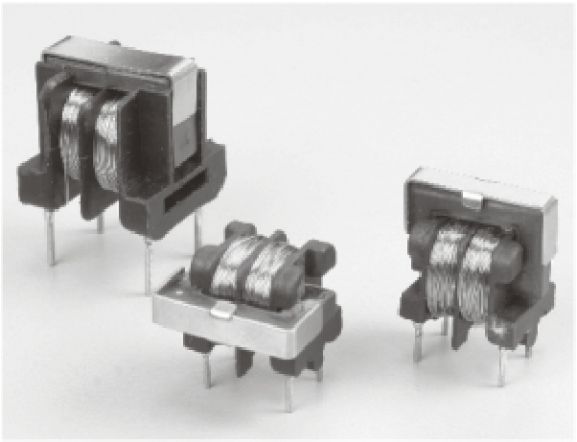
Common Mode Chokes - UU9.8 & UU10.5 Series



These low cost, high performance chokes are designed to virtually eliminate line conducted common mode noise.

The UU9.8 and UU10.5 families are ideal for signal line applications; the others can be used in switching power supplies and power supply circuits. All provide significant attenuation of common mode noise across a broad range of frequencies.

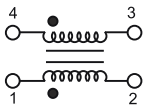
For height - restricted applications, the UU9.8 filters are available in a horizontal configuration, which reduces their height to under 13 mm.

Order Code	Core Mounting	Inductance mH (Min)	Current Rating mA (steady state)	Leakage Inductance uH (Typical)	DC Resistance Ohms (Max)
UU9.8 Series					
MCU 0001	Horizontal	2.2	350	40	0.375
MCU 0002	Vertical	2.2	350	40	0.375
MCU 0003	Horizontal	3.9	290	70	0.625
MCU 0004	Vertical	3.9	290	70	0.625
MCU 0005	Horizontal	5.6	250	100	0.90
MCU 0006	Vertical	5.6	250	100	0.90
MCU 0007	Horizontal	8.2	250	133	1.10
MCU 0008	Vertical	8.2	250	133	1.10
MCU 0009	Horizontal	9.1	175	160	1.60
MCU 0010	Vertical	9.1	175	160	1.60
MCU 0011	Horizontal	15.0	150	300	2.75
MCU 0012	Vertical	15.0	150	300	2.75
MCU 0013	Horizontal	22	150	355	2.98
MCU 0014	Vertical	22	150	355	2.98
MCU 0015	Horizontal	30.0	120	525	4.5
MCU 0016	Vertical	30.0	120	525	4.5
MCU 0017	Horizontal	36.0	85	625	6.0
MCU 0018	Vertical	36.0	85	625	6.0
UU10.5 Series					
MCU 0019	Vertical	0.750	1.20	15	0.125
MCU 0020	Vertical	1.5	1.00	25	0.150
MCU 0021	Vertical	2.2	0.750	40	0.225
MCU 0022	Vertical	3.0	0.600	55	0.350
MCU 0023	Vertical	5.6	0.500	105	0.575
MCU 0024	Vertical	8.2	0.400	150	0.870
MCU 0025	Vertical	12.0	0.300	240	1.500
MCU 0026	Vertical	22.0	0.250	330	2.250
MCU 0027	Vertical	39.0	0.200	700	3.200
MCU 0028	Vertical	47.0	0.175	800	4.100

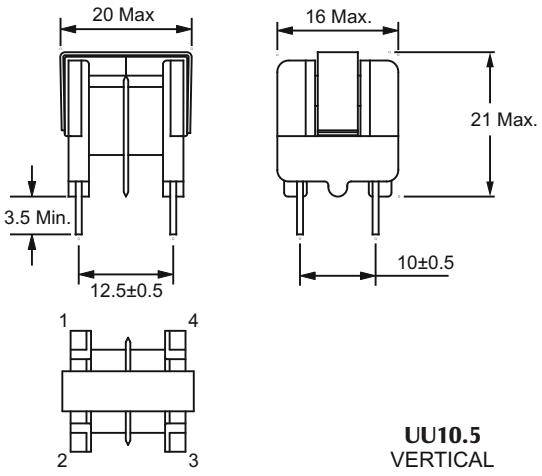
Isolation: (at 50 Hz / 4 mA for 1 minute)
Between Windings: 1500 V AC
Between Windings & Core: 1500 V AC

Insulation Resistance: >100 MOhms at 500 V DC

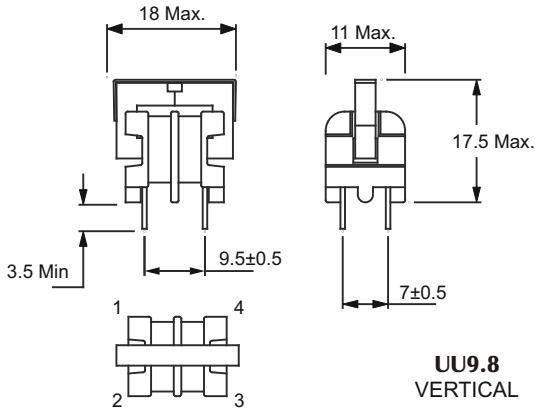
Schematic Diagram:



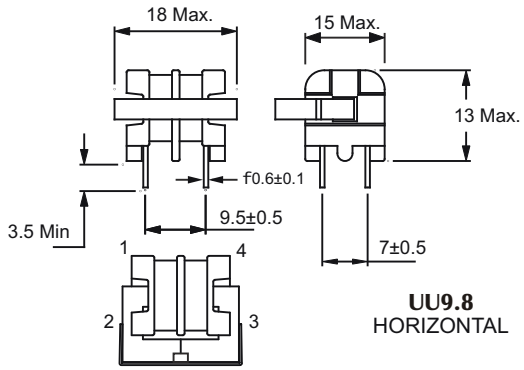
Mechanical Details: (All dimensions in mm) Not to scale



UU10.5
VERTICAL



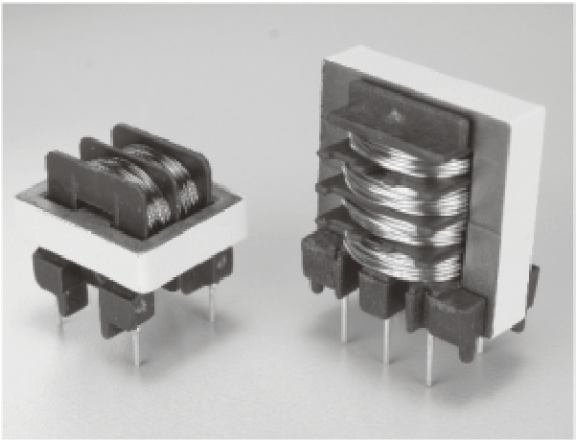
UU9.8
VERTICAL



UU9.8
HORIZONTAL

No. 65/2, Kamakshipalya Industrial Estate, Magadi Main Road, Bangalore 560 079. (India) Ph : +91-80-23485149 Fax : +91-80-23480882 E-mail : miracle@vsnl.com URL : www.toroidal.com

Common Mode Chokes - EE2506 & EE3007 Series



- Low Cost .
- 3kv isolation between windings.
- Constructed with UL approved Class 130°C insulation.
- Industry standard EE25 & EE30 sizes.
- Wide range of available inductances and current ratings

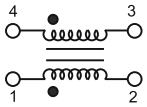
Common mode chokes are used to reduce AC line conducted interference produced by switching power supplies. This configuration produces opposing magnetic fluxes in the core that serve to cancel in - phase noise signals appearing across the AC line.

Order Code	Core Mounting	Inductance mH (Min)	Current Rating Amps (steady state)	Leakage Inductance uH (Typical)	DC Resistance Ohms (Max)
EE2506					
MCE 0001	Horizontal	0.570	4.0	8	0.025
MCE 0002	Vertical	0.570	4.0	8	0.025
MCE 0003	Horizontal	1.0	3.0	15	0.050
MCE 0004	Vertical	1.0	3.0	15	0.050
MCE 0005	Horizontal	2.2	2.5	30	0.095
MCE 0006	Vertical	2.2	2.5	30	0.095
MCE 0007	Horizontal	4.7	1.75	55	0.160
MCE 0008	Vertical	4.7	1.75	55	0.160
MCE 0009	Horizontal	8.2	1.5	90	0.250
MCE 0010	Vertical	8.2	1.5	90	0.250
MCE 0011	Horizontal	10	1.2	125	0.340
MCE 0012	Vertical	10	1.2	125	0.340
MCE 0013	Horizontal	15	1.0	175	0.450
MCE 0014	Vertical	15	1.0	175	0.450
MCE 0015	Horizontal	22	0.750	265	0.765
MCE 0016	Vertical	22	0.750	265	0.765
MCE 0017	Horizontal	33	0.550	400	1.450
MCE 0018	Vertical	33	0.550	400	1.450
MCE 0019	Horizontal	47	0.450	520	1.90
MCE 0020	Vertical	47	0.450	520	1.90
EE3007					
MCE 0021	Vertical	0.680	5.0	16	0.025
MCE 0022	Vertical	1.2	4.0	27	0.040
MCE 0023	Vertical	2.2	3.0	47	0.085
MCE 0024	Vertical	3.3	2.5	90	0.135
MCE 0025	Vertical	8.2	1.75	180	0.260
MCE 0026	Vertical	12	1.50	230	0.330
MCE 0027	Vertical	18	1.20	375	0.500
MCE 0028	Vertical	22	1.2	450	0.550
MCE 0029	Vertical	27	1.0	575	0.700
MCE 0030	Vertical	47	0.75	930	1.250

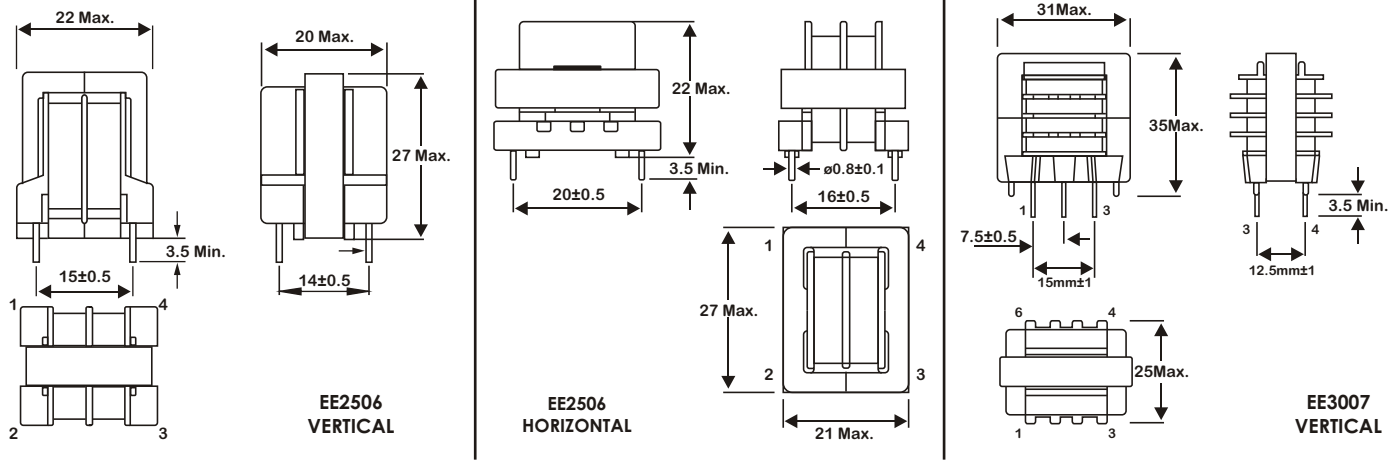
Isolation: (at 50 Hz / 4 mA for 1 minute)
Between Windings: 3000 V AC
Between Windings & Core: 1500 V AC

Insulation Resistance: >100 MOhms at 500 V DC

Schematic Diagram:

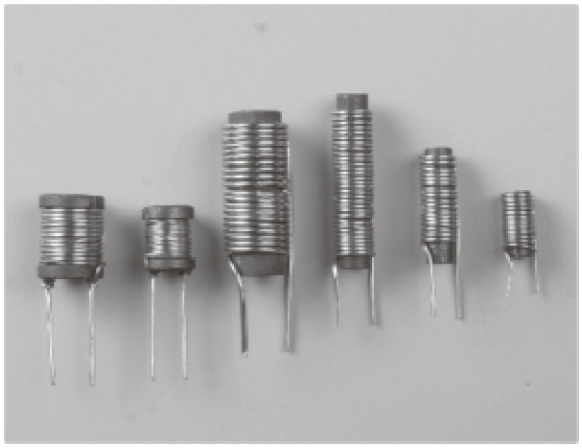


Mechanical Details: (All dimensions in mm) Not to scale



No. 65/2, Kamakshipalya Industrial Estate, Magadi Main Road, Bangalore 560 079. (India) Ph : +91-80-23485149 Fax : +91-80-23480882 E-mail : miracle@vsnl.com URL : www.toroidal.com

Drum Core Chokes & Rod Core Chokes



Description :

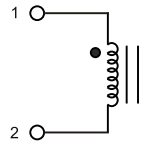
- Low Cost magnetic components for custom specifications.
- Power range from 1 Watt to 120 Watts.
- Frequency range from 20kHz to .5MHz.
- High power density and low radiated noise.
- Meets UL 94V - 0 flammability standard.
- RoHS compliant (-R option).

Applications

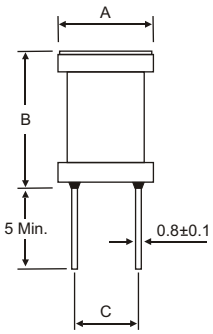
- Inductors : buck, boost, coupled, choke, filter, resonant, Noise filtering, differential, forward, common mode
- Transformers : flyback, feed forward, push-pull, multiple output, inverter, set-up, step-down, gate drive, base drive, wide band, pulse, control, impedance, isolation, bridging, ringer, converter, auto.

Drum Core Size	Part Number	Inductance @ 1 kHz / 0.3 V	DC Resistance Max. (@ 20°C)	Rated Current (rms)	Isat
Drum Core Chokes					
	MID 0001	3.3 uH±20%	25 m Ohms	1.0 A	2.5 A
	MID 0002	10 uH±20%	60 m Ohms	1.0 A	1.5 A
6 x 8	MID 0003	15 uH±20%	110 m Ohms	0.5 A	1.0 A
	MID 0004	200 uH±20%	900 m Ohms	100 mA	300 mA
	MID 0005	800 uH±20%	3.3 Ohms	150 mA	170 mA
8 x 12	MID 0006	10 uH±20%	15 m Ohms	2.9 A	2.9 A
	MID 0007	33 uH±20%	45 m Ohms	1.5 A	1.5 A
	MID 0008	120 uH±20%	140 m Ohms	850 mA	850 mA
	MID 0009	170 uH±20%	310 m Ohms	350 mA	800 mA
	MID 0010	330 uH±20%	475 m Ohms	400 mA	500 mA
10 x 12	MID 0011	525 uH±20%	575 m Ohms	425 mA	425 mA
	MID 0012	1 mH±20%	1.3 Ohms	250 mA	250 mA
	MID 0013	1.5 mH±20%	1.5 Ohms	250 mA	250 mA
	MID 0014	2.2 mH±20%	3 Ohms	100 mA	200 mA
	MID 0015	3.3 mH±20%	3.75 Ohms	100 mA	100 mA
	MID 0016	4.6 mH±20%	5 Ohms	100 mA	100 mA
	MID 0017	3 uH±20%	5.5 m Ohms	6 A	8 A
12 x 15	MID 0018	47 uH±20%	75 m Ohms	1.5 A	2.5 A
	MID 0019	120 uH±20%	110 m Ohms	1.6 A	1.6 A
Rod Core Chokes					
Rod Core Size					
5 x 12	MIR 0001	3.3 uH±20%	20 mOhms	1.5 A	
	MIR 0002	1 uH±20%	3.5 mOhms	5 A	
	MIR 0003	3.3 uH±20%	13 mOhms	3 A	
5 x 20	MIR 0004	3.3 uH±20%	7 mOhms	6 A	
	MIR 0005	7.5 uH±20%	30 mOhms	1.5 A	
6 x 32	MIR 0006	5.6 uH±20%	8.0 mOhms	8 A	
10 x 30	MIR 0007	5.0 uH±30%	6 mOhms	10 A	

Schematic Diagram:



Drum Core Chokes



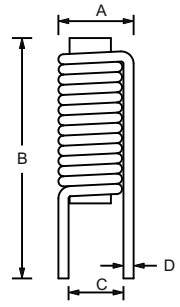
Core Size	6 x 8	8 x 12	10 x 12	12 x 15
A max	7	9	11	13
B max	8	14	14	16
C Typ	3*	3.5	6	9*

Dimensions in mm. Not to Scale

Note :
- Inductance value is 90% of initial value at Isat.
- Drum Chokes are available without pins in thicker winding sizes (indicated with*)
- Drum Chokes can be encapsulated, covered with Insulation Tape or Heat Shrink Sleeve on request.

Rod Core Chokes

Part No.	A max	B min	C	D with size +0.20 -0.00
MIR 0001	8.0	20.0	7.5±1.5	0.70
MIR 0002	10.0	25.0	10.0±1.5	1.20
MIR 0003	9.0	25.0	10.0±1.5	0.90
MIR 0004	10.0	25.0	7.5±1.5	1.20
MIR 0005	8.0	20.0	12.5±2.0	0.70
MIR 0006	12.0	40.0	10.0±2.0	1.30
MIR 0007	15.0	35.0	12.5±2.0	1.80



Note:
- Mechanical dimensions vary with core and wire size.
- Rod Chokes can be covered with Heat Shrink Sleeve on request.

No. 65/2, Kamakshipalya Industrial Estate, Magadi Main Road, Bangalore 560 079. (India) Ph : +91-80-23485149 Fax : +91-80-23480882 E-mail : miracle@vsnl.com URL : www.toroidal.com

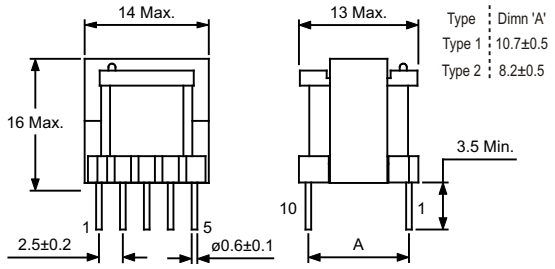
Standard Geometries for Ferrite Core Transformers & Chokes

NOTE

- The geometries shown does not represent our entire range
- Geometries not listed here can be supplied, subject to the availability of cores and bobbins.
- We recommend the above geometries for shortest development and delivery time
- Non - Standard Bobbins may be developed subject to conditions.
- Detailed specifications are available on request.

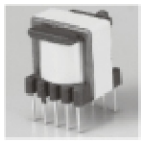
EE1306

10 PIN VERTICAL BOBBIN



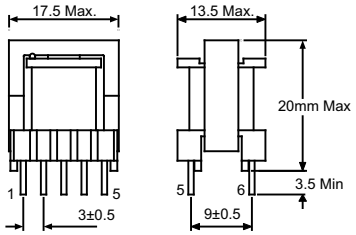
Winding Width: 7.5 mm
Core Ae: 22.4 sq.mm

Winding Height: 2.1 mm
Core Le: 29.6 mm

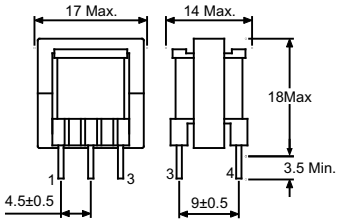


EE1605

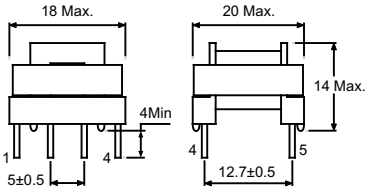
10 PIN VERTICAL BOBBIN



6 PIN VERTICAL BOBBIN



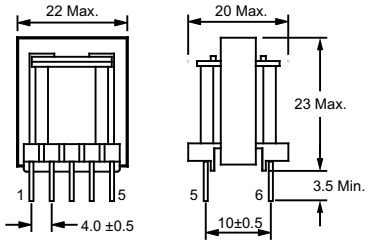
8 PIN HORIZONTAL BOBBIN



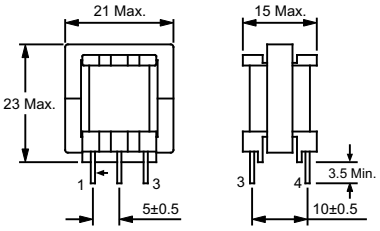
Winding width: 9 mm; Winding height: 2.5 mm;
Core Ae: 19.3 sq.mm; Core Le: 55.6 mm

EE2005

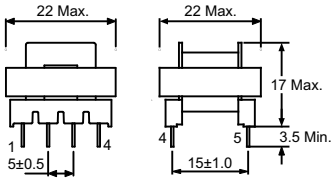
10 PIN VERTICAL BOBBIN



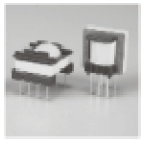
6 PIN VERTICAL BOBBIN



8 PIN HORIZONTAL BOBBIN

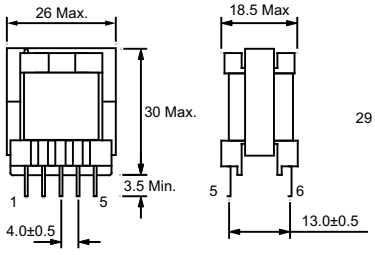


Winding width: 12 mm; Winding height: 3.5 mm;
Core Ae: 33.5 sq.mm; Core Le: 44.9 mm

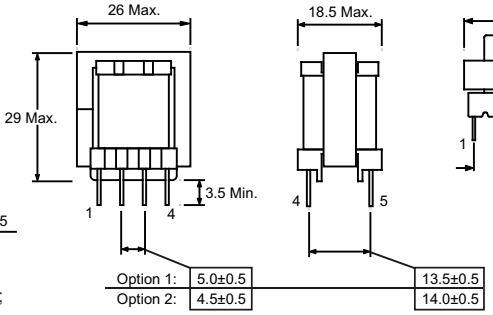


EE2507

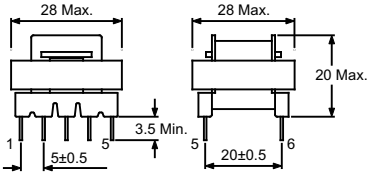
10 PIN VERTICAL BOBBIN



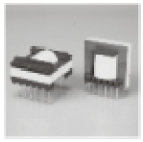
8 PIN VERTICAL BOBBIN



10 PIN HORIZONTAL BOBBIN



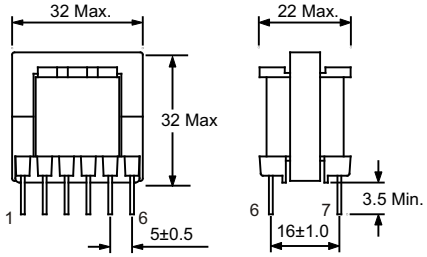
Winding Width: 15.5 mm; Winding Height: 4.0 mm;
Core Ae: 52.5 sq.mm; Core Le: 57.5 mm



No. 65/2, Kamakshipalya Industrial Estate, Magadi Main Road, Bangalore 560 079. (India) Ph : +91-80-23485149 Fax : +91-80-23480882 E-mail : miracle@vsnl.com URL : www.toroidal.com

Standard Geometries for Ferrite Core Transformers & Chokes

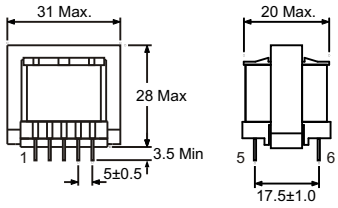
12 PIN VERTICAL BOBBIN



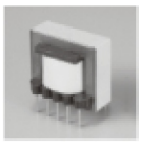
EE3007

Winding Width: 17 mm Winding Height: 5.3 mm
Core Ae: 60 sq.mm Core Le: 67 mm
Also available : 12 pin Horizontal Bobbins

10 PIN VERTICAL BOBBIN

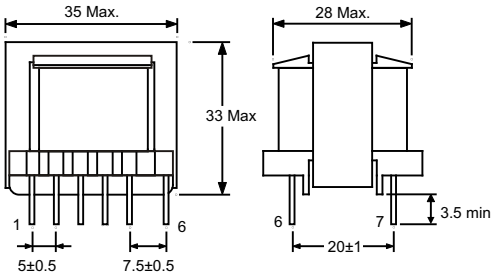


EI30

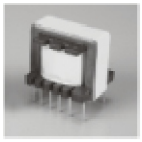


Winding Width: 14 mm Winding Height: 4 mm
Core Ae : 110.4 sq.mm Core Le : 58.5 mm

12 PIN VERTICAL BOBBIN

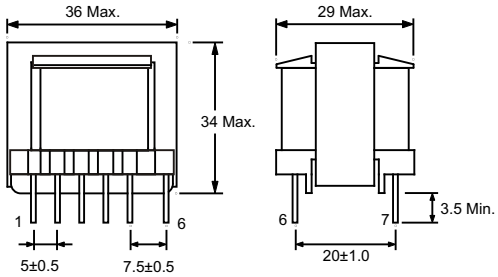


EI3313

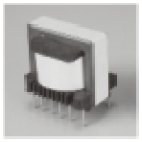


Winding Width: 15.5 mm Winding Height: 6.0 mm
Core Ae: 118 sq.mm Core Le: 66.9 mm

12 PIN VERTICAL BOBBIN

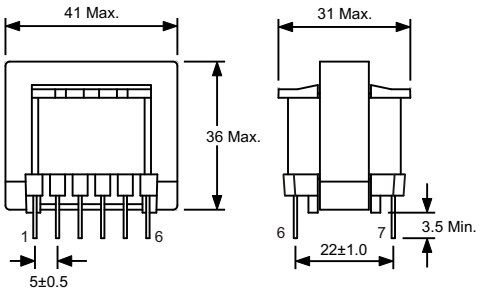


EI3512

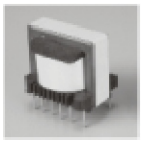


Winding Width: 16 mm Winding Height: 7.0 mm
Core Ae: 120 sq.mm Core Le: 67.3 mm

12 PIN VERTICAL BOBBIN

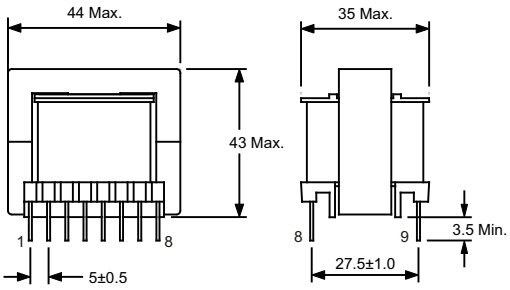


EI40

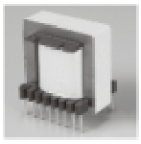


Winding Width: 17.5 mm Winding Height: 7.0 mm
Core Ae: 148 sq.mm Core Le: 76.8 mm
Also Available : 16 Pin Vertical Bobbin (4 additional Corner pins)

16 PIN VERTICAL BOBBIN

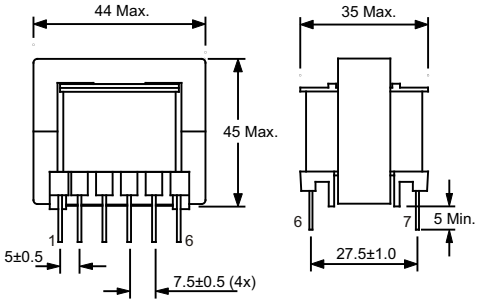


EE4215

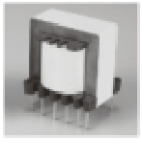


Winding Width: 27 mm Winding Height: 7.5 mm
Core Ae: 181 sq.mm Core Le: 97 mm

12 PIN VERTICAL BOBBIN



EE4220



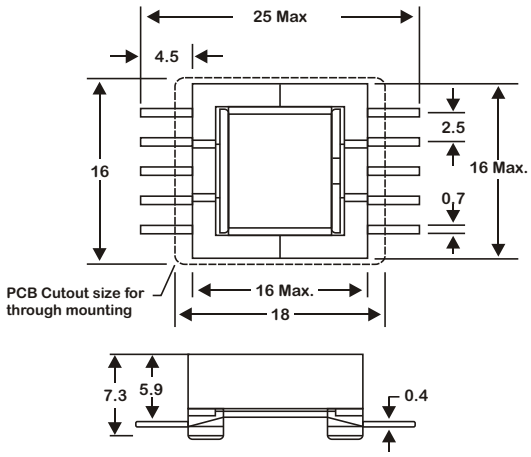
Winding Width: 27 mm Winding Height: 7.5 mm
Core Ae: 240 sq.mm Core Le: 97 mm

MIRACLE®
No. 65/2, Kamakshipalya Industrial Estate, Magadi Main Road, Bangalore 560 079. (India) Ph : +91-80-23485149 Fax : +91-80-23480882 E-mail : miracle@vsnl.com URL : www.toroidal.com

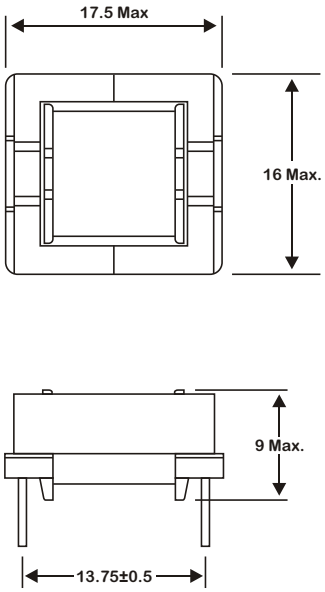
Standard Geometries for Ferrite Core Transformers & Chokes

EFD15

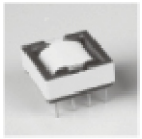
10 PIN SMD BOBBIN



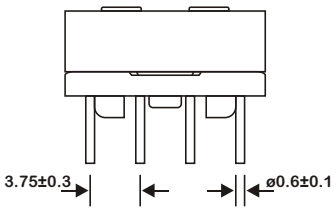
8 PIN BOBBIN



EFD15

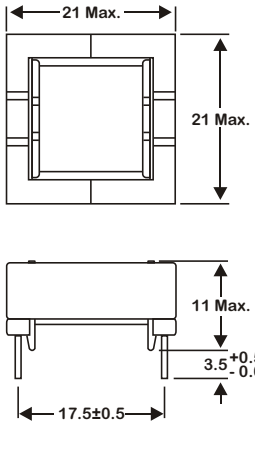


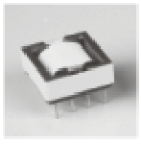
Winding Width: 9 mm
Winding Height: 1.6 mm
Core Ae: 15 sq.mm
Core Le: 34 mm

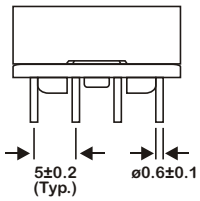


EFD20

8 PIN BOBBIN

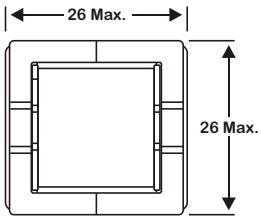




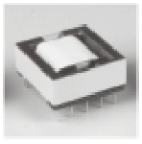


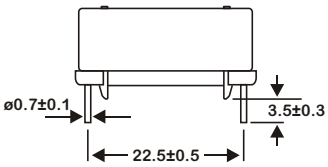
EFD25

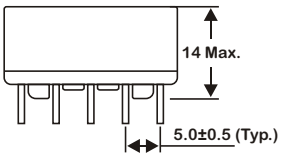
10 PIN BOBBIN



Winding Width: 16 mm
Winding Height: 2.4 mm
Core Ae: 58 sq.mm
Core Le: 57 mm

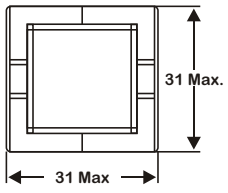




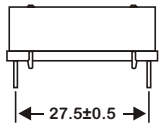


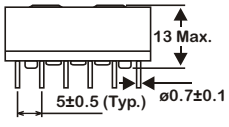
EFD30

12 PIN BOBBIN



Winding Width: 20 mm
Winding Height: 2.7 mm
Core Ae: 69 sq.mm
Core Le: 68 mm





	EFD15	EFD20	EFD25	EFD30
Winding Width	9 mm	13 mm	16 mm	20 mm
Winding Height	1.6 mm	2.0 mm	2.4 mm	2.7 mm
Core Ae	15 sq.mm	31 sq.mm	58 sq.mm	69 sq.mm
Core Le	34 mm	47 mm	57 mm	68 mm

MIRACLE®
No. 65/2, Kamakshipalya Industrial Estate, Magadi Main Road, Bangalore 560 079. (India) Ph : +91-80-23485149 Fax : +91-80-23480882 E-mail : miracle@vsnl.com URL : www.toroidal.com