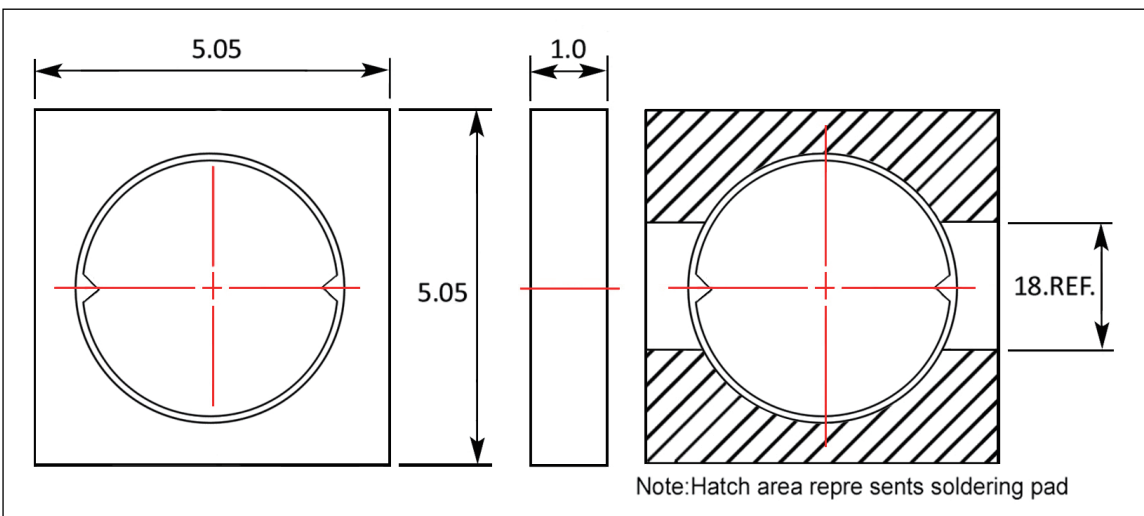


1mm Low Profile Shielded Inductor Code



- Low profile, as low as 1.0mm
- Ferrite core material
- Ferrite shielded and low EMI
- Digital cameras, PDAs, and cellular phone
- RoHS Ready



Code Number	D.C.R. (Ω) (Typ.)	Inductance (μH)
1R0-R	1.00	0.045
1R5-R	1.50	0.055
2R2-R	2.20	0.091
3R3-R	3.30	0.108
4R7-R	4.70	0.154
6R2-R	6.20	0.218
8R2-R	8.20	0.261
100-R	10.0	0.336
150-R	15.0	0.443
220-R	22.0	0.672
330-R	33.0	0.981
470-R	47.0	1.47
680-R	68.0	1.84
101-R	100	3.29
151-R	150	4.15
221-R	220	6.41
331-R	330	9.83
471-R	470	12.10

* Inductance can be custom made up to 1mH

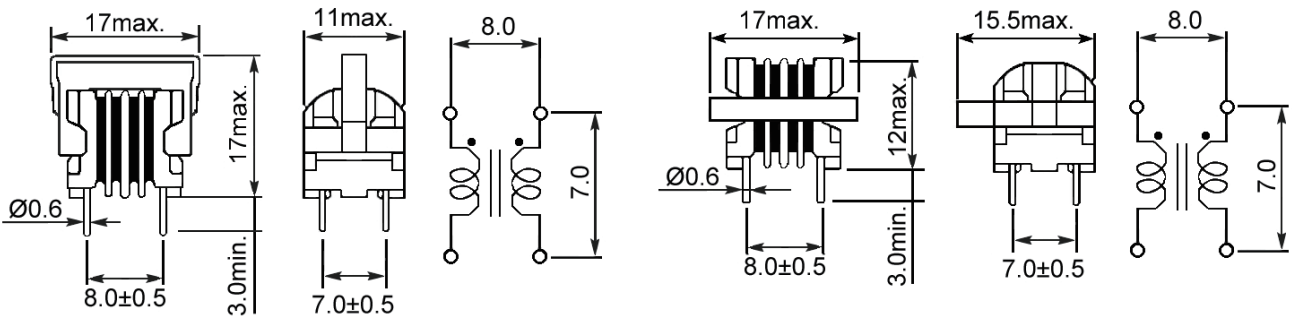
AC Line Filer



Common Mode:UU9VF/UU9HF

- In addition to the standard versions of parameters shown here, custom designs are available to meet your exact requirements.
- Ideally used in Multi-function telephone, AC adapter, Fax, Small size fluorescent light, VCR, TV as AC line common mode chokes.
- RoHS Compliance.

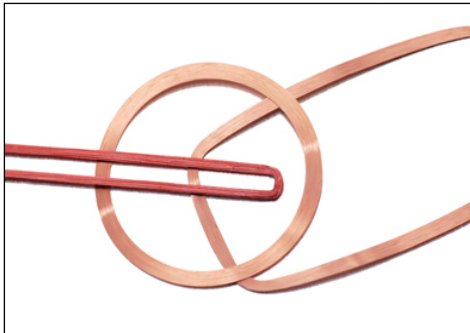
Shape and Dimensions



NO.	Part No.	Stamp	Inductance (mH)	D.CR.(Ω) [MAX.]	Rated Current (mA) * 1	Inductance Balance [MAX.]
01	UU9LFNP-B-B471	B471	0.47	0.15	1000	25
02	UU9LFNP-B-B681	B681	0.68	0.25	850	25
03	UU9LFNP-B-B102	B102	1.0	0.35	700	50
04	UU9LFNP-B-B222	B222	2.2	0.7	500	50
05	UU9LFNP-B-B392	B392	3.9	1.2	380	100
06	UU9LFNP-B-B472	B472	4.7	1.6	340	100
07	UU9LFNP-B-B682	B682	6.8	2.5	250	150
08	UU9LFNP-B-B103	B103	10.0	4.0	200	200

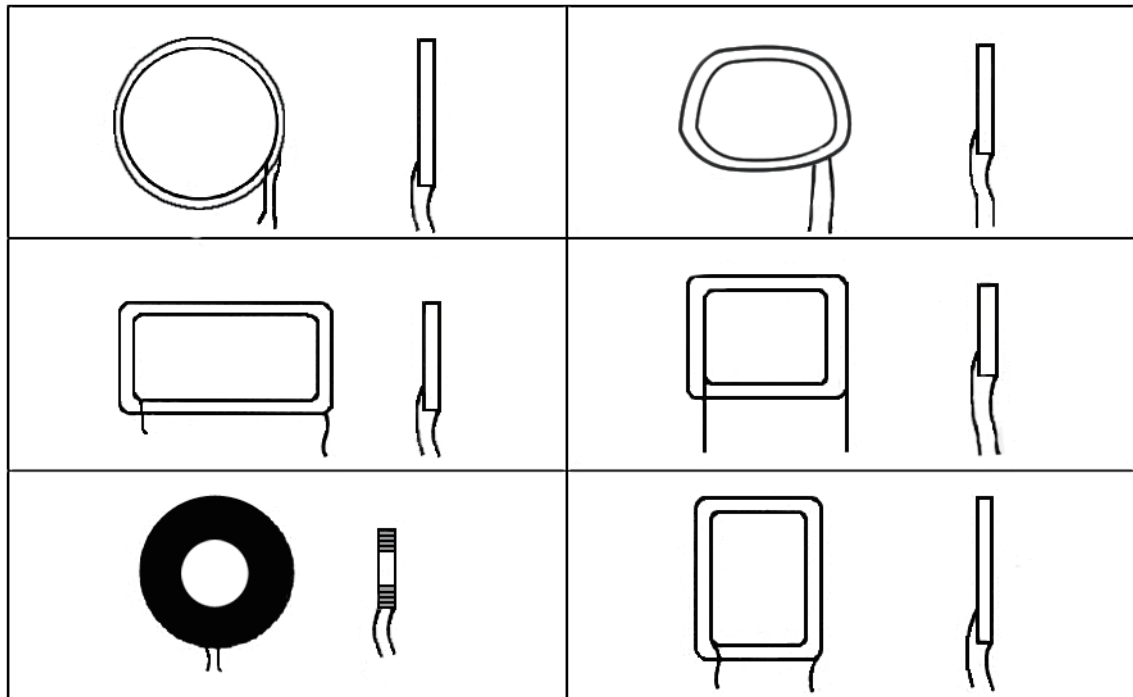
- Inductance measurement condition: 1kHz, 1V

Coil Base Inductor

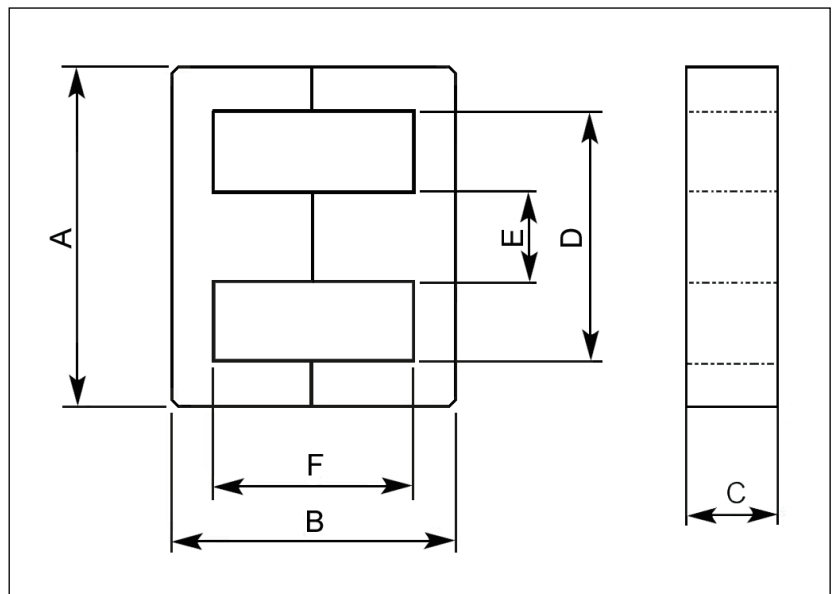
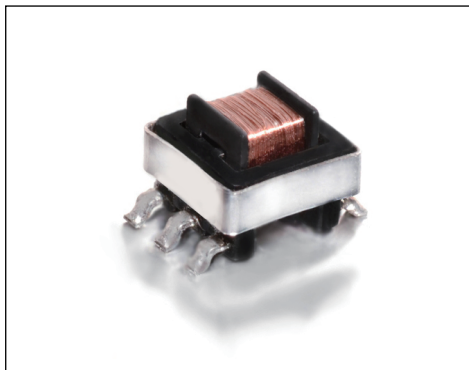


These coil based inductors are economically for all applications. Winding using self adhesive ULTRA FINE magnet wire to form strong bonding in between. Varnish treatment at the end of process to give extra security and visual impression. Ideal for electronic clocks, speaker toys, ID card systems, electro-mechanical displays, antennas and remote control devices.

No standard specification. Custom designs are welcome.
Please submit full specification and drawing while inquires.

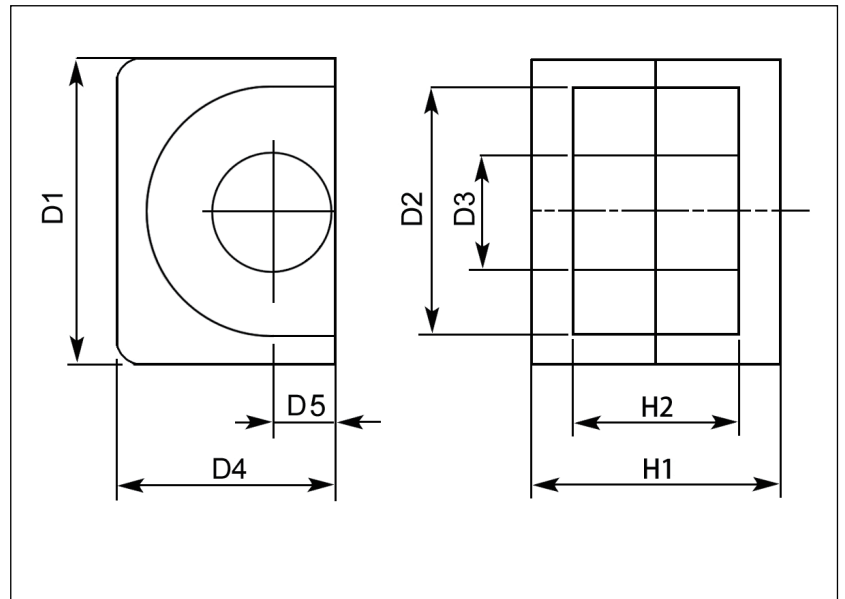
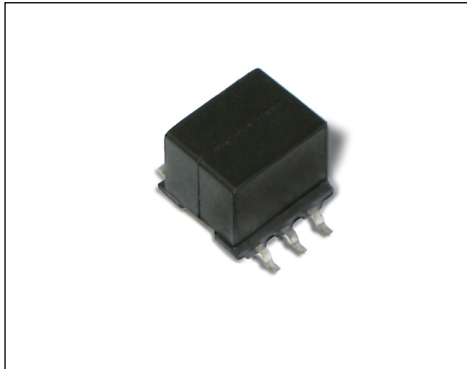


EE Type Cores



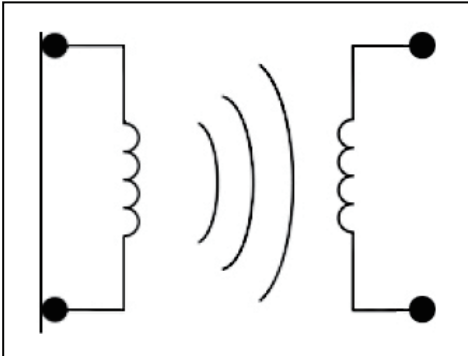
Cores	Dimensions (mm)						Bobbin Available	Bobbin Type
	A	B	C	D	E	F		
EE - 5	55.25 ± 0.1	5.25 ± 0.1	5.3 ± 0.16	1.95 ± 0.1	3.85 ± 0.1	1.35 ± 0.08	6P	1
EE - 6.3	6.3 - 0.25	6.3 - 0.25	5.4 ± 0.22	2.0 ± 0.5	4.1 ± 0.1	1.4 ± 0.11		
EE - 8.3	8.3 - 0.35	8.3 - 0.35	8.0 ± 0.2	3.9 ± 1.5	6.0 + 0.3	2.0 - 0.3	6P	3
EE - 10	10.0 ± 0.3	10.0 ± 0.3	11.0 ± 0.2	4.9 - 0.3	7.7 + 0.3	2.4 ± 0.2	8P	3
EE - 12.5	12.5 ± 0.3	12.5 ± 0.3	11.3 ± 0.3	4.8 ± 0.2	9.4 ± 0.25	2.4 ± 0.2	6P	3
EE - 13	13.0 ± 0.2	13.0 ± 0.2	12.0 ± 0.3	6.3 - 0.3	10.2 ± 0.2	2.8 ± 0.2		
EE - 16	16.0 ± 0.3	16.0 ± 0.3	14.3 ± 0.4	5.0 - 0.3	12.0 ± 0.3	4.05 - 0.25	6P	3
EE - 16S	16.0 ± 0.3	16.0 ± 0.3	14.3 ± 0.4	7.0 - 0.4	13.0 ± 0.3	3.2 - 0.4	10P	3
EE - 19	19.0 ± 0.3	19.0 ± 0.3	15.9 ± 0.4	5.1 - 0.5	14.0 ± 0.3	5.1 - 0.5	7P	2

EP Type Cores



Cores	Dimensions (mm)						
	D1	D2	D3	D4	D5	H1	H2
EP - 7	9.2 ± 0.2	7.4 ± 0.2	3.4 - 0.2	6.5 - 0.3	1.8 - 0.2	7.5 ± 0.2	5.0 + 0.6
EP - 10	11.5 ± 0.3	9.4 ± 0.2	3.45 - 0.3	7.85 - 0.4	1.95 - 0.25	10.4 - 0.4	7.2 + 0.4
EP - 13	12.5 ± 0.3	10.0 ± 0.3	4.5 - 0.3	9.0 - 0.4	2.5 - 0.25	13.0 ± 0.4	9.0 + 0.4
EP - 17	18.0 ± 0.4	12.0 ± 0.4	5.85 - 0.35	11.25 - 0.5	3.25 ± 0.2	17.0 - 0.4	11.0 + 0.6
EP - 20	24.0 ± 0.5	16.5 ± 0.4	9.0 - 0.5	15.3 - 0.7	4.5 ± 0.2	21.6 - 0.4	14.0 + 0.6

Induction Charge Coils



Ferrite based coil for Inductive Charging system is now available. By using two coils, energy is able to transfer from charger to device. No exposed conductors mean lower risk of electrical shock. Inductive Charging system makes product safer to use in environment where water and dirt are concerned.

Contact us now for current available size.

Current product available for telecommunication use.

Capable to provide 5V to 8V depended on circuit design.

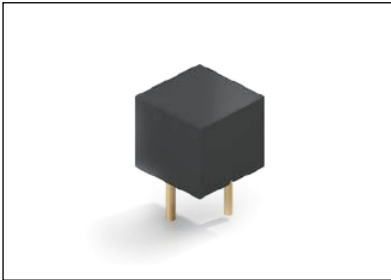
No standard specification. Custom designs are welcome.

Please submit full specification and drawing while inquires.

Applications :

- Medical devices
- Telecommunications
- Personal hygiene devices
- Consumer products requires water proving

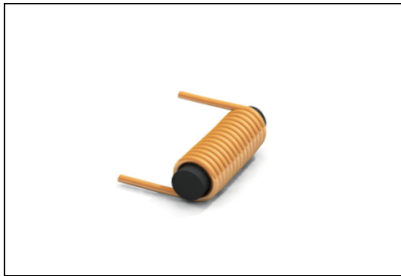
P Cores



Toroidal coils are useful in a wide variety of power conversion and line filter application. It has high saturated current characteristic. Low volume hand wound to high volume automatic machine wound are welcome. Wounded on iron or ferrite based material core. Our Toroidal coils are available in vertical and horizontal mounting.

Size	Ref Inductance	H	P
8.0 x 9.0	0.65 uH		
9.0 x 9.0	1.00 uH		
10.0 x 9.0	0.25 uH		
10.0 x 9.0	0.30 uH		
10.0 x 9.0	0.47 uH		
10.0 x 9.0	0.80 uH		
11.3 x 9.8	0.56 uH		
11.3 x 9.8	0.68 uH		
11.3 x 9.8	1.10 uH		
11.3 x 9.8	1.20 uH		

Power Chokes



Low cost, general purpose inductors with ferrite core in the middle. It provides high saturation current. Can be use in power supplies, noise filters and switching regulators, etc. Finish with varnish and soldered lead ends.

No standard specification. Custom designs are welcome.
Please submit full specification and drawing while inquires.

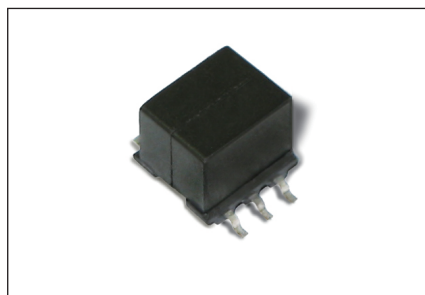
FERRITE CORE DIMENSION IN MILLIMETER (mm).

Ø	Length
4.0	19
5.0	20
5.0	25
5.0	30
6.0	25
6.0	30
7.0	20
8.0	20
8.0	30

Definition:

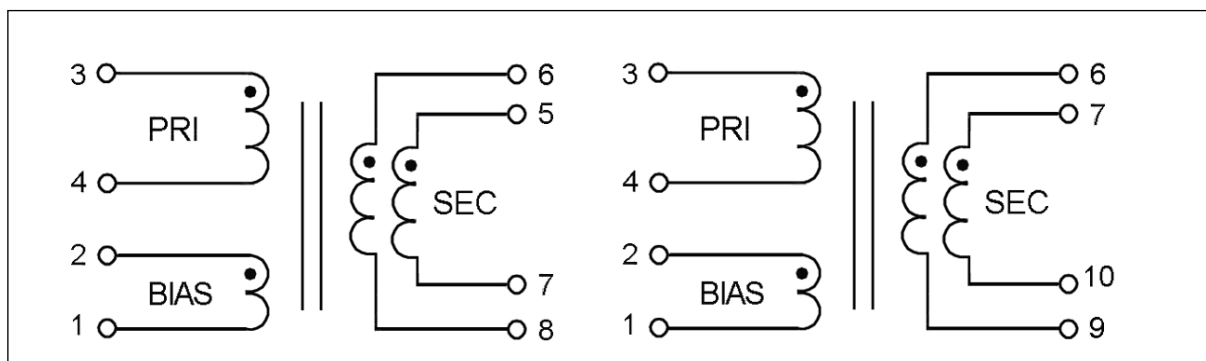
- L –Left Turn
- R –Right Turn
- P –Pitch
- S –Centre
- V –Vertical Mount

Power Transformers Power Over Ethernet (PoE), DC/DC Converter



SANKYO is pleased to offer this series of power transformers designed for isolated flyback DC/DC converter applications. Utilizing industry standard style footprint these transformers are LEAD-free RoHS compliant. Please contact us for custom designs.

- Topology : Flyback transformer with continuous mode
- Frequency : 250 kHz
- Power:3W : 7W,13W
- RoHS compliant



Power (W)	Primary Inductance at 0 A3±10% (μH)	DCR max (Ohms) ⁴			Turns ratio ⁶		Output ⁷
		pri	bias	sec	pri:sec	pri:bias	
3	310	1.02	2.01	0.066	1:0.19	1:0.19	3.3V,0.91A
3	310	1.02	2.01	0.118	1:0.28	1:0.28	5.0V,0.6A
3	310	1.04	2.01	0.700	1:0.70	1:0.70	12V,0.25A
7	155	0.414	0.822	0.036	1:0.19	1:0.19	3.3V,2.12A
7	155	0.414	0.822	0.060	1:0.262	1:0.262	5.0V,1.4A
7	155	0.414	0.822	0.343	1:0.667	1:0.667	12V,0.6A
13	127	0.255	0.310	0.024	1:0.166	1:0.166	3.3V,4.0A
13	127	0.222	0.348	0.039	1:0.25	1:0.25	5.0V,1.4A
13	127	0.199	0.308	0.065	1:0.50	1:0.50	12V,1.08A
13	127	0.290	0.355	0.066	1:0.567	1:0.567	19.5V,0.67A
13	127	0.255	0.315	0.067	1:0.667	1:0.667	24,0.54A

Radial Choke Coils

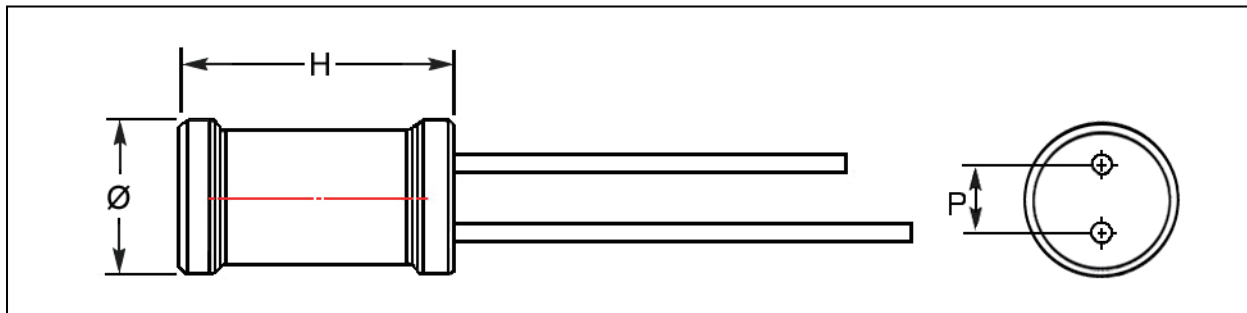


Small size radial lead type choke coils suitable for various applications. Commonly used for TVs and audio equipments, buzzers and alarm systems, switching power supplies, noise filtering. Only small mounting space required.

Covered with PVC tubing.

Other detailed dimensions will be given upon request.

Two, Three, and Four pins leads are available.



Size	Inductance Range						Rated Current
	0.1mH	1mH	10mH	30mH	35mH	39mH	
3040		1mH	2.7mH				40mA~2.1A
4050		1mH	10mH				35mA~4.4A
5070	0.1mH					39mH	18mA~0.38A
6080	0.1mH					39mH	25mA~0.88A
7580	0.1mH					39mH	40mA~0.88A
8011	0.1mH				33mH		60mA~0.380A

Reel & Tape Package

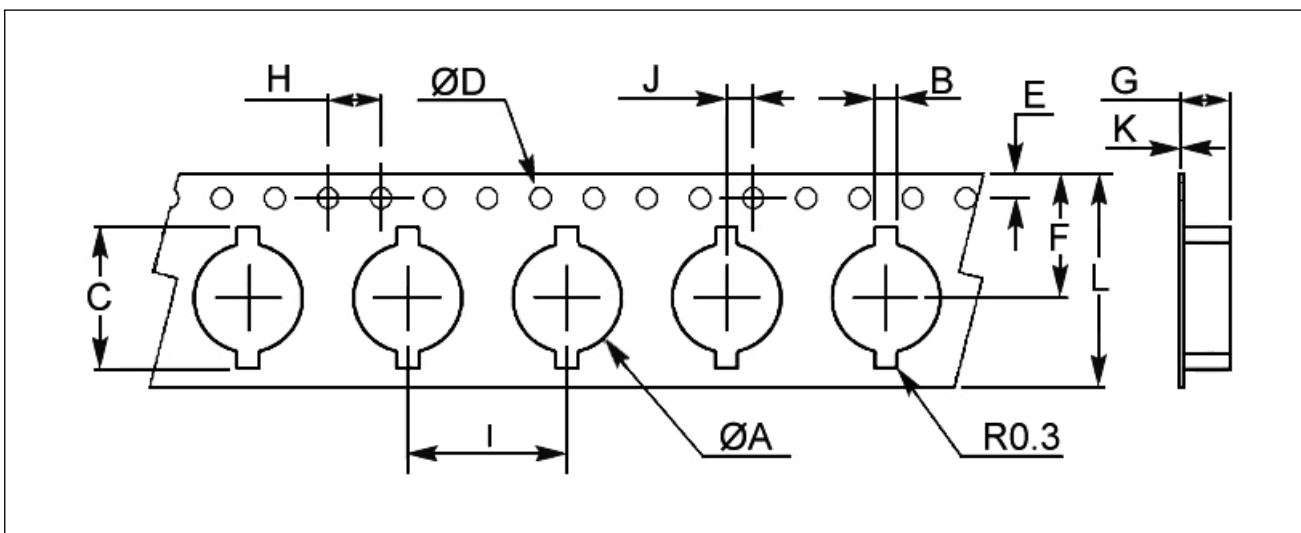


The electronics industry is making a tremendous investment in surface-mount technology. Today's placement machines can pick and place thousands of components per hour with a very higher degree of accuracy. The preferred packing material available today for these demands is tape and reel. You can have choice of your ordered parts packed in our specifically designed embossed pockets in a plastic carrier tape. This is the place where you are looking for maximum protection for the components from damage during shipment, handling, and placement.

TAPE DIMENSIONS

Position \ Size	12mm	6mm
Ø A	Ø3.55±0.10	Ø8.30±0.10
B	09.5±0.10	1.60±0.10
C	5.62±0.10	10.40±0.10
Ø D	Ø1.55±0.05	Ø1.55±0.05
E	1.75±0.10	1.75±0.10
F	5.50±0.10	7.50±0.10
G	2.60±0.10	3.70±0.10
H	4.00±0.10	4.00±0.10
I	8.00±0.10	12.00±0.10
J	2.00±0.10	2.00±0.10
K	0.30±0.05	0.30±0.05
L	12.00±0.30	16.00±0.30

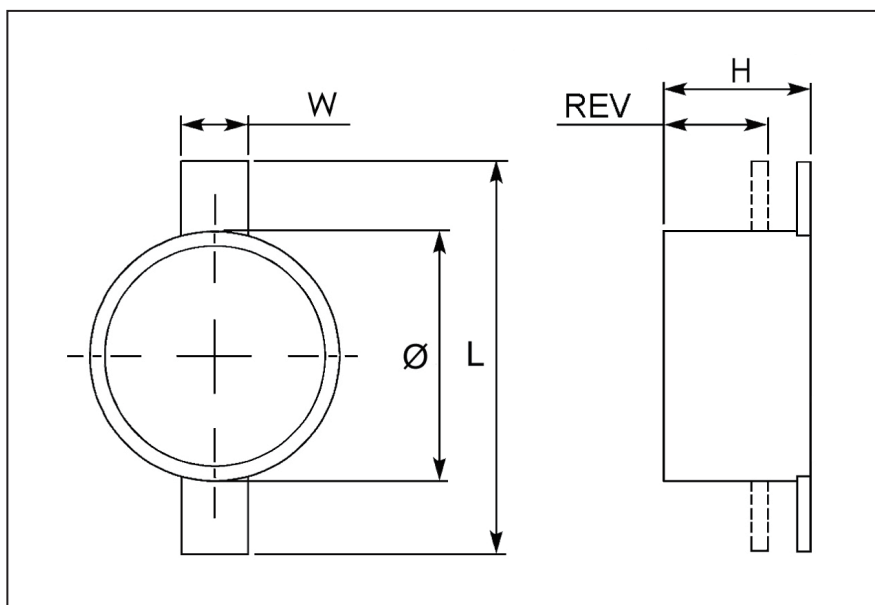
*Above sizes are in millimeter.



SMD Voltage Step-up Coils



High inductance Voltage Step-up coil series for piezoelectric buzzers and circuitry for EL panels. Commonly use on watches, toys, cameras, electronic thermometers, pagers and wireless telephones.

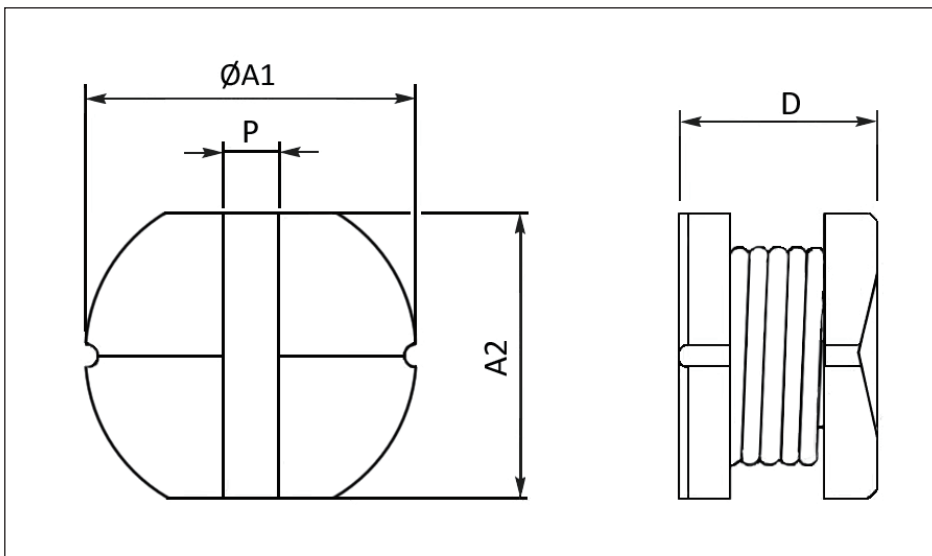


Size Code	Ø	H	W	L
3421	3.4±0.15	2.1±0.2	0.9±0.1	5.6±0.2
3424	3.4±0.15	2.4±0.2	0.9±0.1	5.6±0.2
4235	4.2±0.15	3.5±0.2	0.9±0.1	6.5±0.2
4235 REV	4.2±0.15	3.3±0.2	0.9±0.1	6.5±0.2
3421 REV	3.4±0.15	1.8±0.2	0.9±0.1	5.6±0.2
3424 REV	3.4±0.15	2.1±0.2	0.9±0.1	5.6±0.2
8235	8.1±0.15	3.5±0.2	1.5±0.2	10.5±0.2
8235 REV	8.1±0.15	2.8±0.2	1.5±0.2	10.5±0.2

SMT Coils



SMT Coils are suitable for large current applications. It is ideal for DC - DC converter applications such as in hand held personal computer and related devices. Inductance range from 1 μ H ~ 1mH depends on different sizes. We also offer shielded type SMT Coils to suit varies applications.



SMT Unshielded

Core Types	Dimensions (mm)				Inductance Range				
	$\phi A1$	A2	D	P (REF.)	0.1 μ H	1 μ H	10 μ H	100 μ H	1mH
SK 43	4.50 \pm 0.20	4.00 \pm 0.15	3.20 \pm 0.20	1.4		—			
SK 54	5.80 \pm 0.20	5.20 \pm 0.20	4.50 \pm 0.20	1.6			—		
SK 73	7.80 \pm 0.20	7.00 \pm 0.25	3.50 \pm 0.20	2.4			—		
SK 75	7.80 \pm 0.20	7.00 \pm 0.20	5.00 \pm 0.20	2.4			—		
SK104	10.00 \pm 0.20	9.00 \pm 0.20	4.00 \pm 0.20	3.1			—		
SK105	10.00 \pm 0.20	9.00 \pm 0.20	5.40 \pm 0.20	3.1			—		

- ✓ RoHS Ready
- ✓ Extra dimensions available upon request

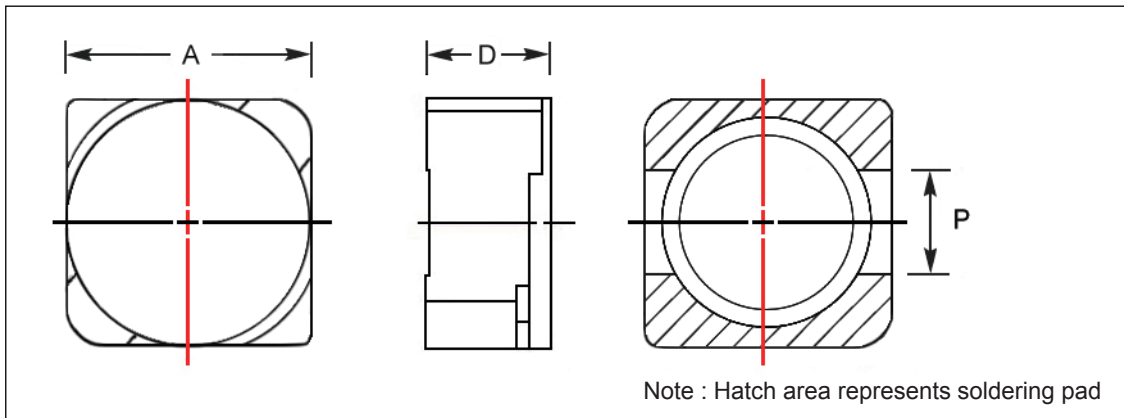
SMT Shielded Inductor



Power Inductors are designed for use in general electronics such as audio video equipment, home electric appliances.

Inductance range from 2.5 μ H to 100 μ H

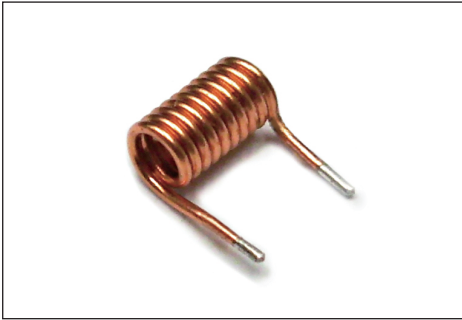
All Sankyo products are RoHS ready.



Core Types	Dimensios		Inductance Range					
	A	D	0.1pH	1pH	10pH	100pH	1mH	10mH
SKRH 62	6.0	2.0		—	—			
SKRH 63	6.0	3.0		—	—			
SKRH 73	7.0	3.0		—	—			
SKRH 74	7.0	4.0		—	—			
SKRH 124	12.3	4.5		—	—			
SKRH 125	12.3	6.0		—	—	—		
SKRH 127	12.3	8.0		—	—	—		

- ✓ RoHS Ready
- ✓ Extra dimensions available upon request

Spring Coil



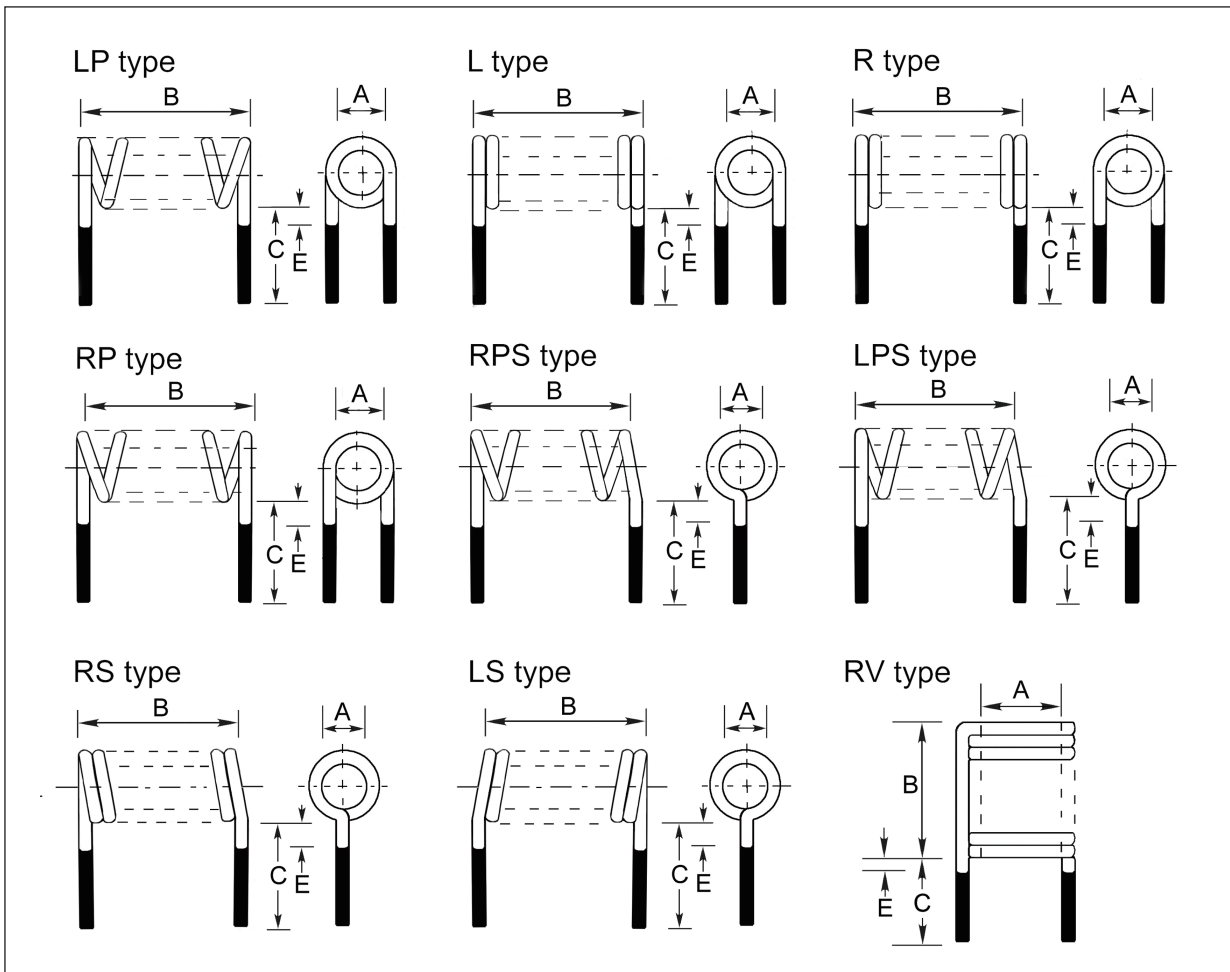
In addition to the standard versions of parameters shown here, custom designs are available to meet your exact requirements. Ideally used in Multi-function telephone, AC adapter, Fax, Small size fluorescent light, VCR, TV as AC line common mode chokes.

RoHS Compliance.

No standard specification. Custom designs are welcome.

Diameter can be as small as 1mm.

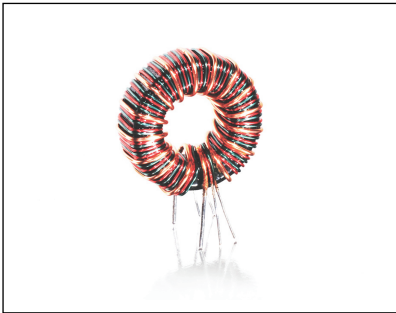
Please submit full specification and drawing while inquires.



Definition:

- L – Left Turn
- R – Right Turn
- P – Pitch
- S – Centre
- V – Vertical Mount

Toroidal Coil / Line Filter



Toroidal coils are useful in a wide variety of power conversion and line filter application. It has high saturated current characteristic. Low volume hand wound to high volume automatic machine wound are welcome. Wounded on iron or ferrite based material core. Our Toroidal coils are available in vertical and horizontal mounting.

No standard specification. Custom designs are welcome.
Please submit full specification and drawing while inquires.

Core Sizes	Dimensions		
	Ø Out	Ø In	Height
TR 4 × 2 × 1.5	4.00±0.20	2.00±0.20	1.50±0.20
TR 4.4 × 2.8 × 2.5	4.40±0.20	2.80±0.20	2.50±0.20
TR 4.8 × 2.8 × 1.5	4.80±0.20	2.80±0.20	1.50±0.20
TR 6 × 3 × 2	6.00±0.20	3.00±0.20	2.00±0.20
TR 6 × 3 × 3	6.00±0.20	3.00±0.20	3.00±0.20
TR 8 × 4 × 3	8.00±0.20	4.00±0.20	3.00±0.20
TR 9 × 5 × 3	9.00±0.20	5.00±0.20	3.00±0.20
TR 9 × 5 × 4.5	9.00±0.20	5.00±0.20	4.50±0.20
TR 9.5 × 5 × 5	9.50±0.20	5.00±0.20	5.00±0.20
TR 10 × 6 × 4	10.0±0.30	6.00±0.20	4.00±0.20
TR 12 × 6 × 4	12.0±0.30	6.00±0.20	4.00±0.20
TR 12.7 × 7.9 × 6.35	12.7±0.30	7.90±0.20	6.35±0.20
TR 13 × 7 × 4	13.0±0.30	7.00±0.20	4.00±0.20
TR 14 × 8 × 7	14.0±0.30	8.00±0.20	7.00±0.20
TR 16 × 12 × 8	16.0±0.30	12.0±0.30	8.00±0.20
TR 18 × 10 × 6	18.0±0.30	10.0±0.30	6.00±0.20
TR 20 × 10 × 10	20.0±0.40	10.0±0.30	10.0±0.30
TR 20 × 16 × 8	20.0±0.40	16.0±0.30	8.00±0.20
TR 22.5 × 13.8 × 6.4	22.5±0.40	13.8±0.30	6.40±0.20
TR 25 × 13 × 12	25.0±0.40	13.0±0.30	12.0±0.30
TR 25 × 15 × 12	25.0±0.40	15.0±0.30	12.0±0.30
TR 28 × 16 × 13	28.0±0.40	16.0±0.30	13.0±0.30
TR 29 × 19 × 7.7	29.0±0.40	19.0±0.30	7.70±0.20
TR 31 × 19 × 8	31.0±0.40	19.0±0.30	8.00±0.20
TR 36 × 23 × 12	36.0±0.40	23.0±0.40	12.0±0.30

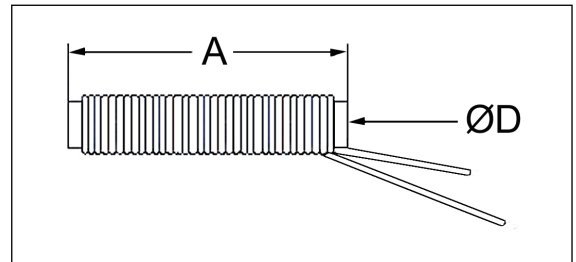
Transponder Antenna

Among the many different sizes available, SANKYO can offer coils with around a thousand turns of self-bonding wire.

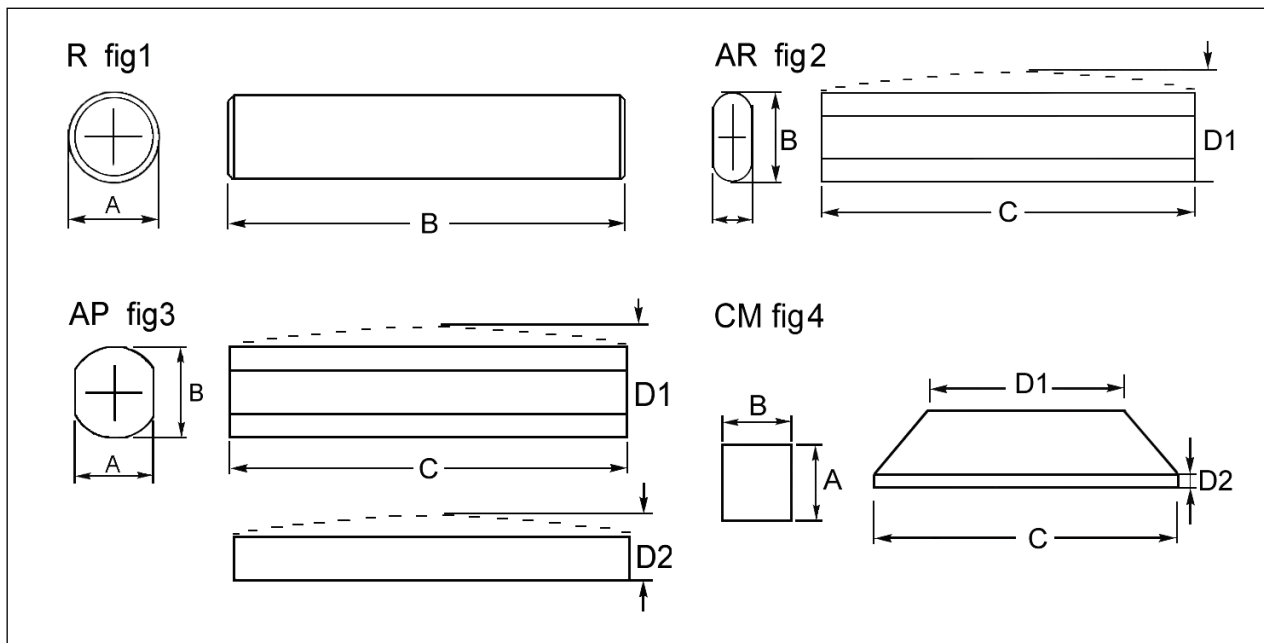
Both low cost and high production capacity are its most important features. Our team will help you to find the right size to match your application. Please contact us with your specification.

Features

1. Extensive size range available.
2. Low cost
3. High Q
4. Custom made according to specification.
5. Up to 3% tolerance available.
6. SMT Design available.



Shape



Dimension in millimeter (mm)

Core Size	Conf.	A	B	Fig
R 1.7x14		1.7	14	1
R 2.5x17		2.5	17	1
R 3.5x36		3.5	36	1
R 3.5x29		3.5	29	1
R 2.4x16		2.4	16	1
R 4x20		4	20	1
R 5x23		5	23	1

Transponder Antenna

Core Size \ Conf.	A	B	C	Fig
AR 7x90	6.0	7.0	90.0	2
AR 8x30	7.0	8.0	30.0	2
AR 8x40	7.0	8.0	40.0	2
AR 8x45	7.0	8.0	45.0	2
AR 8x48	7.0	8.0	48.0	2
AR 8x50	7.0	8.0	50.0	2
AR 8x55	7.0	8.0	55.0	2
AR 8x60	7.0	8.0	60.0	2
AR 8x65	7.0	8.0	65.0	2
AR 8x70	7.0	8.0	70.0	2
AR 8x80	7.0	8.0	80.0	2
AR 8x85	7.0	8.0	85.0	2
AR 8x90	7.0	8.0	90.0	2
AR 8x100	7.0	8.0	100.0	2
AR 8x120	7.0	8.0	120.0	2
AR 8x140	7.0	8.0	140.0	2
AR 10x30	9.0	10.0	30.0	2
AR 10x40	9.0	10.0	40.0	2
AR 10x43	9.0	10.0	43.0	2
AR 10x44	9.0	10.0	44.0	2

Core Size \ Conf.	A	B	C	D1 (max.)	D2 (max.)	Fig
AP 1.5x2x40R	1.5	2.0	40.0	2.60	1.80	3
AP 1.5x8x40R	1.5	8.0	40.0	8.30	1.80	3
AP 1.9x3x39R	1.9	3.0	39.0	3.50	2.40	3
AP 1.9x7.8x45R	1.9	7.8	45.0	8.00	2.40	3
AP 2x2x50R	2.0	2.0	50.0	2.50	2.40	3
AP 2x3x45R	2.0	3.0	45.0	3.50	2.40	3
AP 2x6x35R	2.0	6.0	35.0	6.80	2.50	3
AP 2x7.5x45R	2.0	7.5	45.0	8.00	2.50	3
AP 2x8x45R	2.0	8.0	45.0	6.50	2.50	3
AP 2x8x50R	2.0	8.0	50.0	8.60	2.60	3
AP 2x10x45R	2.0	10.0	45.0	10.60	2.60	3
AP 2.5x4.6x39R	2.5	4.6	39.0	5.10	2.70	3
AP 2.5x7.5x46R	2.5	7.5	46.0	7.80	2.70	3
AP2.5x8x45R	2.5	8.0	45.0	8.30	2.80	3
AP 2.5x8x57C	2.5	8.0	57.0	8.40	2.90	3
AP 2.8x4.8x39C	2.8	4.8	39.0	5.10	3.10	3
AP 2.8x6.7x30R	2.8	6.7	30.0	7.00	3.10	3
AP 3x5x35R	3.0	5.0	35.0	5.30	3.30	3

Transponder Antenna

Core Size \ Conf.	A	B	C	D1 (max.)	D2 (max.)	Fig
AP 3x6x50R	3.0	6.0	50.0	6.30	3.40	3
AP 3x7x35R	3.0	7.0	35.0	6.40	3.30	3
AP 3x7.3x46R	3.0	7.3	46.0	6.40	3.40	3
AP 3x7.5x46C	3.0	7.5	46.0	7.30	3.40	3
AP 3x7.5x50C	3.0	7.5	50.0	7.70	3.40	3
AP 3x8x35R	3.0	8.0	35.0	7.90	3.30	3
AP 3x8x40R	3.0	8.0	40.0	7.90	3.30	3
AP 3x8x50R	3.0	8.0	50.0	8.30	3.40	3
AP 3x12x50R	3.0	12.0	50.0	8.30	3.40	3
AP 3.17x12.2x76.2R	3.17	12.2	76.2	8.40	3.80	3
AP 4x4.5x40R	4.0	4.5	40.0	12.40	4.30	3
AP 4x6x45C	4.0	6.0	45.0	13.80	4.40	3
AP 4x8x35C	4.0	8.0	35.0	4.80	4.40	3
AP 4x8x40R	4.0	8.0	40.0	6.40	4.40	3
AP 4x8x50R	4.0	8.0	50.0	8.40	4.40	3
AP 4x12x40R	4.0	12.0	40.0	8.40	4.40	3
AP 4x12x50R	4.0	13.0	50.0	12.40	4.40	3
AP 4x13x45R	4.0	20.0	45.0	12.40	4.40	3
AP 4x20x60C	4.0	22.0	60.0	13.40	4.40	3
AP 4x22x79	4.0	50	79.0	20.40	4.40	3
AP 4x50x50C	4.0	5.0	50.0	22.40	4.40	3
AP 5x5x32C	5.0	5.0	32.0	50.40	5.30	3
AP 5x5x120R	5.0	5.0	120.0	5.30	5.50	3
AP 5x6x50C	5.0	6.0	50.0	5.50	5.40	3
AP 5x7x80C	5.0	7.0	80.0	6.40	5.50	3
AP 5x8x28R	5.0	8.0	28.0	7.50	5.30	3
AP 5x8x34.5R	5.0	8.0	34.5	8.30	5.40	3
AP 5x8x50C	5.0	8.0	50.0	8.40	5.40	3
AP 5x8x55R	5.0	8.0	55.0	8.40	5.40	3
AP 5x8x100R	5.0	8.0	100.0	8.50	5.50	3
AP 5x13x55C	5.0	13.0	55.0	13.40	5.40	3
AP 5x13x60C	5.0	13.0	60.0	13.50	5.50	3
AP 5x13x65C	5.0	13.0	65.0	13.50	5.50	3
AP 5x13x100C	5.0	13.0	100.0	13.50	5.50	3
AP 6x6x50C	6.0	6.0	50.0	6.40	6.40	3

Core Size \ Conf.	A	B	C	Fig
CM 3.3x3.3x18.2CT	33.3	3.0	18.2	4
CM 3.75x3.75x23.6R	3.75	3.75	23.6	4