrical Specifications @25℃

Ordering Code	Indicate	Inductance @100kHz (μH)	D.C.R. (Ω Max.)	Rated current (Max.) [2] (A)
FRH2D09A-1R2	1R2	1.2±30%	0.075	0.80
FRH2D09A-1R5	1R5	1.5±30%	0.085	0.70
FRH2D09A-2R4	2R4	2.4±30%	0.115	0.58
FRH2D09A-3R3	3R3	3.3±30%	0.170	0.50
FRH2D09A-4R7	4R7	4.7±30%	0.200	0.42
FRH2D09A-6R4	6R4	6.4±30%	0.280	0.36
FRH2D09A-8R2	8R2	8.2±30%	0.350	0.32
FRH2D09A-100	100	10.0±25%	0.480	0.30
FRH2D09A-120	120	12.0±25%	0.520	0.27
FRH2D09A-150	150	15.0±25%	0.620	0.24
FRH2D09A-180	180	18.0±25%	0.730	0.22
FRH2D09A-220	220	22.0±25%	0.900	0.20
FRH2D09A-270	270	27.0±25%	1.060	0.16

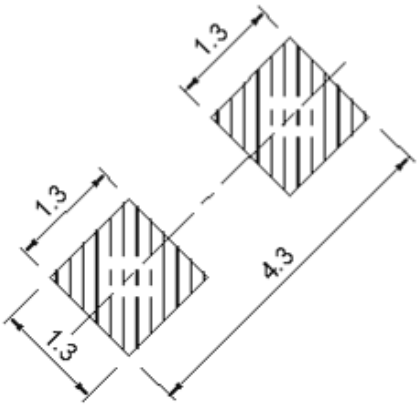
1. Operating Temperature: -40℃~+125℃(Includes temperature when the coil is heated)

2. Rated Current: DC current which causes the inductance to drop 30% from the nominal value or DC current which causes the coil temperature rise 40℃(Ta=20℃) whichever is lower

Mechanical (mm)



Recommended Land Pattern (mm)



SMD POWER INDUCTORS

Shielded Drum Core –FRH2D11 Series

Features

- Excellent solderability and heat resistance

Application

- Inductors for DVC, DSC,PC,Printer,Display Monitor, Game Machine,TV

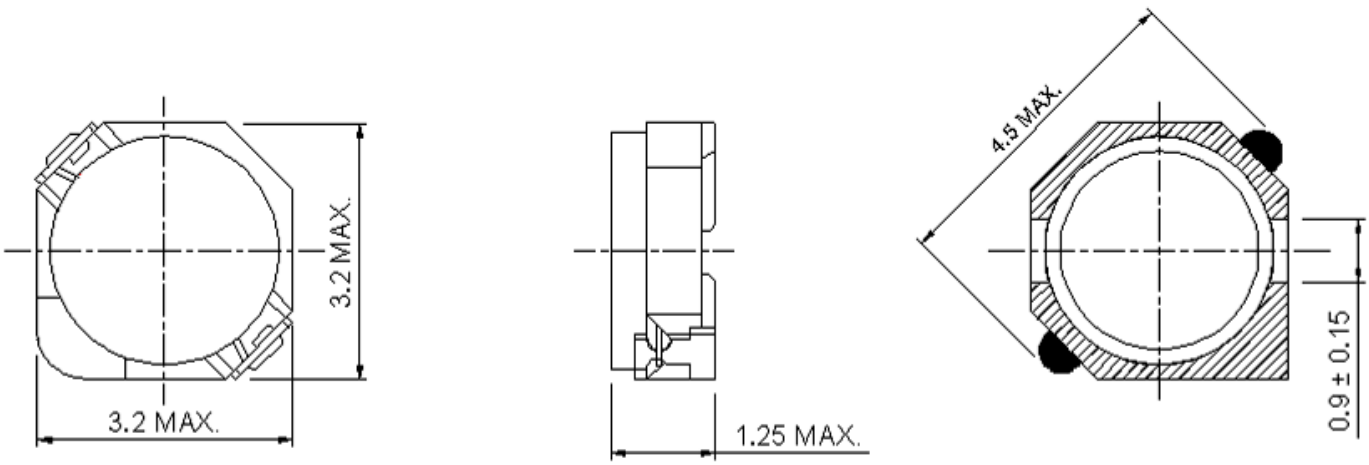
Electrical Specifications @25℃

Ordering Code	Indicate	Inductance @100kHz (μH)	D.C.R. (Ω Max.)	Rated current (Max.) [2] (A)
FRH2D11-1R5	1R5	1.5±30%	0.065	0.90
FRH2D11-2R2	2R2	2.2±30%	0.095	0.78
FRH2D11-3R3	3R3	3.3±30%	0.120	0.60
FRH2D11-4R7	4R7	4.7±30%	0.165	0.50
FRH2D11-6R8	6R8	6.8±30%	0.255	0.44
FRH2D11-100	100	10.0±25%	0.385	0.35
FRH2D11-150	150	15.0±25%	0.610	0.28
FRH2D11-220	220	22.0±25%	0.800	0.25
FRH2D11-330	330	33.0±25%	1.510	0.20
FRH2D11-470	470	47.0±25%	1.900	0.16
FRH2D11-101	101	100.0±20%	4.800	0.12

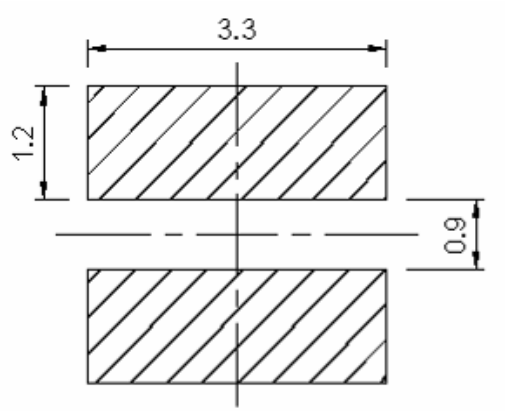
1. Operating Temperature: -40℃~+125℃(Includes temperature when the coil is heated)

2. Rated Current: DC current which causes the inductance to drop 30% from the nominal value or DC current which causes the coil temperature rise 40℃(Ta=20℃) whichever is lower

Mechanical (mm)



Recommended Land Pattern (mm)



SMD POWER INDUCTORS

Shielded Drum Core –FRH2D18AHP Series

Features

- Excellent solderability and heat resistance

Application

- Inductors for DVC, DSC,PC,Printer,Display Monitor, Game Machine,TV

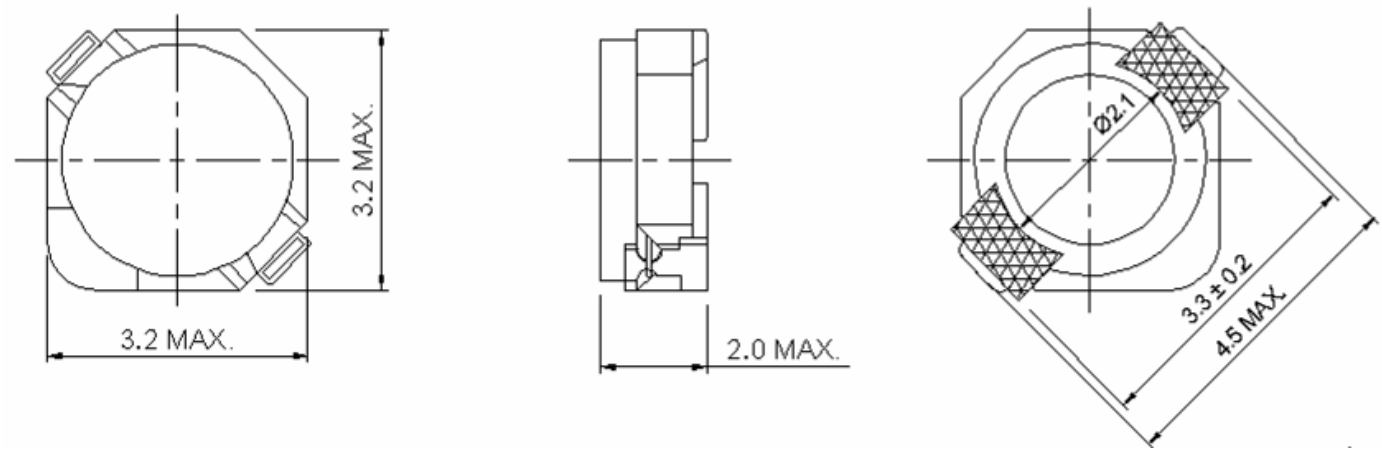
Electrical Specifications @25℃

Ordering Code	Indicate	Inductance @100kHz (μH)	D.C.R. (Ω Max.)	Rated current (Max.) [2] (A)
FRH2D18AHP-1R7	1R7	1.7±30%	0.045	1.85
FRH2D18AHP-2R2	2R2	2.2±30%	0.060	1.60
FRH2D18AHP-3R3	3R3	3.3±30%	0.085	1.45
FRH2D18AHP-4R7	4R7	4.7±30%	0.140	1.20
FRH2D18AHP-6R3	6R3	6.3±30%	0.160	1.05
FRH2D18AHP-100	100	10.0±25%	0.245	0.85
FRH2D18AHP-150	150	15.0±25%	0.345	0.70

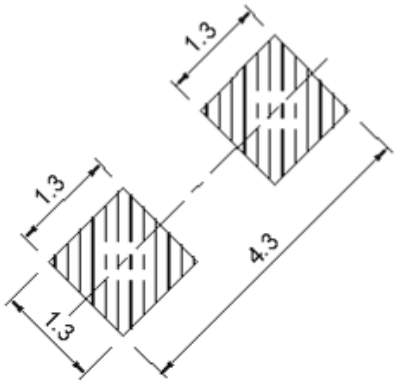
1. Operating Temperature: -40℃~+125℃(Includes temperature when the coil is heated)

2. Rated Current: DC current which causes the inductance to drop 30% from the nominal value or DC current which causes the coil temperature rise 40℃(Ta=20℃) whichever is lower

Mechanical (mm)



Recommended Land Pattern (mm)



SMD POWER INDUCTORS

Shielded Drum Core – FRH2D18HP Series

Features

- Excellent solderability and heat resistance

Application

- Inductors for DVC, DSC,PC,Printer,Display Monitor, Game Machine,TV

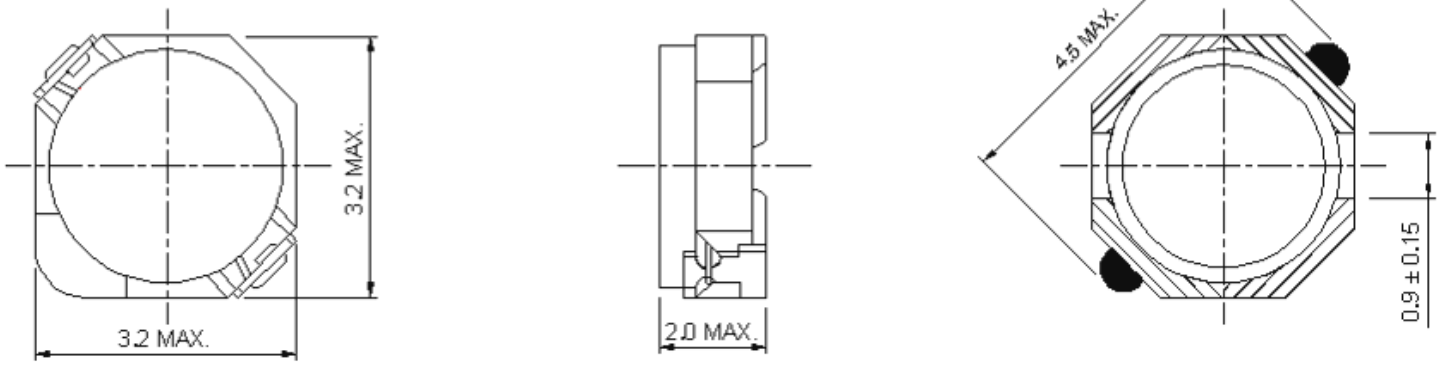
Electrical Specifications @25℃

Ordering Code	Indicate	Inductance @100kHz (μH)	D.C.R. (Ω Max.)	Rated current (Max.) [2] (A)
FRH2D18HP-1R7	1R7	1.7±30%	0.045	1.85
FRH2D18HP-2R2	2R2	2.2±30%	0.060	1.60
FRH2D18HP-3R3	3R3	3.3±30%	0.085	1.45
FRH2D18HP-4R7	4R7	4.7±30%	0.140	1.20
FRH2D18HP-6R3	6R3	6.3±30%	0.160	1.05
FRH2D18HP-100	100	10.0±25%	0.245	0.85
FRH2D18HP-150	150	15.0±25%	0.345	0.70

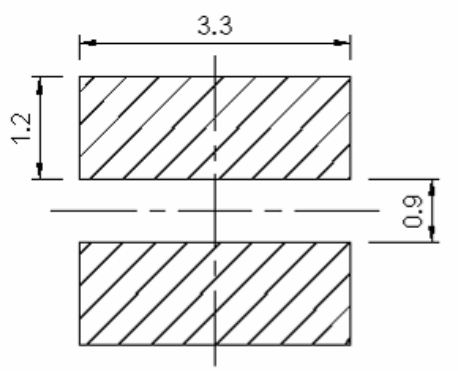
1. Operating Temperature: -40℃~+125℃(Includes temperature when the coil is heated)

2. Rated Current: DC current which causes the inductance to drop 30% from the nominal value or DC current which causes the coil temperature rise 40℃(Ta=20℃) whichever is lower

Mechanical (mm)



Recommended Land Pattern (mm)



SMD POWER INDUCTORS

Shielded Drum Core – FRH2D18LD Series

Features

- Excellent solderability and heat resistance

Application

- Inductors for DVC, DSC,PC,Printer,Display Monitor, Game Machine,TV

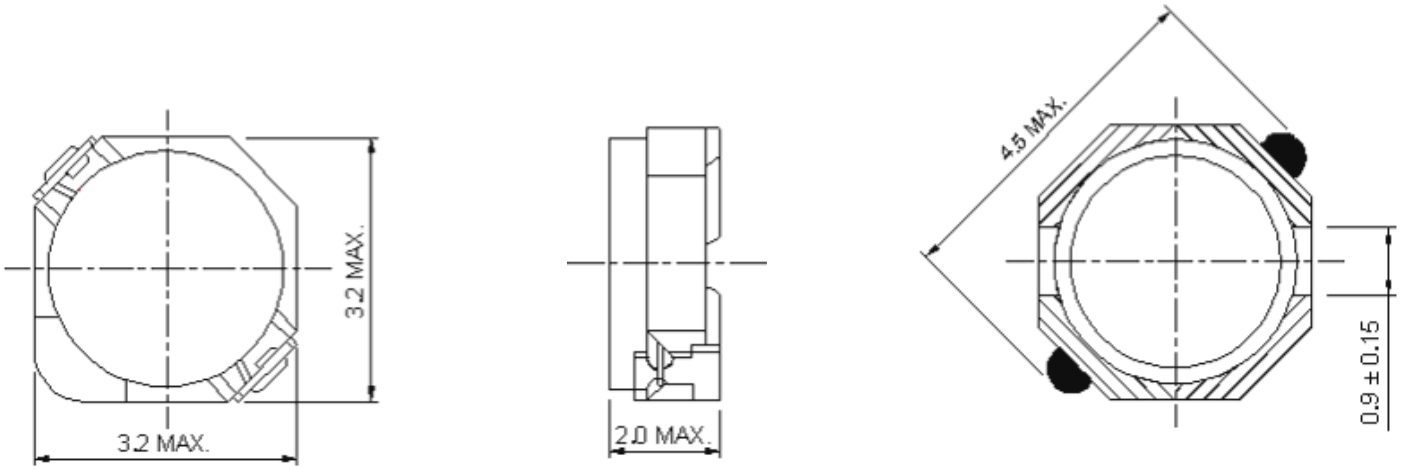
Electrical Specifications @25℃

Ordering Code	Indicate	Inductance @100kHz (μH)	D.C.R. (Ω Max.)	Rated current (Max.) [2] (A)
FRH2D18LD-1R5	1R5	1.5±30%	0.050	1.10
FRH2D18LD-2R2	2R2	2.2±30%	0.055	0.85
FRH2D18LD-3R3	3R3	3.3±30%	0.055	0.75
FRH2D18LD-4R7	4R7	4.7±30%	0.110	0.63
FRH2D18LD-6R8	6R8	6.8±30%	0.130	0.52
FRH2D18LD-100	100	10.0±25%	0.180	0.43
FRH2D18LD-150	150	15.0±25%	0.220	0.35
FRH2D18LD-220	220	22.0±25%	0.320	0.30
FRH2D18LD-330	330	33.0±25%	0.460	0.24
FRH2D18LD-470	470	47.0±25%	0.660	0.20

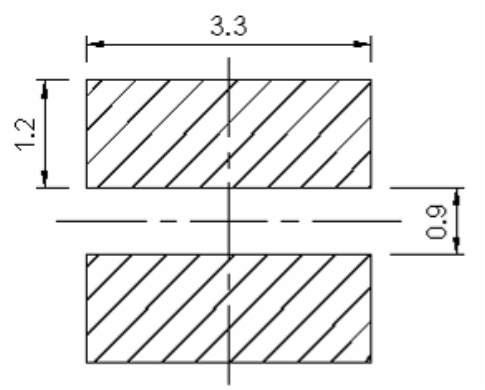
1. Operating Temperature: -40℃~+125℃(Includes temperature when the coil is heated)

2. Rated Current: DC current which causes the inductance to drop 30% from the nominal value or DC current which causes the coil temperature rise 40℃(Ta=20℃) whichever is lower

Mechanical (mm)



Recommended Land Pattern (mm)



SMD POWER INDUCTORS

Shielded Drum Core – FRH3D11 Series

Features

- Excellent solderability and heat resistance

Application

- Inductors for DVC, DSC,PC,Printer,Display Monitor, Game Machine,TV

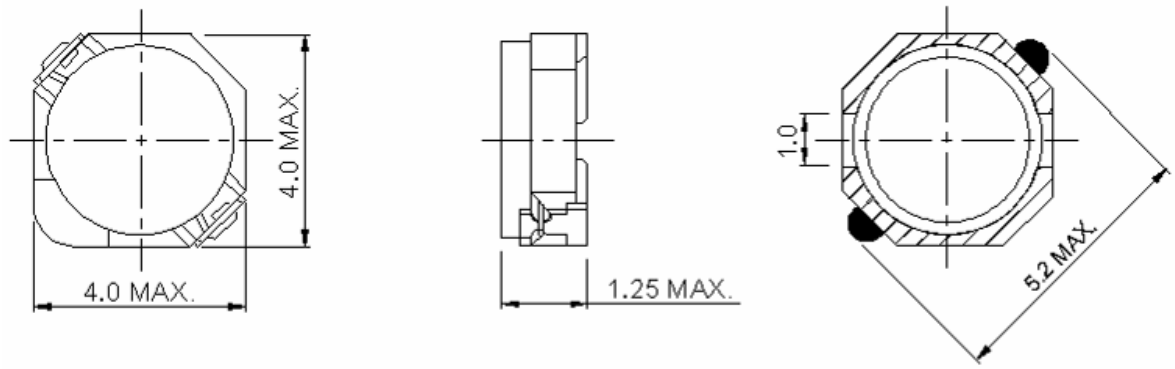
Electrical Specifications @25℃

Ordering Code	Indicate	Inductance @100kHz (μH)	D.C.R. (Ω Max.)	Rated current (Max.) [2] (A)
FRH3D11-2R2	2R2	2.2±30%	0.090	0.80
FRH3D11-3R3	3R3	3.3±30%	0.120	0.65
FRH3D11-4R7	4R7	4.7±30%	0.125	0.60
FRH3D11-6R8	6R8	6.8±30%	0.180	0.45
FRH3D11-8R2	8R2	8.2±30%	0.205	0.32
FRH3D11-100	100	10.0±25%	0.240	0.30
FRH3D11-120	120	12.0±25%	0.275	0.25
FRH3D11-150	150	15.0±25%	0.370	0.23
FRH3D11-180	180	18.0±25%	0.470	0.20
FRH3D11-220	220	22.0±25%	0.540	0.19
FRH3D11-270	270	27.0±25%	0.725	0.17
FRH3D11-330	330	10.0±25%	0.820	0.15
FRH3D11-390	390	39.0±25%	0.940	0.14
FRH3D11-101	101	100.0±20%	3.200	0.12
FRH3D11-221	221	220.0±20%	5.500	0.08
FRH3D11-331	331	330.0±20%	9.000	0.06

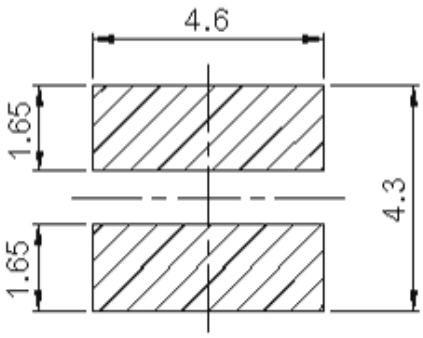
1. Operating Temperature: -40℃~+125℃(Includes temperature when the coil is heated)

2. Rated Current: DC current which causes the inductance to drop 30% from the nominal value or DC current which causes the coil temperature rise 40℃(Ta=20℃) whichever is lower

Mechanical (mm)



Recommended Land Pattern (mm)



SMD POWER INDUCTORS

Shielded Drum Core – FRH3D14 Series

Features

- Excellent solderability and heat resistance

Application

- Inductors for DVC, DSC,PC,Printer,Display Monitor, Game Machine,TV

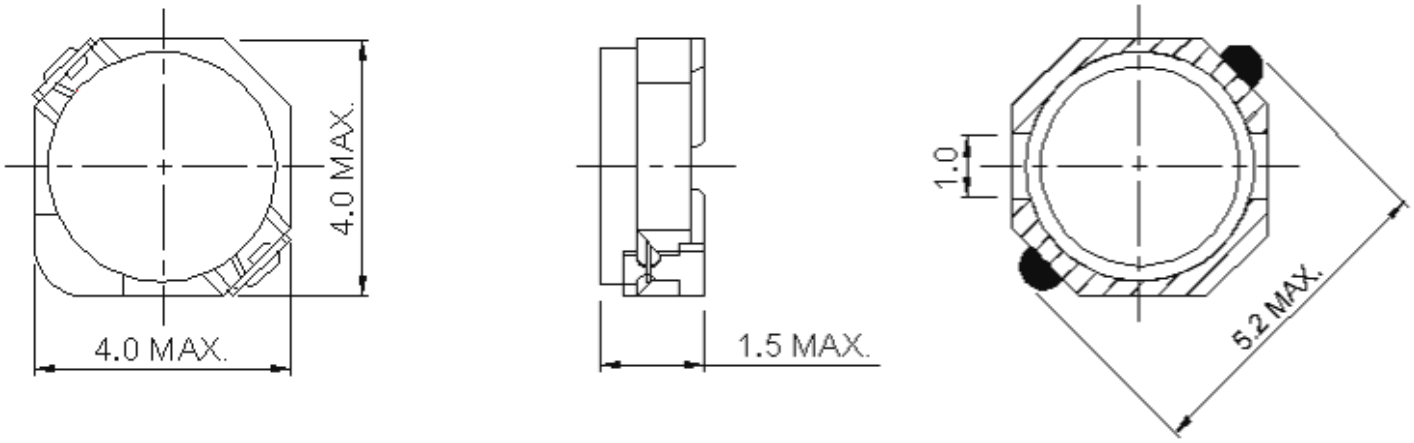
Electrical Specifications @25℃

Ordering Code	Indicate	Inductance @100kHz (μH)	D.C.R. (Ω Max.)	Rated current (Max.) [2] (A)
FRH3D14-1R2	1R2	1.2±30%	0.045	2.15
FRH3D14-1R7	1R7	1.7±30%	0.065	1.85
FRH3D14-2R2	2R2	2.2±30%	0.070	1.60
FRH3D14-2R7	2R7	2.7±30%	0.090	1.45
FRH3D14-3R3	3R3	3.3±30%	0.100	1.35
FRH3D14-3R9	3R9	3.9±30%	0.135	1.15
FRH3D14-4R7	4R7	4.7±30%	0.150	1.10
FRH3D14-8R2	8R2	8.2±30%	0.240	0.82
FRH3D14-100	100	10.0±25%	0.335	0.75
FRH3D14-120	120	12.0±25%	0.350	0.67
FRH3D14-150	150	15.0±25%	0.600	0.60
FRH3D14-220	220	22.0±25%	0.675	0.52

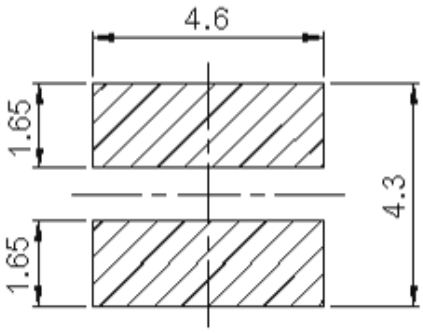
1. Operating Temperature: -40℃~+125℃(Includes temperature when the coil is heated)

2. Rated Current: DC current which causes the inductance to drop 30% from the nominal value or DC current which causes the coil temperature rise 40℃(Ta=20℃) whichever is lower

Mechanical (mm)



Recommended Land Pattern (mm)



SMD POWER INDUCTORS

Shielded Drum Core – FRH3D28 Series

Features

- Excellent solderability and heat resistance

Application

- Inductors for DVC, DSC,PC,Printer,Display Monitor, Game Machine,TV

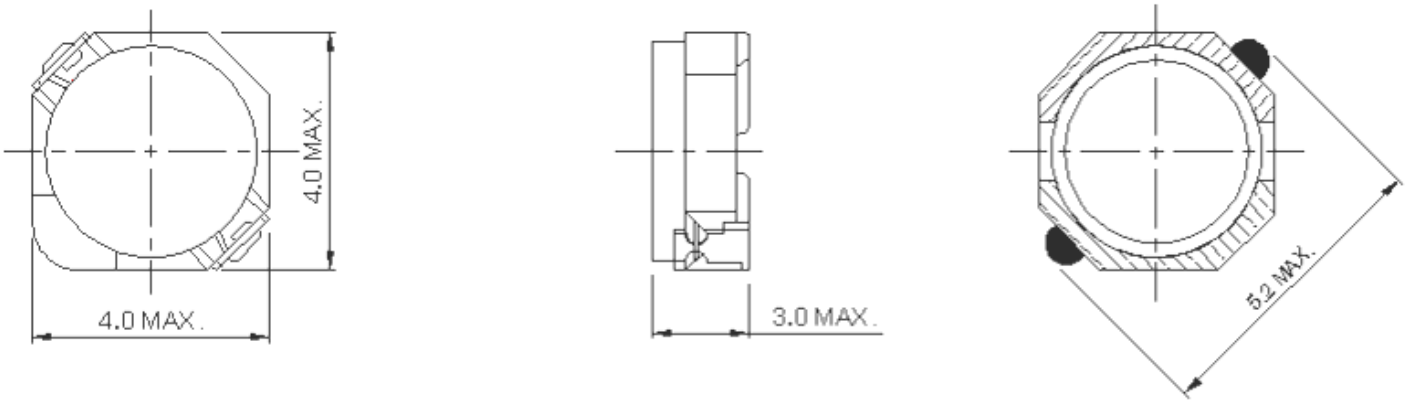
Electrical Specifications @25℃

Ordering Code	Indicate	Inductance @100kHz (μH)	D.C.R. (Ω Max.)	Rated current (Max.) [2] (A)
FRH3D28-3R3	3R3	3.3±30%	0.090	2.00
FRH3D28-4R7	4R7	4.7±30%	0.125	1.65
FRH3D28-6R8	6R8	6.8±30%	0.145	1.25
FRH3D28-100	100	10.0±25%	0.160	1.05
FRH3D28-120	120	12.0±25%	0.280	0.90
FRH3D28-220	220	22.0±25%	0.335	0.80
FRH3D28-330	330	33.0±25%	0.480	0.65
FRH3D28-470	470	47.0±25%	0.600	0.50
FRH3D28-101	101	100.0±20%	1.140	0.45

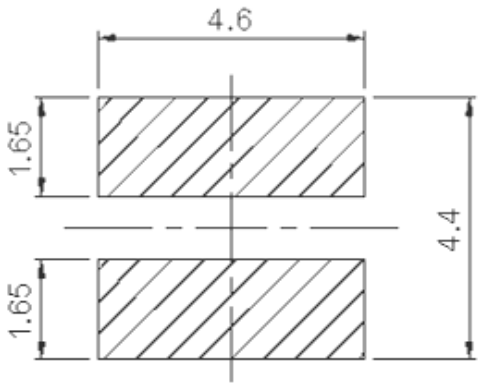
1. Operating Temperature: -40℃~+125℃(Includes temperature when the coil is heated)

2. Rated Current: DC current which causes the inductance to drop 30% from the nominal value or DC current which causes the coil temperature rise 40℃(Ta=20℃) whichever is lower

Mechanical (mm)



Recommended Land Pattern (mm)



SMD POWER INDUCTORS

Shielded Drum Core – FRH3D28A Series

Features

- Excellent solderability and heat resistance

Application

- Inductors for DVC, DSC,PC,Printer,Display Monitor, Game Machine,TV

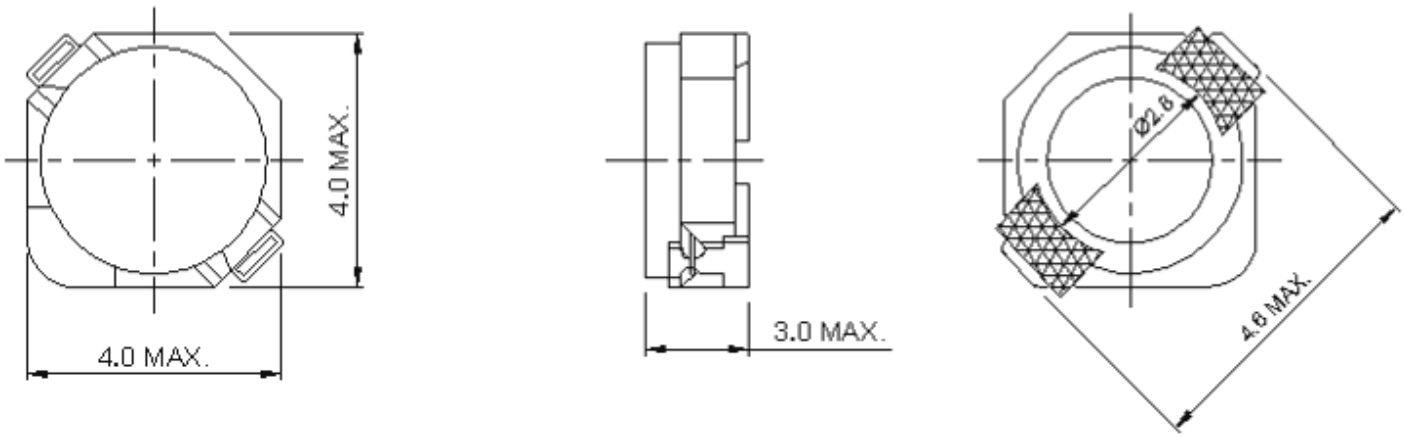
Electrical Specifications @25℃

Ordering Code	Indicate	Inductance @100kHz (μH)	D.C.R. (Ω Max.)	Rated current (Max.) [2] (A)
FRH3D28A-3R3	3R3	3.3±30%	0.090	2.00
FRH3D28A-4R7	4R7	4.7±30%	0.125	1.65
FRH3D28A-6R8	6R8	6.8±30%	0.145	1.25
FRH3D28A-100	100	10.0±25%	0.160	1.05
FRH3D28A-120	120	12.0±25%	0.280	0.90
FRH3D28A-220	220	22.0±25%	0.335	0.80
FRH3D28A-330	330	33.0±25%	0.480	0.65
FRH3D28A-470	470	47.0±25%	0.600	0.50
FRH3D28A-101	101	100.0±20%	1.140	0.45

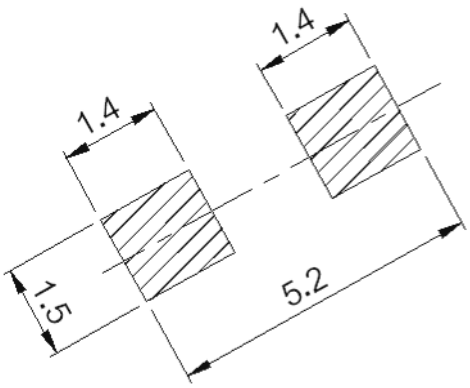
1. Operating Temperature: -40℃~+125℃(Includes temperature when the coil is heated)

2. Rated Current: DC current which causes the inductance to drop 30% from the nominal value or DC current which causes the coil temperature rise 40℃(Ta=20℃) whichever is lower

Mechanical (mm)



Recommended Land Pattern (mm)



SMD POWER INDUCTORS

Shielded Drum Core – FRH4D18 Series

Features

- Excellent solderability and heat resistance

Application

- Inductors for DVC, DSC,PC,Printer,Display Monitor, Game Machine,TV

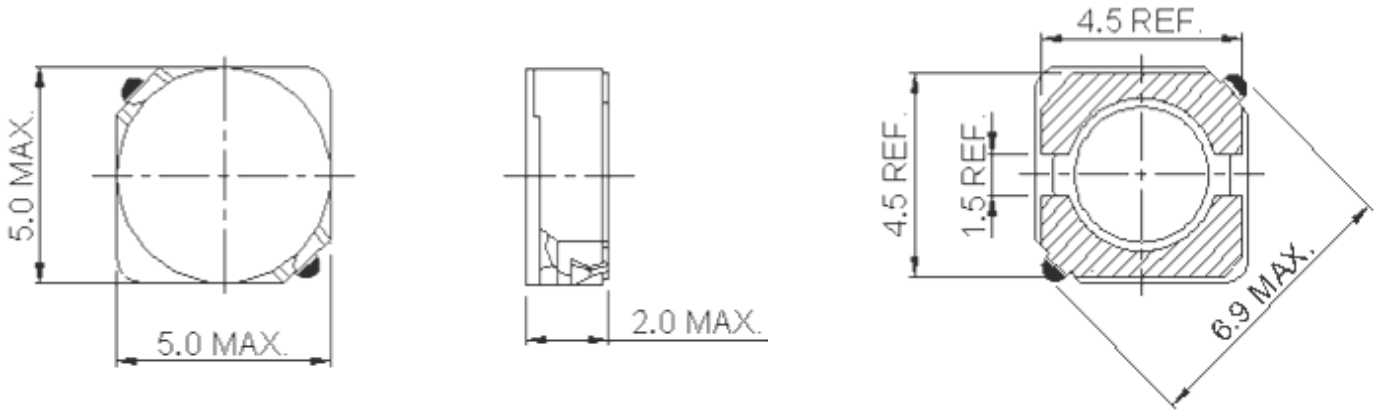
Electrical Specifications @25℃

Ordering Code	Indicate	Inductance @100kHz (μH)	D.C.R. (Ω Max.)	Rated current (Max.) [2] (A)
FRH4D18-1R0	1R0	1.0±30%	0.045	3.20
FRH4D18-2R2	2R2	2.0±30%	0.075	2.00
FRH4D18-2R7	2R7	2.7±30%	0.100	1.80
FRH4D18-3R3	3R3	3.3±30%	0.105	1.60
FRH4D18-3R9	3R9	3.9±30%	0.150	1.50
FRH4D18-4R7	4R7	4.7±30%	0.155	1.40
FRH4D18-5R6	5R6	5.6±30%	0.165	1.20
FRH4D18-6R8	6R8	6.8±30%	0.195	1.10
FRH4D18-8R2	8R2	8.2±30%	0.240	1.05
FRH4D18-100	100	10.0±25%	0.190	1.00
FRH4D18-120	120	12.0±25%	0.205	0.90
FRH4D18-150	150	15.0±25%	0.230	0.80
FRH4D18-180	180	18.0±25%	0.325	0.75
FRH4D18-220	220	22.0±25%	0.380	0.70
FRH4D18-270	270	27.0±25%	0.425	0.60
FRH4D18-330	330	33.0±25%	0.670	0.55
FRH4D18-390	390	39.0±25%	0.680	0.50
FRH4D18-470	470	47.0±25%	0.890	0.45
FRH4D18-560	560	56.0±25%	1.040	0.40
FRH4D18-680	680	68.0±25%	1.250	0.30
FRH4D18-820	820	82.0±25%	1.500	0.30
FRH4D18-101	101	100.0±20%	1.660	0.25
FRH4D18-121	121	120.0±20%	2.300	0.25
FRH4D18-151	151	150.0±20%	2.560	0.25
FRH4D18-181	181	180.0±20%	4.000	0.15
FRH4D18-221	221	220.0±20%	4.300	0.15

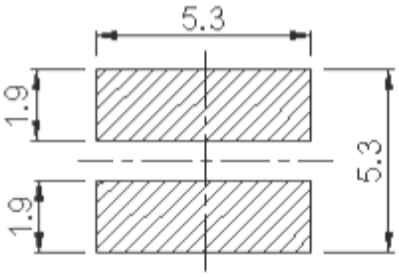
1. Operating Temperature: -40℃~+125℃(Includes temperature when the coil is heated)

2. Rated Current: DC current which causes the inductance to drop 30% from the nominal value or DC current which causes the coil temperature rise 40℃(Ta=20℃) whichever is lower

Mechanical (mm)



Recommended Land Pattern (mm)



SMD POWER INDUCTORS

Shielded Drum Core – FRH4D28 Series

Features

- Excellent solderability and heat resistance

Application

- Inductors for DVC, DSC,PC,Printer,Display Monitor, Game Machine,TV

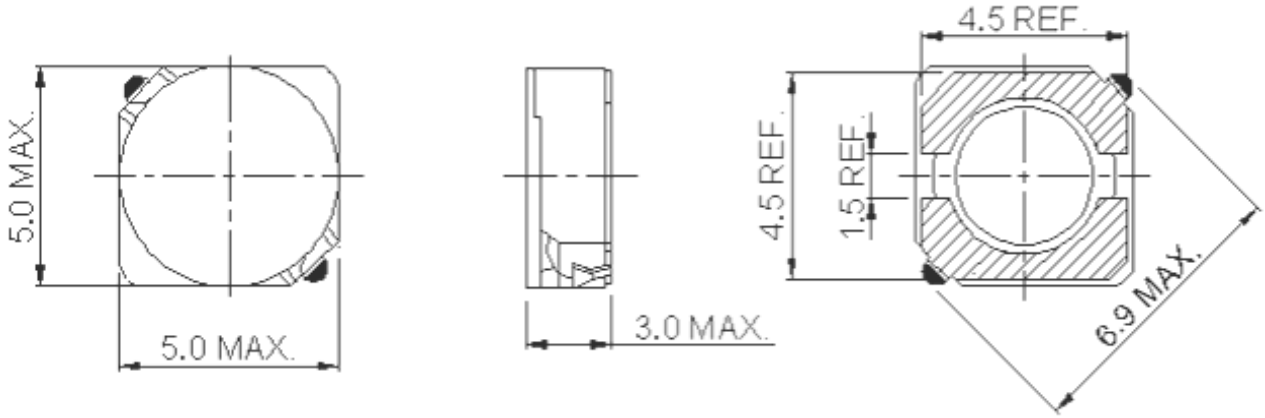
Electrical Specifications @25℃

Ordering Code	Indicate	Inductance @100kHz (μH)	D.C.R. (Ω Max.)	Rated current (Max.) [2] (A)
FRH4D28-1R8	1R8	1.8±30%	0.030	2.20
FRH4D28-2R2	2R2	2.2±30%	0.040	2.00
FRH4D28-2R7	2R7	2.7±30%	0.045	1.80
FRH4D28-3R3	3R3	3.3±30%	0.050	1.70
FRH4D28-3R9	3R9	3.9±30%	0.065	1.60
FRH4D28-4R7	4R7	4.7±30%	0.075	1.50
FRH4D28-5R6	5R6	5.6±30%	0.100	1.40
FRH4D28-6R8	6R8	6.8±30%	0.110	1.30
FRH4D28-8R2	8R2	8.2±30%	0.120	1.20
FRH4D28-100	100	10.0±25%	0.130	1.15
FRH4D28-120	120	12.0±25%	0.130	1.00
FRH4D28-150	150	15.0±25%	0.150	0.90
FRH4D28-180	180	18.0±25%	0.165	0.85
FRH4D28-220	220	22.0±25%	0.235	0.80
FRH4D28-270	270	27.0±25%	0.260	0.75
FRH4D28-330	330	33.0±25%	0.330	0.70
FRH4D28-390	390	39.0±25%	0.385	0.65
FRH4D28-470	470	47.0±25%	0.585	0.60
FRH4D28-560	560	56.0±25%	0.625	0.55
FRH4D28-680	680	68.0±25%	0.700	0.50
FRH4D28-820	820	82.0±25%	0.915	0.45
FRH4D28-101	101	100.0±20%	0.995	0.40
FRH4D28-121	121	120.0±20%	1.270	0.40
FRH4D28-151	151	150.0±20%	1.350	0.30
FRH4D28-181	181	180.0±20%	1.540	0.28
FRH4D28-221	221	220.0±20%	2.000	0.25
FRH4D28-331	331	330.0±20%	2.640	0.25
FRH4D28-471	471	470.0±20%	4.910	0.20
FRH4D28-681	681	680.0±20%	6.000	0.15
FRH4D28-102	102	1000.0±20%	10.300	0.10

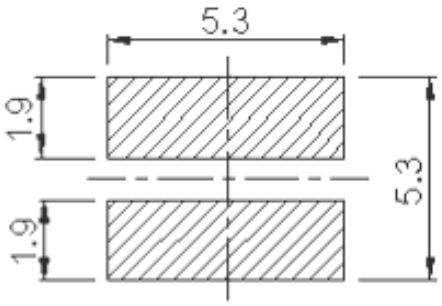
1. Operating Temperature: -40℃~+125℃(Includes temperature when the coil is heated)

2. Rated Current: DC current which causes the inductance to drop 30% from the nominal value or DC current which causes the coil temperature rise 40℃(Ta=20℃) whichever is lower

Mechanical



Recommended Land Pattern (mm)



SMD POWER INDUCTORS

Shielded Drum Core – FRH5D12 Series

Features

- Excellent solderability and heat resistance

Application

- Inductors for DVC, DSC,PC,Printer,Display Monitor, Game Machine,TV

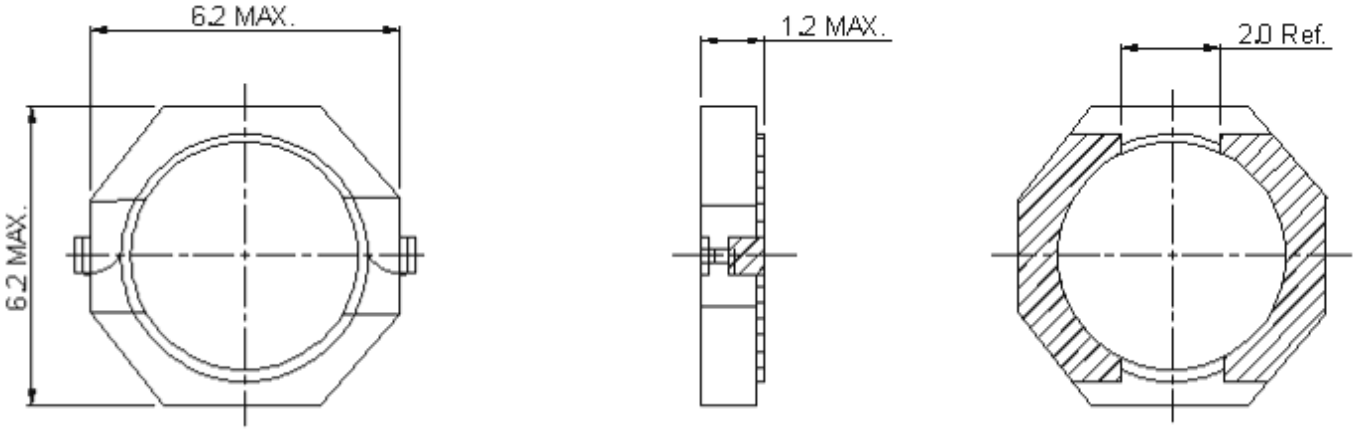
Electrical Specifications @25℃

Ordering Code	Indicate	Inductance @100kHz (μH)	D.C.R. (Ω Max.)	Rated current (Max.) [2] (A)
FRH5D12-3R3	3R3	3.3±30%	0.120	2.30
FRH5D12-4R7	4R7	4.7±30%	0.175	1.80
FRH5D12-6R8	6R8	6.8±30%	0.310	1.50
FRH5D12-100	100	10.0±25%	0.360	1.10

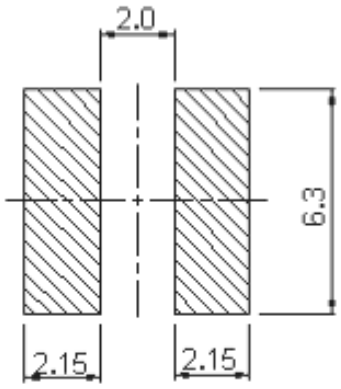
1. Operating Temperature: -40℃~+125℃(Includes temperature when the coil is heated)

2. Rated Current: DC current which causes the inductance to drop 30% from the nominal value or DC current which causes the coil temperature rise 40℃(Ta=20℃) whichever is lower

Mechanical (mm)



Recommended Land Pattern (mm)



SMD POWER INDUCTORS

Shielded Drum Core – FRH6D18 Series

Features

- Excellent solderability and heat resistance

Application

- Inductors for DVC, DSC,PC,Printer,Display Monitor, Game Machine,TV

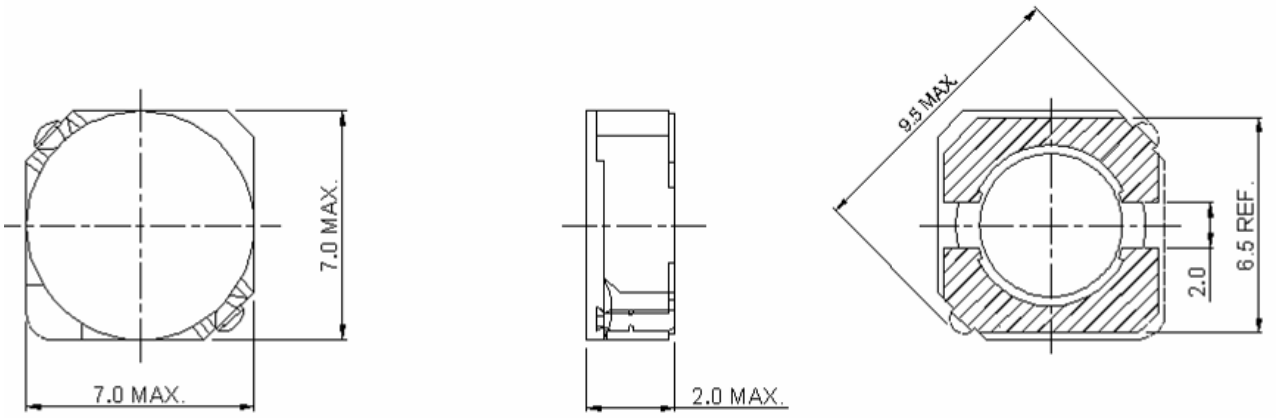
Electrical Specifications @25℃

Ordering Code	Indicate	Inductance @100kHz (μH)	D.C.R. (Ω Max.)	Rated current (Max.) [2] (A)
FRH6D18-1R2	1R2	1.2±30%	0.040	3.00
FRH6D18-1R8	1R8	1.8±30%	0.050	2.90
FRH6D18-2R5	2R5	2.5±30%	0.060	2.80
FRH6D18-3R3	3R3	3.3±30%	0.070	2.70
FRH6D18-4R2	4R2	4.2±30%	0.080	2.60
FRH6D18-5R0	5R0	5.0±30%	0.085	2.40
FRH6D18-6R8	6R8	6.8±30%	0.105	1.80
FRH6D18-7R5	7R5	7.5±30%	0.140	1.70
FRH6D18-100	100	10.0±25%	0.165	1.60
FRH6D18-150	150	15.0±25%	0.300	1.50
FRH6D18-180	180	18.0±25%	0.320	1.30
FRH6D18-220	220	22.0±25%	0.400	1.20
FRH6D18-330	330	33.0±25%	0.600	1.00
FRH6D18-470	470	47.0±25%	0.700	0.80
FRH6D18-680	680	68.0±25%	1.100	0.70
FRH6D18-101	101	100.0±20%	1.800	0.60

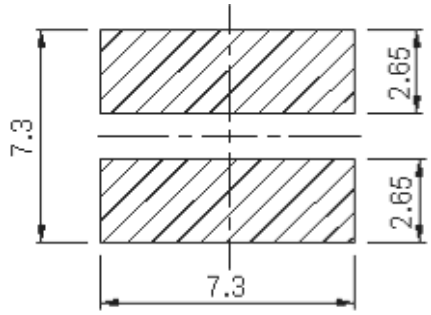
1. Operating Temperature: -40℃~+125℃(Includes temperature when the coil is heated)

2. Rated Current: DC current which causes the inductance to drop 30% from the nominal value or DC current which causes the coil temperature rise 40℃(Ta=20℃) whichever is lower

Mechanical (mm)



Recommended Land Pattern (mm)



SMD POWER INDUCTORS

Shielded Drum Core – FRH7D15 Series

Features

- Excellent solderability and heat resistance

Application

- Inductors for DVC, DSC,PC,Printer,Display Monitor, Game Machine,TV

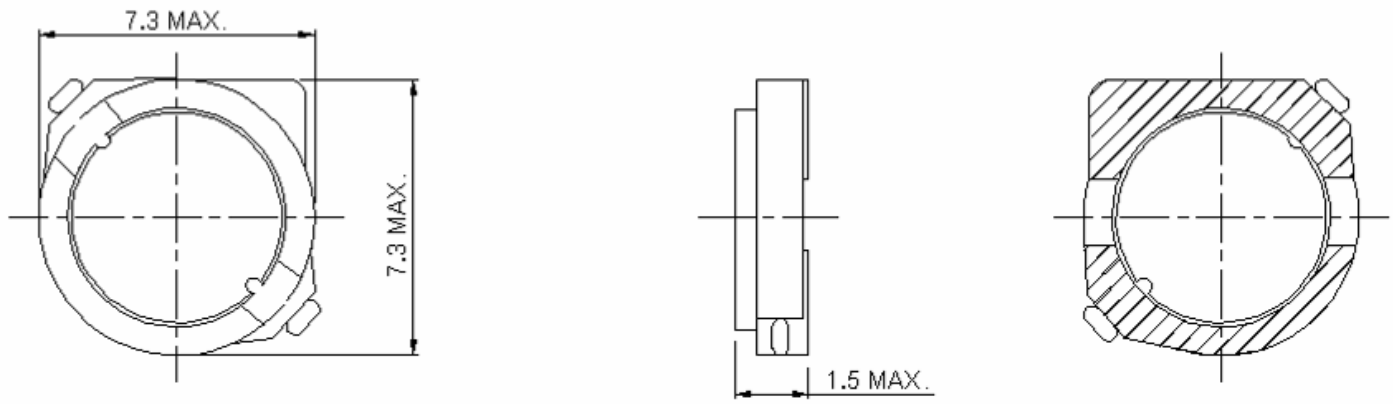
Electrical Specifications @25℃

Ordering Code	Indicate	Inductance @100kHz (μH)	D.C.R. (Ω Max.)	Rated current (Max.) [2] (A)
FRH7D15-2R2	2R2	2.2±30%	0.055	3.40
FRH7D15-3R3	3R3	3.3±30%	0.070	2.70
FRH7D15-4R7	4R7	4.7±30%	0.095	2.20
FRH7D15-6R8	6R8	6.8±30%	0.140	1.80
FRH7D15-100	100	10.0±25%	0.150	1.60
FRH7D15-110	110	11.0±25%	0.210	1.55
FRH7D15-120	120	12.0±25%	0.225	1.50
FRH7D15-150	150	15.0±25%	0.300	1.20
FRH7D15-220	220	22.0±25%	0.390	1.00
FRH7D15-330	330	33.0±25%	0.500	0.90

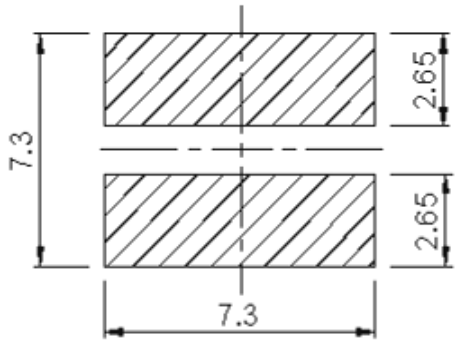
1. Operating Temperature: -40℃~+125℃(Includes temperature when the coil is heated)

2. Rated Current: DC current which causes the inductance to drop 30% from the nominal value or DC current which causes the coil temperature rise 40℃(Ta=20℃) whichever is lower

Mechanical (mm)



Recommended Land Pattern (mm)



SMD POWER INDUCTORS

Shielded Drum Core – FRH10D15 Series

Features

- Excellent solderability and heat resistance

Application

- Inductors for DVC, DSC,PC,Printer,Display Monitor, Game Machine,TV

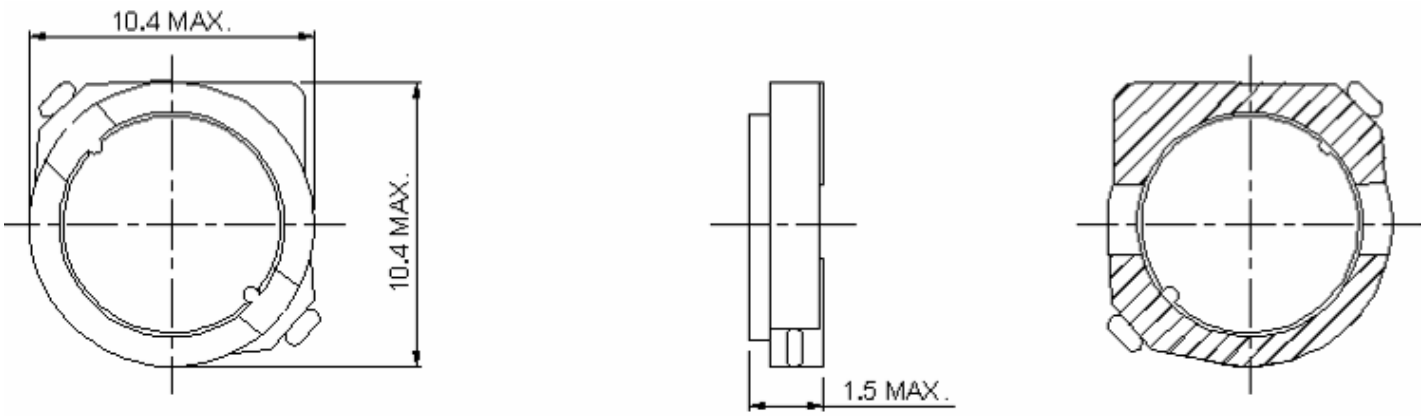
Electrical Specifications @25℃

Ordering Code	Indicate	Inductance @100kHz (μH)	D.C.R. (Ω Max.)	Rated current (Max.) [2] (A)
FRH10D15-3R3	3R3	3.3±30%	0.075	3.70
FRH10D15-4R7	4R7	4.7±30%	0.085	3.60
FRH10D15-6R8	6R8	6.8±30%	0.125	2.80
FRH10D15-100	100	10.0±25%	0.180	2.00
FRH10D15-120	120	12.0±25%	0.205	1.90
FRH10D15-150	150	15.0±25%	0.235	1.80
FRH10D15-180	180	18.0±25%	0.260	1.70
FRH10D15-220	220	22.0±25%	0.350	1.45
FRH10D15-270	270	27.0±25%	0.380	1.40
FRH10D15-330	330	33.0±25%	0.455	1.30
FRH10D15-390	390	39.0±25%	0.585	1.10
FRH10D15-470	470	47.0±25%	0.650	1.05

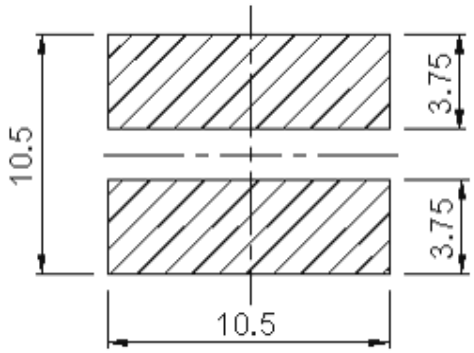
1. Operating Temperature: -40℃~+125℃(Includes temperature when the coil is heated)

2. Rated Current: DC current which causes the inductance to drop 30% from the nominal value or DC current which causes the coil temperature rise 40℃(Ta=20℃) whichever is lower

Mechanical (mm)



Recommended Land Pattern (mm)



SMD POWER INDUCTORS

Shielded Drum Core – FRH6012 Series

Features

- Excellent solderability and heat resistance

Application

- Inductors for DVC, DSC,PC,Printer,Display Monitor, Game Machine,TV

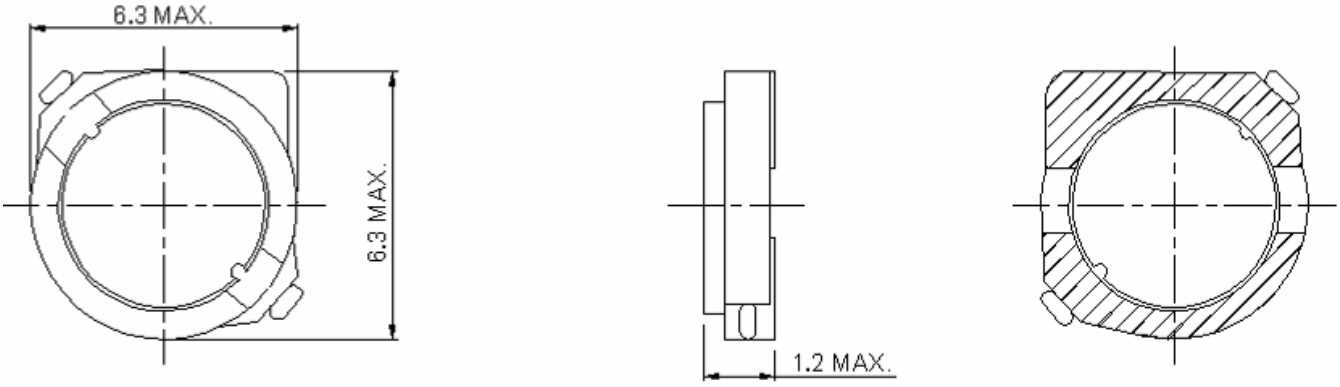
Electrical Specifications @25℃

Ordering Code	Indicate	Inductance @100kHz (μH)	D.C.R. (Ω Max.)	Rated current (Max.) [2] (A)
FRH6012-1R0	1R0	1.0±30%	0.060	3.40
FRH6012-3R3	3R3	3.3±30%	0.155	2.00
FRH6012-4R7	4R7	4.7±30%	0.180	1.70
FRH6012-6R8	6R8	6.8±30%	0.230	1.40
FRH6012-8R2	8R2	8.2±30%	0.280	1.30
FRH6012-100	100	10.0±25%	0.310	1.10
FRH6012-120	120	12.0±25%	0.450	1.00
FRH6012-150	150	15.0±25%	0.480	0.90
FRH6012-180	180	18.0±25%	0.660	0.80
FRH6012-220	220	22.0±25%	0.750	0.75
FRH6012-270	270	27.0±25%	0.820	0.70
FRH6012-330	330	33.0±25%	1.200	0.65
FRH6012-470	470	47.0±25%	1.405	0.55
FRH6012-560	560	56.0±25%	1.915	0.45
FRH6012-680	680	68.0±25%	2.100	0.40

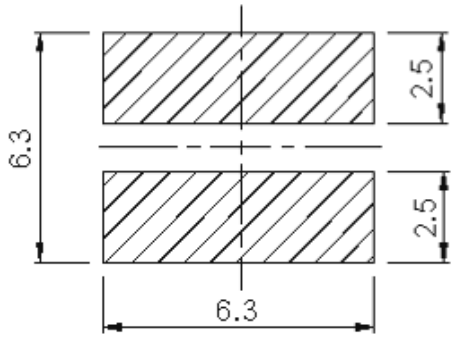
1. Operating Temperature: -40℃~+125℃(Includes temperature when the coil is heated)

2. Rated Current: DC current which causes the inductance to drop 30% from the nominal value or DC current which causes the coil temperature rise 40℃(Ta=20℃) whichever is lower

Mechanical (mm)



Recommended Land Pattern (mm)



LAMINATED TRANSFORMES

Toroidal Series

Features

- Operating frequency 50Hz/60Hz
- High efficiency and low loss
- Custom designs available

Applications

- Toroidal transformer for Amplifier power transformer

Electrical Specifications @25℃

Ordering Code	Fig.	Input Voltage (Vac)	Frequency (Hz)	Output Voltage (Vac)		Output Power(W)
2Y82BA80	1	100V	50/60Hz	40.0V*2/3A	N/A	240W
2Y93BM40	2	220V	50/60Hz	39.9V*2/4A	12.0V*2/1A	343W
2Y93BM30	2	220V	50/60Hz	39.9V*2/8A	12.0V*2/1A	662W

Mechanical

Fig. 1

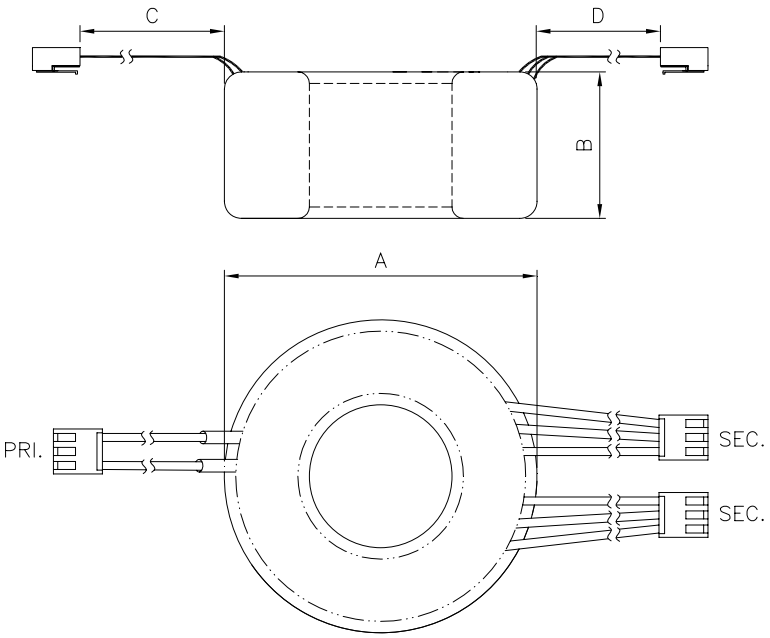
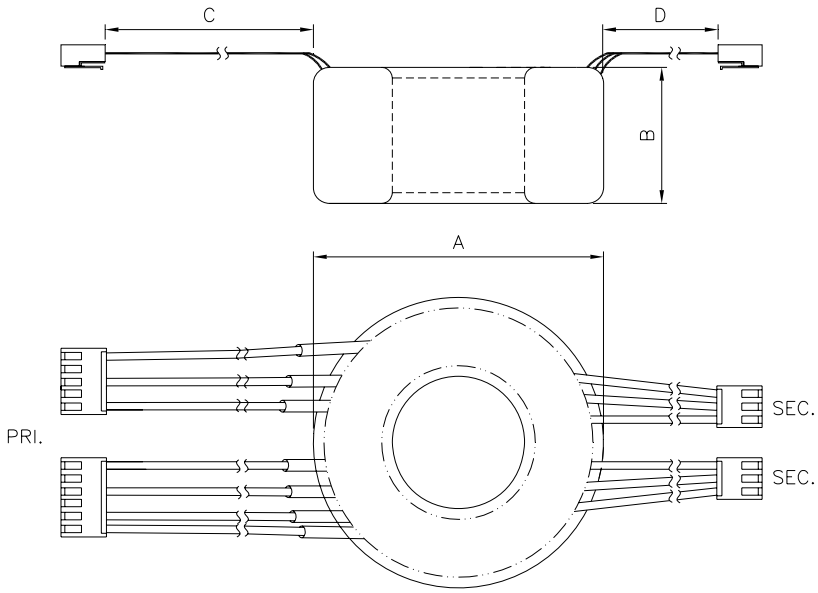


Fig. 2

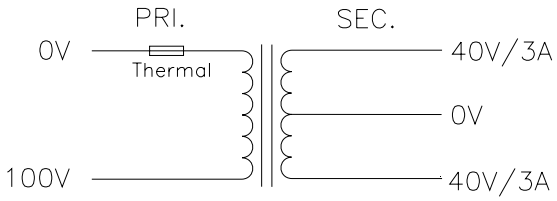


Dimension (mm)

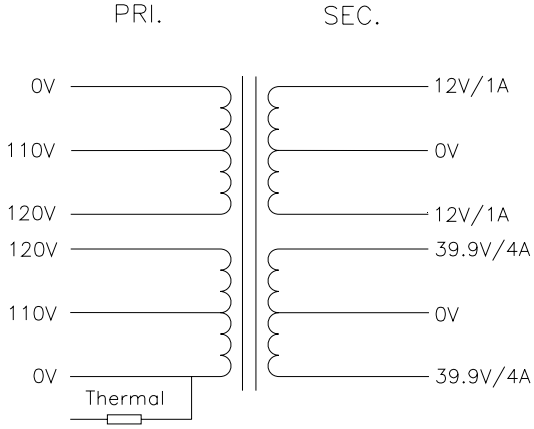
Ordering Code	Fig.	A (Max.)	B (Max.)	C (Nom.)	D (Nom.)
2Y82BA80	1	118	72	120	90
2Y93BM40	2	126	86	300	160
2Y93BM30	2	143	86	300	160

Schematic

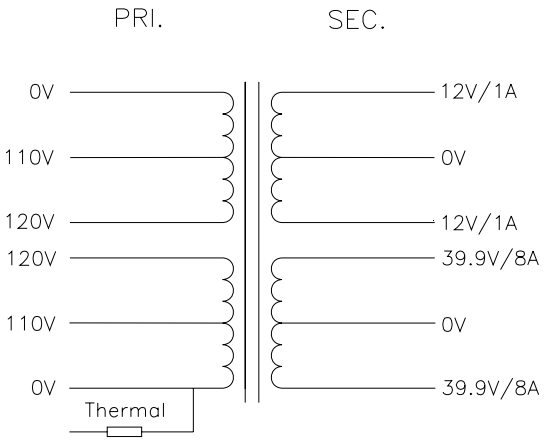
2Y82BA80



2Y93BM40



2Y93BM30


PRI.
SEC.
0V
110V
120V
120V
110V
0V
Thermal
12V/1A
0V
12V/1A
39.9V/8A
0V
39.9V/8A