SPECIALTIES of CSC POWDER CORE

- Material, Shape & Size -

Ⅰ. Soft Magnetic Powder Core

Ⅱ. Material Comparison

Ⅲ. Special Shape Powder Core

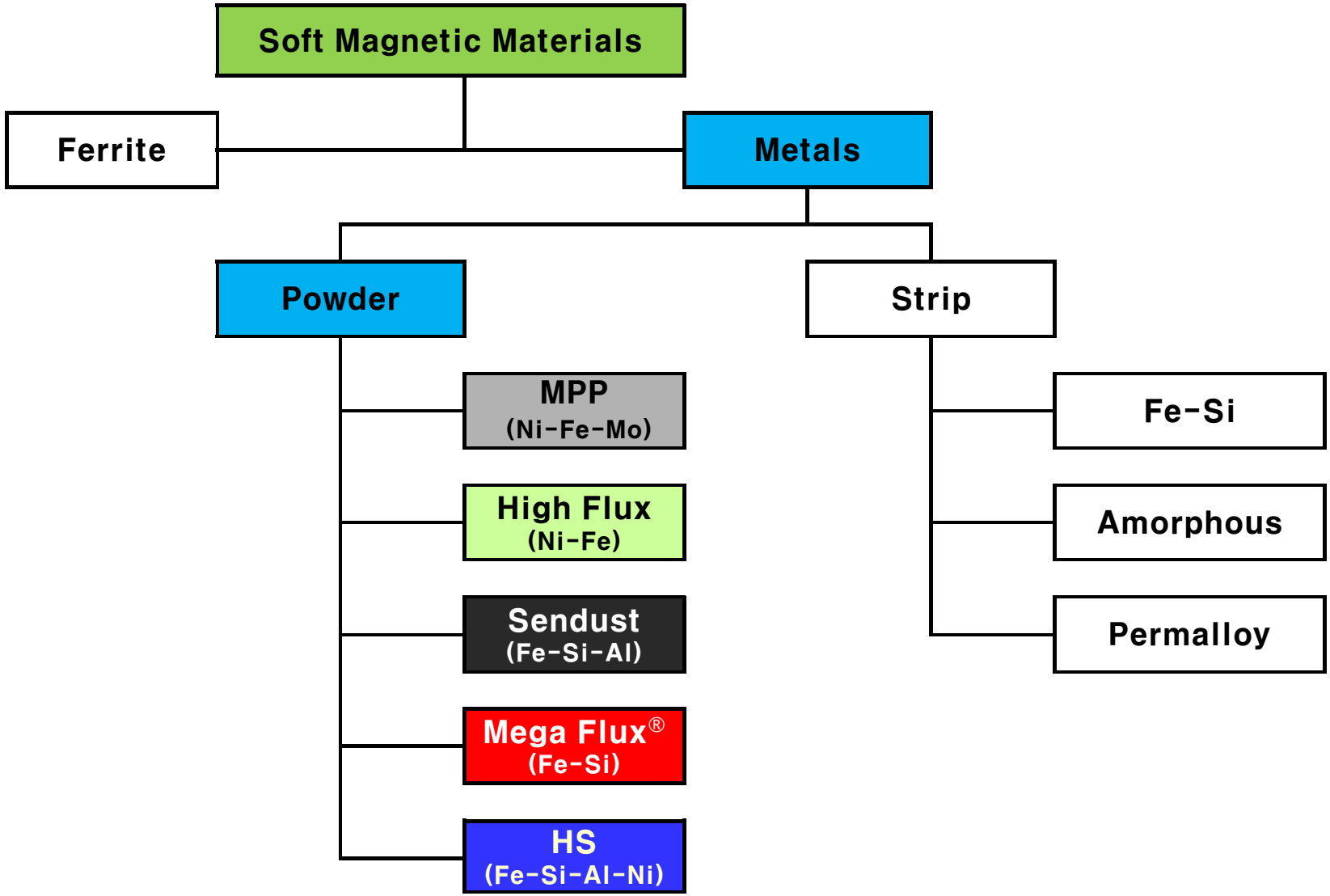
Ⅳ. Special Shape Core Part List

Ⅴ. Q & A

Chang Sung Corporation CSC

Ⅰ. Soft Magnetic Powder Core

1. Soft Magnetic Materials

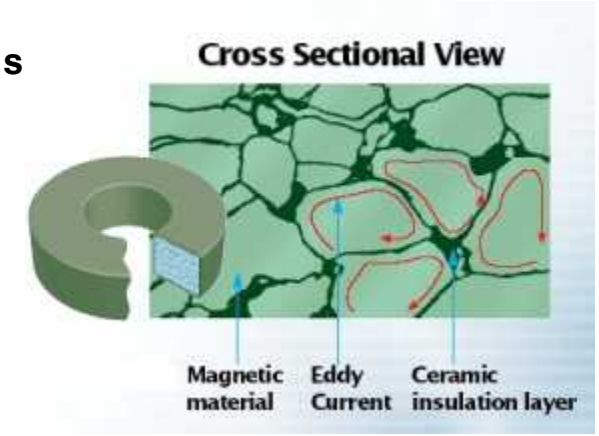


Ⅰ. Soft Magnetic Powder Core

2. What is Powder Core ?

Powder Cores are distributed air gap cores made from ferrous alloy powders for low losses at elevated frequencies.

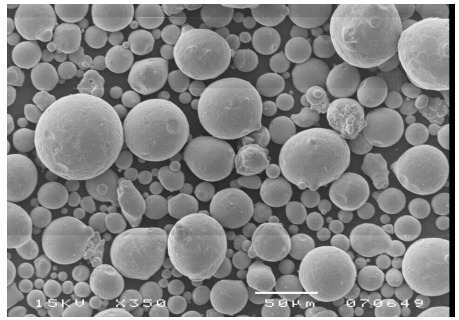
Small air gaps distributed evenly throughout the cores increase the amount of DC that can be passed through the winding before core saturation occurs.



3. Manufacturing process

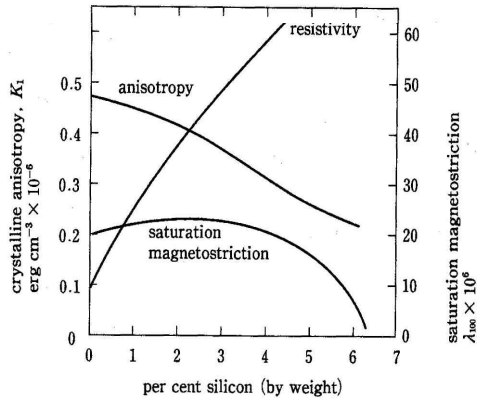
Powder Making → Ceramic Insulation → Pressing → Core Annealing → Core Finish → Inspection

Material	Composition
High Flux : CH	Ni + Fe Alloy
Sendust : CS	Fe + Si +Al Alloy
Mega Flux® : CK	Fe + Si Alloy
MPP : CM	Ni + Fe + Mo Alloy
HS : HS	Fe + Si +Al + (Ni) Alloy



(1) General Information

Composition	Fe-6.5%Si
Available Permeability(μ)	26, 50, 60, 75, 90
Coating Color	Dark Brown
B max(G)	16,000
Curie Temp[℃]	700
Available Shape	Toroidal, E, Block, EER, EQ U,
CK270060→	CSC Mega Flux OD=27mm Perm=60μ



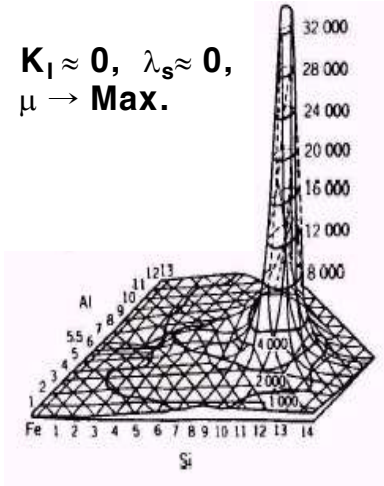
(2) Feature

Advantage	Disadvantage
Moderate Cost	Higher Core Losses than SENDUST
High DCB	
Low Magnetostriction	
Good Temp. Stability	

(1) General Information

Composition	Fe-9%Si-6%Al
Available Permeability(μ)	26, 60, 75, 90, 125
Coating Color	Black
B max(G)	10,000
Curie Temp[℃]	500
Available Shape	Toroidal, E, Block, U,
CS270060→	CSC SENDUST OD=27mm Perm=60μ

$K_1 \approx 0$, $\lambda_s \approx 0$,
$\mu \rightarrow$ Max.



(2) Feature

Advantage	Disadvantage
Moderate Cost	Low DCB than High Flux
Nearly Zero Magnetostriction	Low Temp. Stability than MPP, High Flux
Low Core Losses	
Good Frequency Stability	

(1) General Information

Composition	Fe-50%Ni
Available Permeability(μ)	26, 60, 125, 147, 160
Coating Color	Khaki
B max(Gauss)	15,000
Curie Temp[℃]	500
Available Shape	Toroidal, Block, EER, EQ, U
CH270060→	CSC High Flux OD=27mm Perm=60μ

(2) Feature

Advantage	Disadvantage
High DCB ← High Saturation	Medium Cost ← 50% Ni
Low Core Losses	
Wide Perm. Range	
Good Temp. Stability	

(1) General Information

Composition	80%Ni-18%Fe-2%Mo
Available Permeability(μ)	26, 60, 125, 147, 160, 173, 200
Coating Color	Gray
B max(G)	7,000
Curie Temp[℃]	450
Available Shape	Toroidal (Other Shapes Possible)
CM270060→	CSC MPP OD=27mm Perm=60μ

(2) Feature

Advantage	Disadvantage
Low Core Losses	High Cost ← Ni 80%
Wide Perm. Range	Low DCB than High Flux
Good DCB than SENDUST	
Good Temp. Stability	

(1) General Information

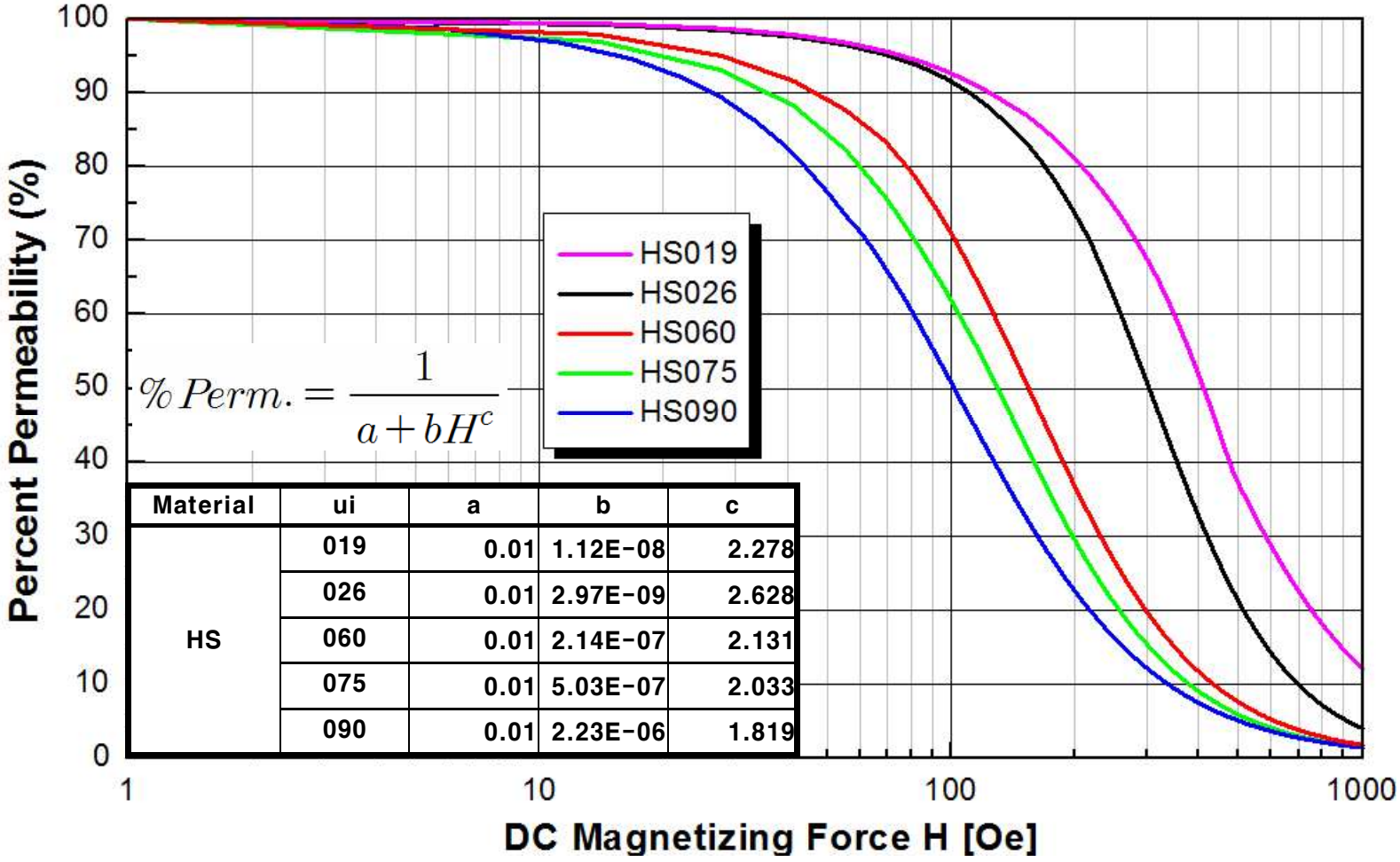
HS Series

Permeability(μ)	19, 26, 60, 75, 90
Coating Color	Dark blue
Bmax(G)	14,000
Curie Temp[℃]	500
Operating temp[℃]	-40 to 150
OD BF [mm]	9.6~165

(2) Identification

HS 270 060

- 060 : Permeability : 19μ, 26μ, 60μ, 75μ, 90μ
- 270 : OD Size : 27.0mm Available Size : 9.6 ~ 165mm
- HS : HS Core

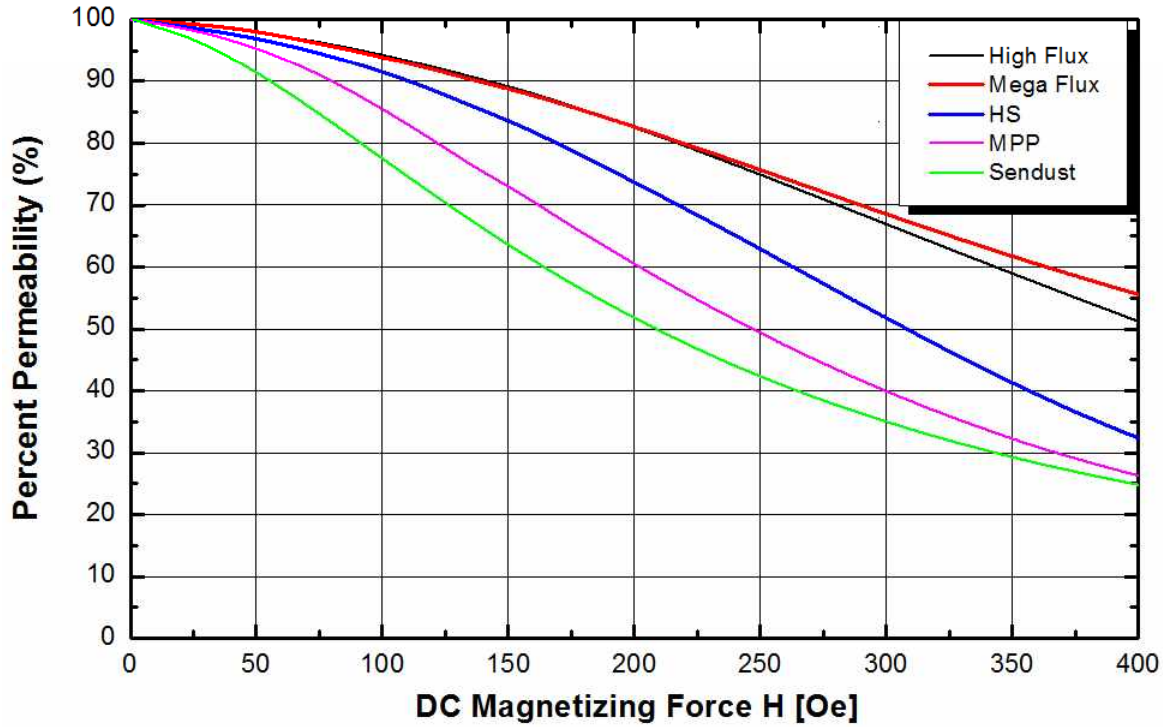


Material	ui	a	b	c
HS	019	0.01	1.12E-08	2.278
	026	0.01	2.97E-09	2.628
	060	0.01	2.14E-07	2.131
	075	0.01	5.03E-07	2.033
	090	0.01	2.23E-06	1.819

(1) Material Comparison

Material	26 μ DCB%		
	@200 Oe	@300 Oe	@400 Oe
High Flux	82%	66%	51%
Mega Flux	82%	67%	55%
HS Core	72%	51%	32%
MPP	60%	40%	26%
SENDUST	52%	35%	24%

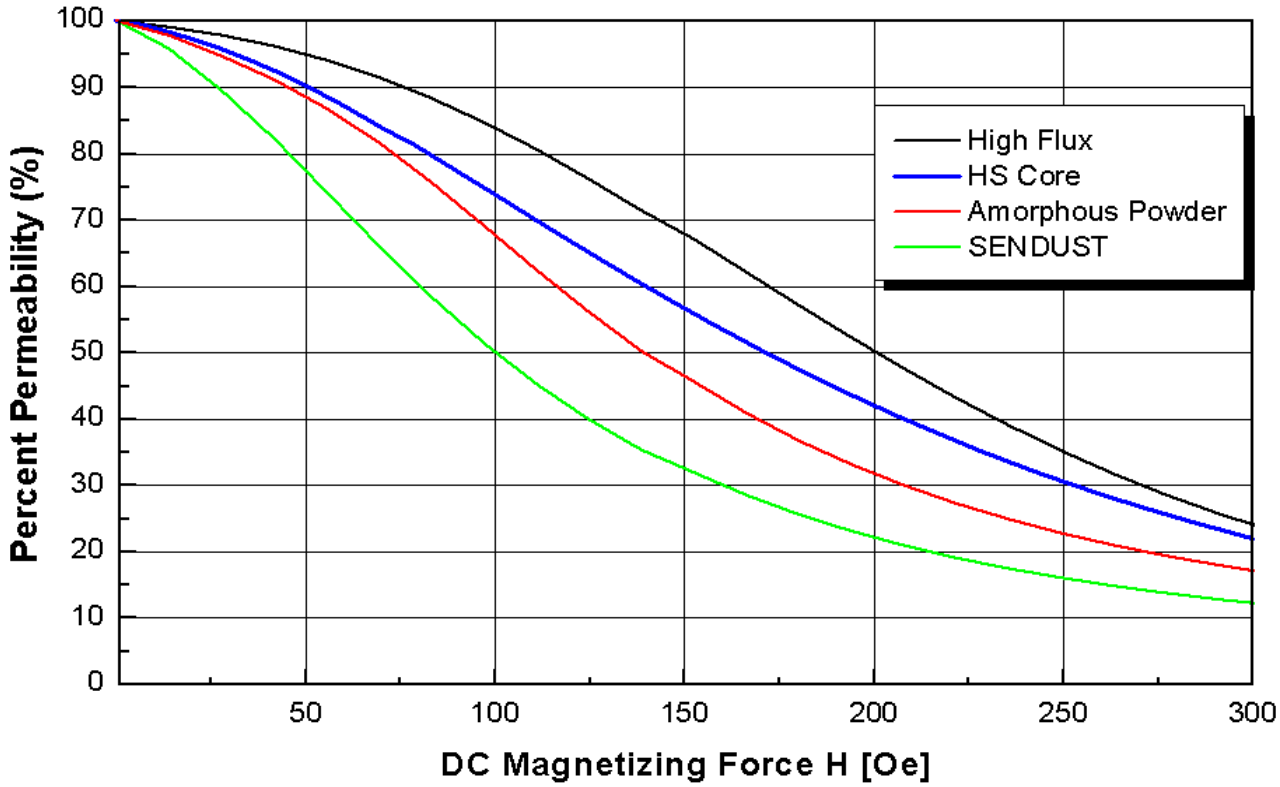
(2) DCB Graph



(1) Material Comparison

Material	60μ DCB%		
	@100 Oe	@150 Oe	@200 Oe
High Flux	83%	68%	50%
HS Core	72%	56%	41%
Amorphous Powder	68%	47%	32%
SENDUST	50%	32%	22%

(2) DCB Graph



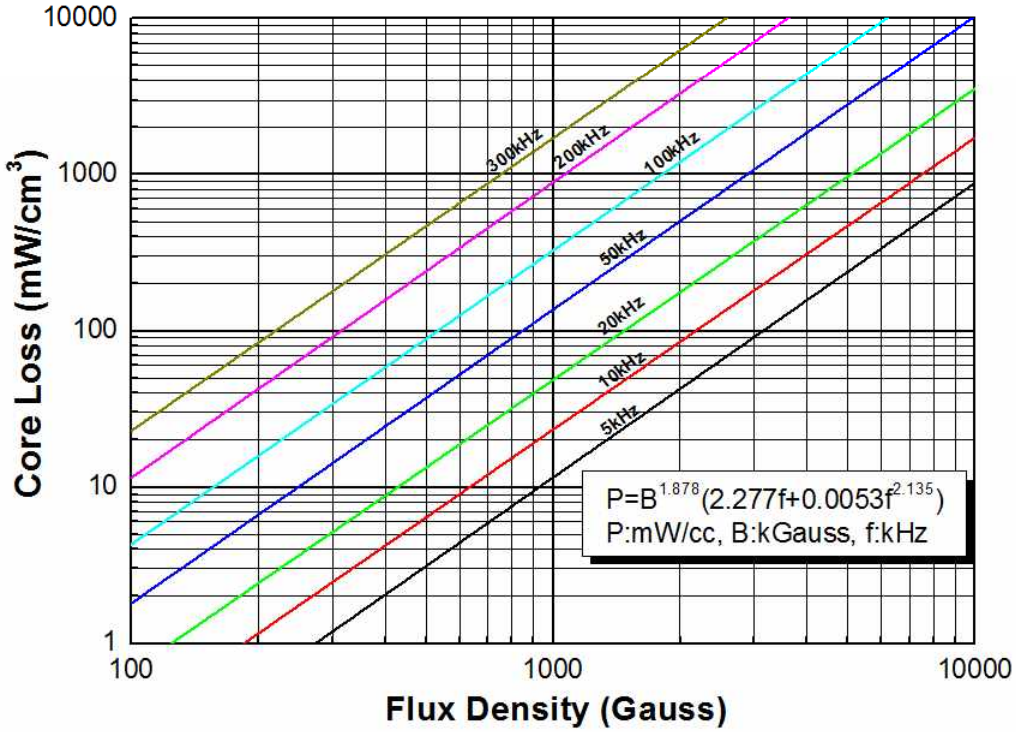
5. HS – 19,26μCore Loss

(1) Material Comparison

Unit : [mW/cc]

Material	19 μ , 26 μ Core Loss		
	Core Loss Equation (P:mW/cc, B:kGauss, f:kHz)	@50kHz,500G	@50kHz,1,000G
HS Core	$P=B^{1.878}(2.277f+0.0053f^{2.135})$	37	136
MPP	$P=B^{2.183}(2.485f+0.0125f^{2.099})$	38	170
High Flux	$P=B^{2.252}(4.081f+0.0006f^{2.736})$	48	228
SENDUST	$P=B^{2.048}(4.245f+0.0215f^{1.990})$	64	264

(2) Core Loss Graph

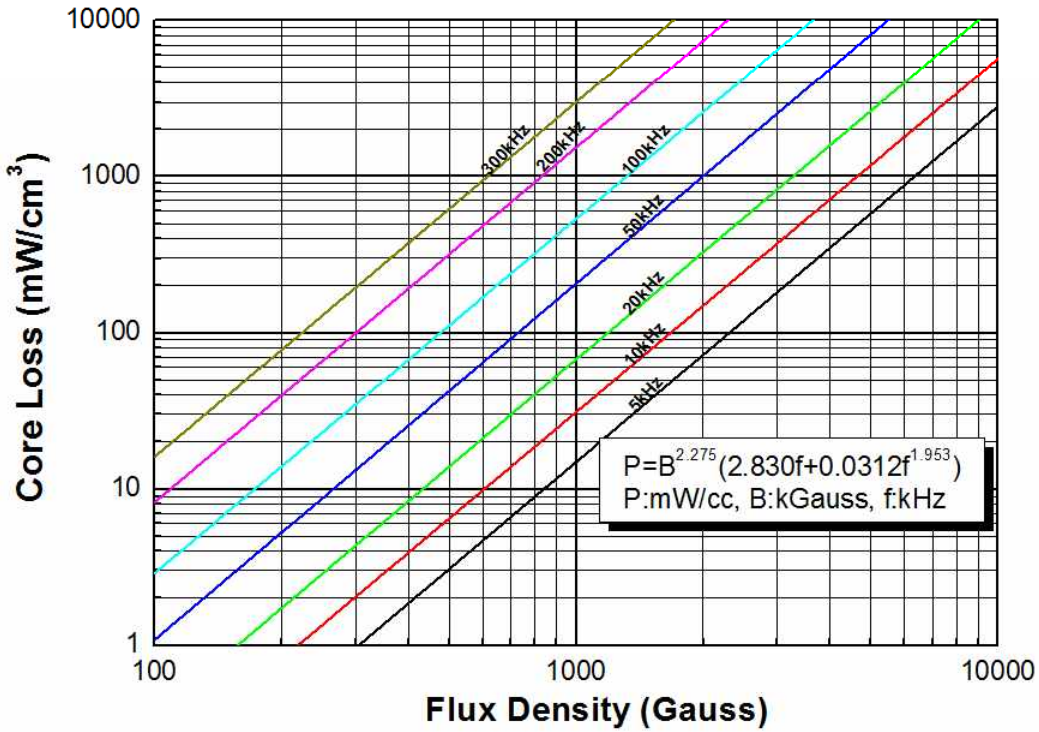


(1) Material Comparison

Unit : [mW/cc]

Material	60 μ Core Loss		
	Core Loss Equation (P:mW/cc, B:kGauss, f:kHz)	@50kHz,500G	@50kHz,1,000G
HS Core	$P=B^{2.275}(2.830f+0.0312f^{1.953})$	43	206
MPP	$P=B^{2.183}(2.485f+0.0125f^{2.099})$	38	170
High Flux	$P=B^{2.284}(3.050f+0.0023f^{2.397})$	37	180
SENDUST	$P=B^{2.207}(4.518f+0.0244f^{1.967})$	61	279

(2) Core Loss Graph



Ⅱ. Material Comparison

Materials	Perm. (μ_l)	Bs (kG)	Core Loss	DC Bias	Relative Cost	Temp. Stability	Curie Temp [℃]
MPP	26-200	7	Lower	Good	High	Best	450
High Flux	26-160	15	Low	Best	Medium	Better	500
Sendust	26-125	10	Low	Good	Low	Good	500
Mega Flux®	26-90	16	Medium	Best	Low	Better	700
HS	19-90	14	Low	Better	Medium	Better	500
Iron	10-100	10	High	Poor	Lowest	Poor	770
Fe-Si Strip (Gap)		20	High	Better	Lowest	Good	740
Amorphous (Gap)		15	Low	Better	Medium	Good	399
Ferrite (Gap)		3-5	Lowest	Poor	Lowest	Poor	100~300

New Size Toroidal Core

SIZE	Dimension [mm] After Finish			Magnetic Path Length [cm]	Cross Section Area [㎠]	Window Area [㎠]	AL Value [mH]			Market
	OD max	ID min	HT max				26 μ	60 μ	125 μ	
Φ127										
Φ147	15.50	8.20	6.40	3.63	0.154	0.528	14	32	67	PC
Φ234	24.30	13.77	9.70	5.88	0.388	1.49	22	51	105	
Φ252	26.00	13.90	10.80	6.10	0.504	1.52	27	62	130	Server PC
Φ270	27.70	14.10	11.99	6.35	0.654	1.56	32	75	157	
Φ300	30.80	16.70	11.80	7.27	0.652	2.19	29	68	141	Server PC
Φ330	33.83	19.30	11.61	8.15	0.672	2.93	28	61	127	
Φ358	36.70	21.50	11.28	8.98	0.678	3.64	24	56	117	
Φ378	38.70	22.30	13.40	9.40	0.867	3.91	30	70	145	Server PC
Φ400										
Φ434	44.30	25.50	17.10	10.74	1.308	5.11	40	92	191	UPS
Φ467										
Φ488	49.70	27.00	16.70	11.74	1.569	5.73	44	101	210	UPS
Φ508										
Φ540	54.90	28.10	15.30	12.63	1.710	6.20	44	102	213	UPS
Φ571										
Φ596	60.60	33.00	20.50	14.33	2.371	8.55	54	125	260	UPS
Φ610										
Φ640	65.10	39.00	22.10	16.04	2.394	11.95	49	113	234	Solar
Φ680	69.10	35.00	21.10	15.81	3.008	9.62	62	143	299	Solar
Φ740										

Ⅲ. Special Shape Powder Core

Ni-Fe alloy
Khaki Color
Lower Core Loss,Excellent DC Bias
Large Energy Storage Capability
Perm 26, 60, 125, 147, 160u

Ni-Fe-Mo alloy
Gray Color
Lowest Core Loss
Excellent Temperature Stabiliy
Perm 26, 60, 125, 147, 160, 173, 200u

High Flux Cores

MPP Cores

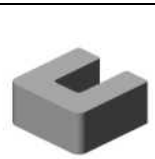
Mega Flux® Cores

Sendust Cores

Fe-Si-Al alloy
Black Color
Low Core Loss
Moderate Price
Perm 26, 60, 75, 90, 125u

Fe-Si alloy
Dark Brown Color
Excellent DC Bias
Large Energy Storage Capability
Moderate Price
Perm 26, 40, 50, 60, 75, 90u

Ⅲ. Special Shape Powder Core

		Block	E	EER	EQ	Cylinder	Round Block	U	ER	Ellipse
Materials	Perm.									
Mega Flux®	26μ	○	○	○	○	○	○	○	○	○
	40μ	○	○	○	○	○	○	○	○	○
	60μ	○	○	○	○	○	○	○	○	○
Sendust	26μ	○	○	○	○	○		○		
	40μ	○	○	○	○	○		○		
	60μ	○	○			○		○		
High Flux	26μ	○		○	○	○		○	○	
	40μ	○		○	○	○		○	○	
	60μ	○		○	○	○		○	○	
Design Tool		○	○		○	○		○	○	○

(1) Features

- Outer Diameter 100, 132, 165mm
- MPP, High Flux, Sendust, Mega Flux ®
- Electrical Characteristics are Same as Small Toroidal Cores

(2) Application

- Uninterruptible Power Supply (UPS)
- Solar Inverter
- High Power System

(3) Product Identification

CK 13 25 060

- 060 — Permeability : 60 μ — Available Perm : 26, 50, 60, 125 μ
- 25 — Height : 25mm
- 13 — OD Size : 130mm — Available Size : 100 ~ 165mm
- CK — Mega Flux® Core — CH: High Flux, CS: Sendust

(4) Design Example

Core Stacking
(OD : 132mm)

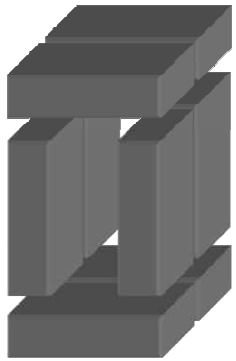
Wound Product
(Application : UPS)

(1) Features

- Easy to Assemble
- Good Temperature Stability
- Low Core Loss
- Free From Leakage Flux
- Good Design Flexibility

(2) Application

- Solar Inverter
- Uninterruptible Power Supply (UPS)
- Hybrid, Electric Vehicle
- High Power System



(3) Product Identification

BK 6 3 20 - 060

Permeability : 60 μ	Available Perm : 26, 40, 60 μ
Height : 20mm	Available Size : 15,20mm
Width : 30mm	
Length : 60mm	Available Size : 50 ~ 80mm
Mega Flux® Block Core	BH: High Flux, BS: Sendust

(4) Design Example

1)Solar Inverter

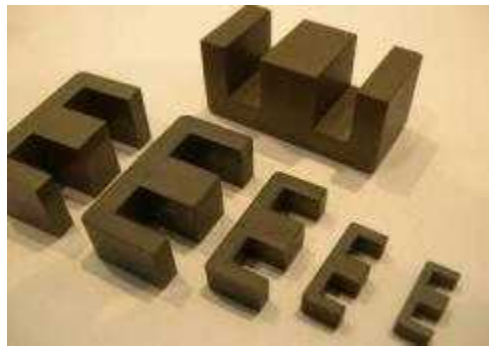
2)UPS

3)Hybrid, Electric Vehicle

4)High Power System

(1) Features

- Easy Winding
- Sendust, Mega Flux Available
- Good Temperature Stability
- No Bulk Gap
- Minimized Audible Noise



(2) Application

- Solar Inverter
- PFC Choke
- Output Choke

(3) Product Identification

ES 43 21 C – 060

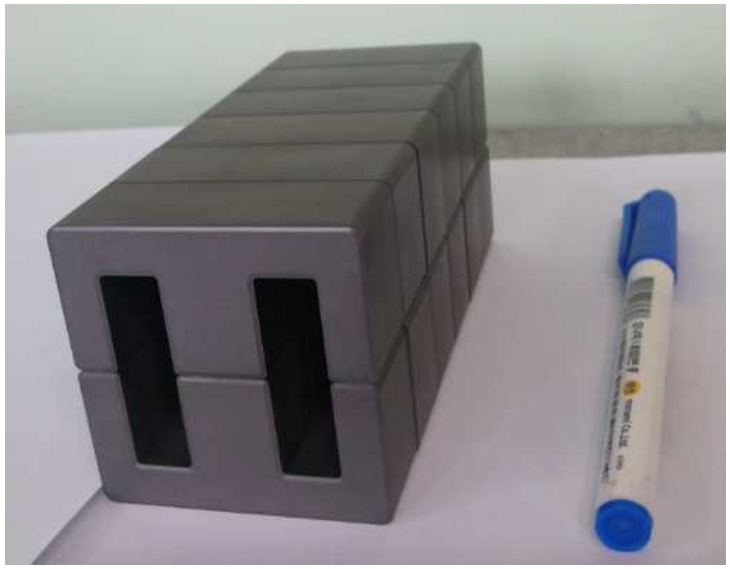
- 060 — Permeability : 60 μ — Available Perm : 26, 40, 60 μ
- C — Height
- 21 — Width : 21mm
- 43 — Length : 43mm — Available Size : 19 ~ 80mm
- ES — Sendust E Core — EK : Mega Flux®

(4) Design Example

1)E Core Stacking

: EK5528A-060 6Layer, AL=1314mH

55mm x 55mm x 124mm



2) Wound Product (PFC, Solar)

(1) Features

- Round Center Leg
- High Flux, Mega Flux Available
- Good Temperature Stability
- No Bulk Gap
- Rectangular Winding is Possible (DCR Reduction)

(2) Application

- High Current, Low Inductance Application
- Hybrid, Electrical Vehicle
- PFC Choke
- Output Choke

(3) Product Identification

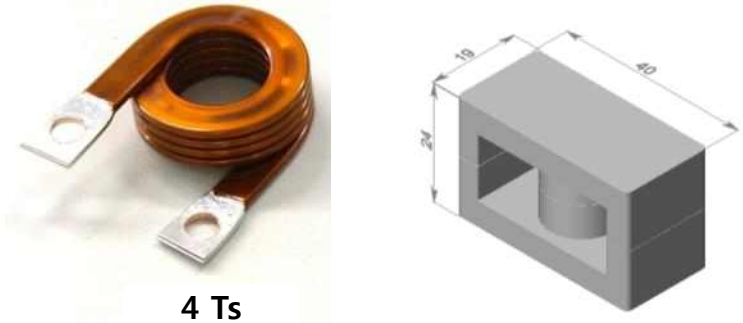
HEQ 32 22 B – 060

- 060 — Permeability : 60 μ — Available Perm : 26, 40, 60 μ
- B — Height
- 22 — Width : 22mm
- 32 — Length : 32mm — Available Size : 20 ~ 50mm
- HEQ — High Flux EQ Core — KEQ :Mega Flux®

(4) Design Example

1) HEV Application

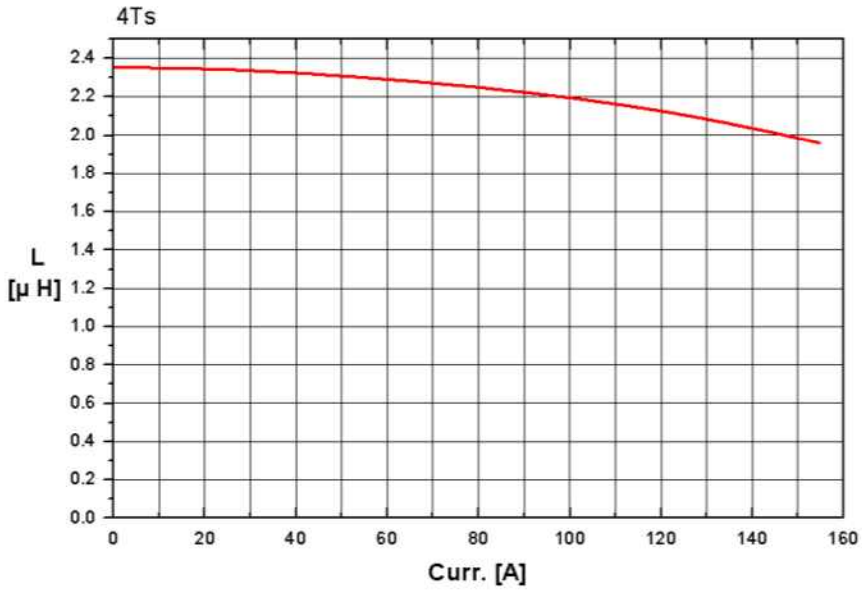
<Gap Ferrite>



<MegaFlux EER Core>

2) DCB Graph

: L(120A)=2㎛H



(1) Features

- Same Size with C Core
- High Flux, Sendust, Mega Flux
- Good Temperature Stability
- No Bulk Gap
- Minimized Audible Noise

(2) Application

- Uninterruptible Power Supply
- Solar Inverter
- Hybrid, Electrical Vehicle
- High Power Industrial Power System

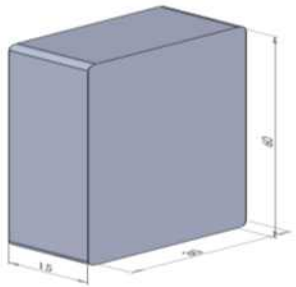
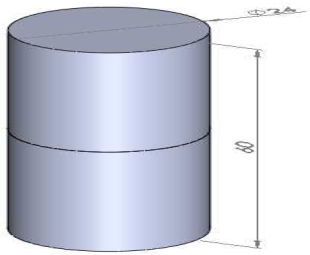
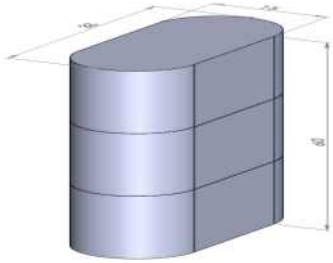
(3) Product Identification

UK 41 41 C – 060

Permeability : 60 μ	Available Perm : 26, 40, 60 μ
Height	
Width : 41mm	Available Size : 36 ~ 65mm
Length : 41mm	Available Size : 35 ~ 79mm
Mega Flux® U Core	UH: High Flux, US: Sendust

Ⅲ. Special Shape Powder Core

Shape Comparison

Post Core Type	 Block Cores	 Cylinder Cores	 Ellipse Cores
Cross sectional Area(cm^2)	4.5	4.5	4.5
Size	30mm x 15mm	φ24mm	33mm x 15mm (Corner 7.5R)
Wire length per turn(cm)	9	7.53	8.31
Reference	1)Easy assembly	1)Smaller window area	1) Wider window area than assembled blocks with cylinders 2) Wire length of 1 turn shorter by 8% than block core

(1) General Information

Ellipse Core(LK Series)

Permeability(μ)	26, 40, 60
Bmax(G)	16,000
Curie Temp[℃]	700
Operating temp[℃]	-40 to 150

(2) Identification

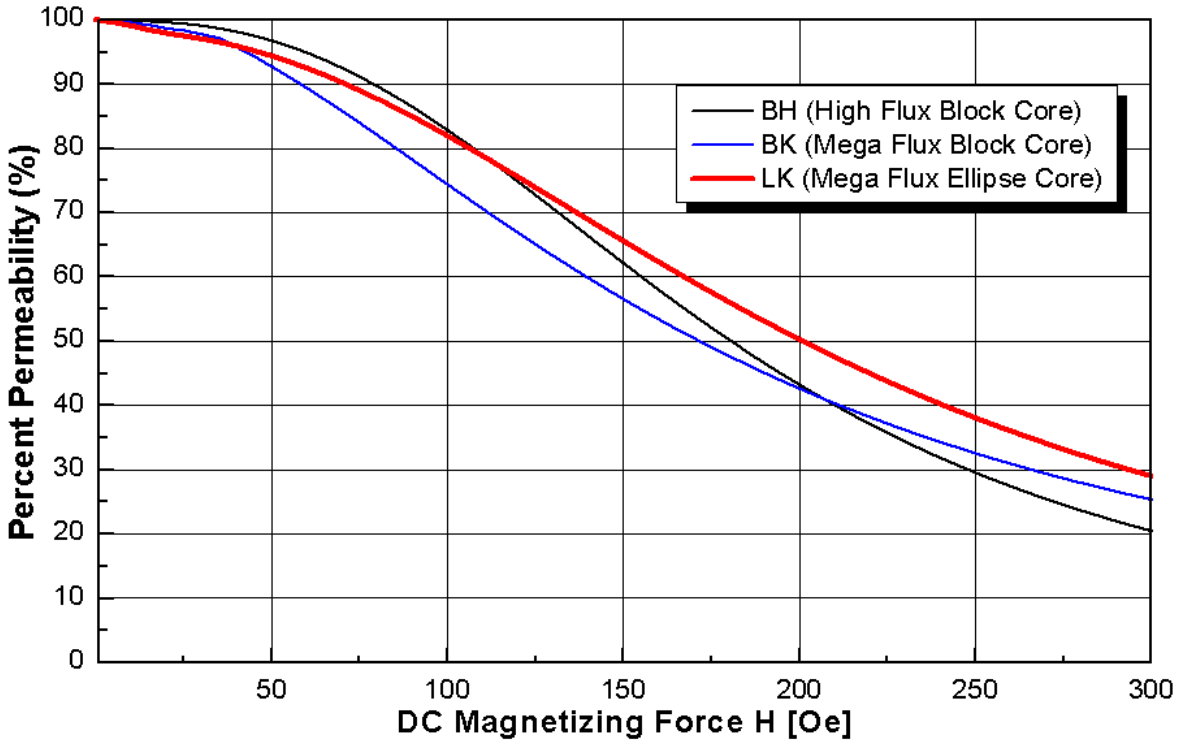
LK 70 35 A - 060

Permeability : 60μ	Available Perm : 26, 40, 60μ
Height :	Available Size : A=13.5,B=18.5mm
Width : 35mm	
Length : 70mm	Available Size : 60 ~ 70mm
Ellipse Core	LK: Mega Flux®

(3) Material Comparison

Material	60 μ DCB%		
	@100 Oe	@150 Oe	@200 Oe
LK (Mega Flux® Ellipse)	82%	66%	50%
BH (High Flux Block)	83%	62%	43%
BK (Mega Flux® Block)	74%	56%	42%

(4) DCB Graph



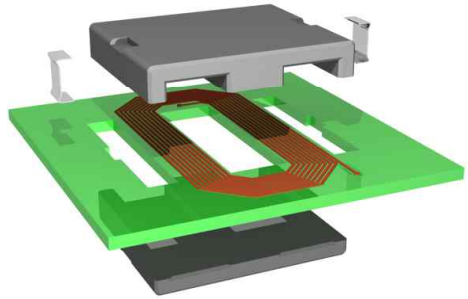
7. Planar E Core

(1) Features

- Same Size with Ferrite Planar E Core
- High Flux, Mega Flux Available
- Good Temperature Stability
- No Bulk Gap
- Easy Winding (PCB Winding)

(2) Application

- High Current, Low Inductance Application
- High Power Density DC-DC Converter(Brick)
- PFC Choke
- Output Choke



(3) Product Identification

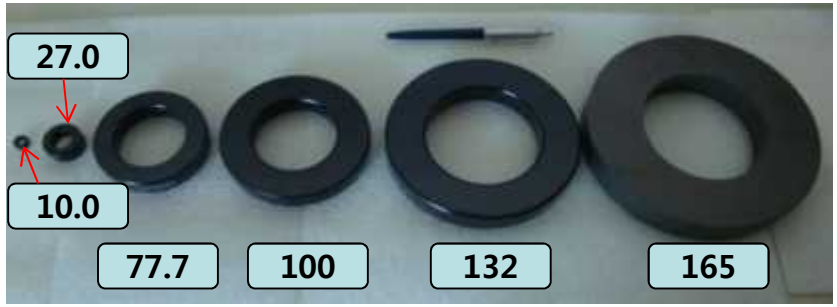
PEH 32 20 A - 060

- 060 — Permeability : 60 μ — Available Perm : 26, 40, 60 μ
- A — Height
- 20 — Width : 20mm
- 32 — Length : 32mm — Available Size : 18 ~ 43.2mm
- PEH — High Flux Planar E Core — PEK :Mega Flux®

IV. Special Shape Core Part List

(1) Material Comparison

Material	Advantage	Disadvantage
Mega Flux®	High DCB Moderate Price	Core Loss
High Flux	High DCB Low Core Loss	Cost
Sendust	Moderate Price Low Core Loss	DCB



(2) Dimension

Part No. (□□□ : perm.)	Dimensions(mm)						Path length (㎝)	Cross Section Area (㎠)	A_L value (nH/n²) ±8%		
	Before Finish OD(Max)xID(Min)xHT(Max)			After Finish OD(Max)xID(Min)xHT(Max)					026 μ	060 μ	125 μ
CS1013□□□	101.6	57.2	13.6	103.1	55.7	14.9	24.27	2.972	40	92	192
CS1016□□□	101.6	57.2	16.5	103.1	55.7	17.8	24.27	3.522	48	112	228
CS1027□□□	101.6	57.2	27.2	103.1	55.7	28.5	24.27	5.944	80	184	384
CS1033□□□	101.6	57.2	33.0	103.1	55.7	34.3	24.27	7.044	96	224	456
CS1320□□□	132.5	78.6	20.3	134.2	77.0	21.7	32.42	5.347	54	124	259
CS1325□□□	132.5	78.6	25.4	134.2	77.0	26.8	32.42	6.710	68	156	325
CS1333□□□	132.5	78.6	33.0	134.2	77.0	34.4	32.42	8.717	88	202	422
CS1340□□□	132.5	78.6	40.6	134.2	77.0	42.0	32.42	10.694	108	248	518
CS1625□□□	165.0	88.9	25.4	167.2	86.9	27.3	38.65	9.460	80	184	384

IV. Special Shape Core Part List

(1) Material Comparison

Block Material	Advantage	Disadvantage	60μ DCB%		Core Loss @25kHz, 1,000G
			@100 Oe	@200 Oe	
Mega Flux®	High DCB Moderate Price	Core Loss	76%	42%	219mW/cc
High Flux	High DCB Low Core Loss	Cost	76%	43%	102mW/cc
Sendust	Moderate Price Low Core Loss	DCB	45%	21%	106mW/cc

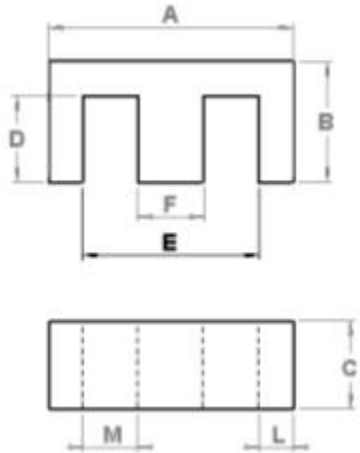
(2) Dimension

P/N	Dimensions			Path length (㎝)	Cross Section Area (㎠)	4pcs AL value (nH/n²) ±12%		
	Length (mm)	Width (mm)	Height (mm)			026u	040u	060u
BK5315	50.5±0.5	30.3±0.3	15±0.2	18.71	4.5	95	121	181
BK5320	50.5±0.5	30.3±0.3	20±0.2	18.28	6	130	165	247
BK6315	60.5±0.5	30.3±0.3	15±0.2	22.71	4.5	79	100	149
BK6320	60.5±0.5	30.3±0.3	20±0.2	22.28	6	107	135	203
BK7315	70.5±0.5	30.3±0.3	15±0.2	26.71	4.5	67	85	127
BK7320	70.5±0.5	30.3±0.3	20±0.2	26.28	6	91	115	172
BK8315	80.5±0.5	30.3±0.3	15±0.2	30.71	4.5	58	74	110
BK8320	80.5±0.5	30.3±0.3	20±0.2	30.28	6	78	100	149

IV. Special Shape Core Part List

(1) Material Comparison

Material	Advantage	Disadvantage	60μ DCB%		Core Loss
			@50 Oe	@100 Oe	@25kHz, 1,000G
Mega Flux®	High DCB Moderate Price	Core Loss	91%	76%	219mW/cc
Sendust	Moderate Price Low Core Loss	DCB	76%	50%	106mW/cc



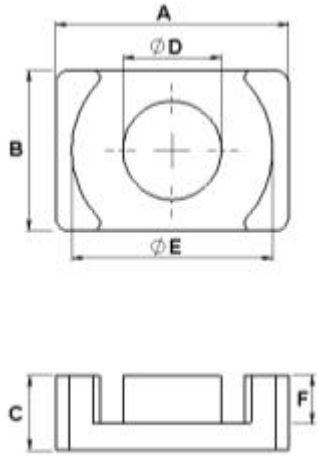
(2) Dimension

P/N	Dimensions								Path length (㎝)	Cross Section Area (㎠)	AL value (nH/n²)±12%		
	A (mm)	B (mm)	C (mm)	D[min] (mm)	E[min] (mm)	F (mm)	L[nom] (mm)	M[min] (mm)			026u	040u	060u
ES1908A	19.3±0.3	8.1±0.2	4.8±0.2	5.5	13.9	4.8±0.2	2.3	4.7	4.01	0.228	26	35	48
ES2510A	25.1±0.3	9.6±0.2	6.5±0.2	6.2	18.8	6.1±0.2	3.0	6.3	4.85	0.385	39	52	70
ES3015A	30.1±0.3	15.0±0.2	7.1±0.2	9.7	19.5	7.0±0.2	5.1	6.4	6.56	0.601	33	46	71
ES3515A	34.5±0.3	14.1±0.2	9.3±0.2	9.6	25.3	9.3±0.2	4.4	7.9	6.94	0.840	56	75	102
ES4117A	40.9±0.6	16.5±0.3	12.5±0.3	10.4	28.3	12.5±0.3	6.0	7.9	7.75	1.520	88	119	163
ES4321A	42.8±0.7	21.1±0.4	10.8±0.3	15.0	30.4	11.7±0.3	5.9	9.5	9.84	1.280	56	76	105
ES4321B	42.8±0.7	21.1±0.4	15.4±0.3	15.0	30.4	11.7±0.3	5.9	9.5	9.84	1.830	80	108	150
ES4321C	42.8±0.7	21.1±0.4	20.0±0.3	15.0	30.4	11.7±0.3	5.9	9.5	9.84	2.370	104	140	194
ES5528A	54.9±0.8	27.6±0.4	20.6±0.4	18.5	37.5	16.8±0.4	8.4	10.3	12.30	3.500	116	157	219
ES5528B	54.9±0.8	27.6±0.4	24.6±0.4	18.5	37.5	16.8±0.4	8.4	10.3	12.30	4.170	138	187	261
ES6533A	65.1±1.0	32.5±0.5	27.0±0.4	22.2	44.2	19.7±0.4	10.0	12.1	14.70	5.400	162	230	300
ES7228A	72.4±1.1	27.9±0.5	19.0±0.4	17.8	52.6	19.1±0.4	9.5	16.9	13.70	3.680	130	173	236
ES8038A	80.0±1.2	38.1±0.6	19.8±0.4	28.1	59.3	19.8±0.4	9.9	19.8	18.50	3.890	103	145	190

IV. Special Shape Core Part List

(1) Material Comparison

Material	Advantage	Disadvantage	60μ DCB%		Core Loss @25kHz, 1,000G
			@100 Oe	@200 Oe	
Mega Flux®	High DCB Moderate Price	Core Loss	76%	42%	219mW/cc
High Flux	High DCB Low Core Loss	Cost	76%	43%	102mW/cc

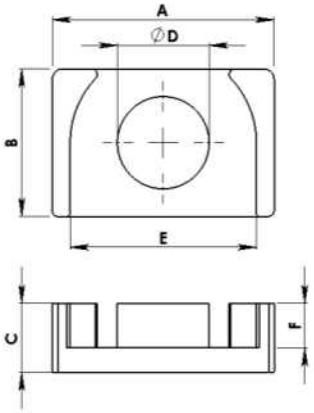


(2) EQ Core (HEQ : HighFlux, KEQ : Mega Flux®)

P/N	Dimensions						Path length (㎝)	Cross Section Area (㎠)	AL value (nH/n²) ±12%		
	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)			026u	040u	060u
HEQ2014A	20.5±0.3	14.0±0.2	8.1±0.2	8.8±0.2	18.0±0.2	5.7±0.3	4.52	0.608	44	68	101
HEQ2014B	20.5±0.3	14.0±0.2	10.1±0.2	8.8±0.2	18.0±0.2	7.7±0.3	5.32	0.608	37	57	86
HEQ2619A	26.5±0.3	19.0±0.2	10.1±0.2	12.0±0.2	22.6±0.3	6.8±0.3	5.47	1.198	72	110	165
HEQ2619B	26.5±0.3	19.0±0.2	12.4±0.2	12.0±0.2	22.6±0.3	9.1±0.3	6.39	1.198	61	94	141
HEQ3222A	32.0±0.4	22.0±0.3	10.3±0.2	13.5±0.2	27.6±0.3	6.6±0.3	6.03	1.523	83	127	190
HEQ3222B	32.0±0.4	22.0±0.3	15.2±0.2	13.5±0.2	27.6±0.3	11.5±0.3	7.99	1.523	62	96	144
HEQ3626A	36.0±0.5	26.0±0.3	17.4±0.3	14.4±0.2	32.0±0.4	13.4±0.3	9.47	1.808	62	96	144
HEQ4128A	41.5±0.5	28.0±0.4	19.9±0.3	14.9±0.2	36.5±0.4	15.4±0.3	11.52	1.997	57	87	131
HEQ5032A	50.0±0.6	32.0±0.4	25.0±0.4	20.0±0.3	44.0±0.5	19.5±0.4	13.34	3.141	77	118	178

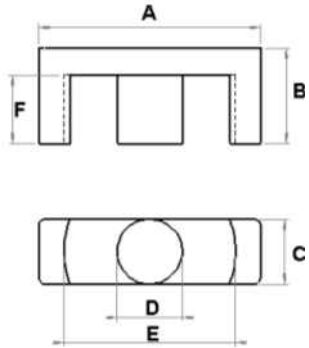
(3) ER Core (RH : HighFlux, RK : Mega Flux®)

P/N	Dimensions						Path length (㎝)	Cross Section Area (㎠)	AL value (nH/n²) ±12%		
	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)			026u	040u	060u
RH1911A	18.8±0.3	11.0±0.2	6.0±0.2	7.4±0.2	15.6±0.2	4.0±0.2	3.54	0.425	39	60	90
RH2314A	23.4±0.3	14.0±0.2	8.7±0.2	9.2±0.2	19.4±0.2	6.2±0.2	4.91	0.670	45	69	103
RH2518A	25.0±0.3	18.0±0.2	8.4±0.2	11.0±0.2	21.0±0.3	5.4±0.2	4.97	0.960	63	97	146
RH2518B	25.0±0.3	18.0±0.2	10.8±0.2	11.0±0.2	21.0±0.3	7.8±0.2	5.93	0.960	53	81	122
RH3020A	30.0±0.4	20.0±0.3	9.2±0.2	12.0±0.2	25.6±0.3	5.9±0.2	5.81	1.140	64	99	148
RH3020B	30.0±0.4	20.0±0.3	11.8±0.2	12.0±0.2	25.6±0.3	8.5±0.2	6.85	1.140	54	84	125
RH3222A	32.0±0.4	22.0±0.3	10.3±0.2	13.5±0.2	27.0±0.3	6.6±0.2	6.25	1.430	75	115	172
RH3222B	32.0±0.4	22.0±0.3	13.4±0.2	13.5±0.2	27.0±0.3	9.7±0.2	7.49	1.430	62	96	144
RH3222C	32.0±0.4	22.0±0.3	15.2±0.2	13.5±0.2	27.0±0.3	11.5±0.2	8.21	1.430	57	88	131
RH3624A	36.2±0.4	24.0±0.3	11.2±0.2	15.0±0.2	30.4±0.4	7.2±0.2	6.78	1.770	85	131	197
RH3624B	36.2±0.4	24.0±0.3	14.4±0.2	15.0±0.2	30.4±0.4	10.4±0.2	8.06	1.770	72	110	166
RH4225A	42.0±0.5	25.0±0.3	12.3±0.2	16.2±0.3	35.2±0.4	7.9±0.2	7.61	2.060	88	136	204
RH4225B	42.0±0.5	25.0±0.3	15.8±0.2	16.2±0.3	35.2±0.4	11.4±0.2	9.01	2.060	75	115	172



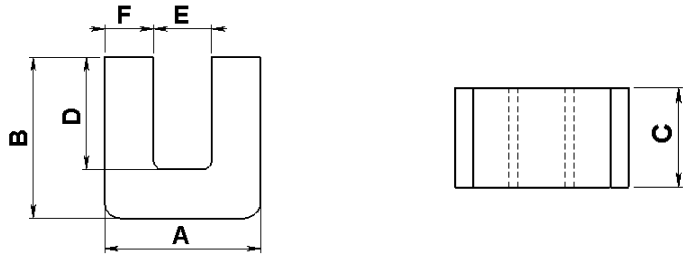
(4) EER Core (HER : HighFlux, KER : Mega Flux®)

P/N	Dimensions						Path length (㎝)	Cross Section Area (㎠)	AL value (nH/n²) ±12%		
	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)			026u	040u	060u
HER2507A	25.5±0.3	9.3±0.2	7.5±0.2	7.5±0.2	19.8±0.2	6.2	5.10	0.450	39	53	73
HER2507B	25.5±0.3	11.0±0.2	7.5±0.2	7.5±0.2	19.8±0.2	7.9	5.78	0.450	34	47	65
HER3010A	30.6±0.3	15.8±0.2	9.8±0.2	9.8±0.2	22.0±0.2	11	8.66	0.754	38	53	72
HER3511A	35.0±0.4	15.8±0.2	11.3±0.2	11.3±0.2	25.6±0.3	9.8	8.30	1.078	57	78	108
HER3511B	35.0±0.4	20.7±0.2	11.3±0.2	11.3±0.2	25.6±0.3	14.7	10.27	1.078	46	63	87
HER4013A	40.0±0.5	17.4±0.3	13.3±0.3	13.3±0.3	29.0±0.4	10.4	9.13	1.491	72	99	135
HER4013B	40.0±0.5	22.4±0.3	13.3±0.3	13.3±0.3	29.0±0.4	15.4	11.13	1.491	59	81	111
HER4215A	42.0±0.6	22.4±0.4	15.5±0.4	15.5±0.4	29.4±0.5	15.4	10.64	2.026	84	115	158
HER4215B	42.0±0.6	25.4±0.4	15.5±0.4	15.5±0.4	29.4±0.5	18.4	11.84	2.026	75	103	142
HER4917A	49.0±0.7	18.8±0.5	17.2±0.5	17.2±0.5	36.5±0.6	12.2	9.57	2.353	99	136	185
HER4917B	49.0±0.7	24.7±0.5	17.2±0.5	17.2±0.5	36.5±0.6	18.1	11.93	2.353	79	109	149



IV. Special Shape Core Part List

(1) Dimension



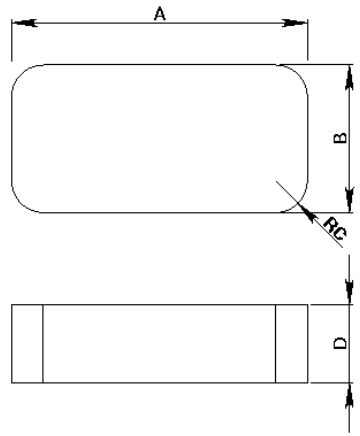
P/N	Dimensions							Path length (㎝)	Cross Section Area (㎠)	AL value (nH/n²) ±12%		
	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	Inner Radius (mm)			026u	040u	060u
UH3536A	35.0±0.5	36.0±0.5	20.0±0.5	25.0	13.0	11.0±0.3	2	16.90	2.200	43	65	98
UH3536B	35.0±0.5	36.0±0.5	25.0±0.5	25.0	13.0	11.0±0.3	2	16.90	2.750	53	82	123
UH4141A	41.0±0.6	41.0±0.6	20.0±0.5	28.0	15.0	13.0±0.3	2	19.30	2.600	44	68	102
UH4141B	41.0±0.6	41.0±0.6	25.0±0.5	28.0	15.0	13.0±0.3	2	19.30	3.250	55	85	127
UH4141C	41.0±0.6	41.0±0.6	30.0±0.5	28.0	15.0	13.0±0.3	2	19.30	3.900	66	102	152
UH5251A	52.0±0.7	51.0±0.7	25.0±0.5	35.0	20.0	16.0±0.4	2.5	24.30	4.000	54	83	124
UH5251B	52.0±0.7	51.0±0.7	30.0±0.5	35.0	20.0	16.0±0.4	2.5	24.30	4.800	65	99	149
UH6361A	63.0±0.8	60.5±0.8	30.0±0.5	41.5	25.0	19.0±0.4	3	29.10	5.700	64	98	148
UH6361B	63.0±0.8	60.5±0.8	35.0±0.5	41.5	25.0	19.0±0.4	3	29.10	6.650	75	115	172
UH7965A	79.0±1.0	64.5±1.0	30.0±0.5	42.5	35.0	22.0±0.5	4	32.60	6.600	66	102	153
UH7965B	79.0±1.0	64.5±1.0	35.0±0.5	42.5	35.0	22.0±0.5	4	32.60	7.700	77	119	178

IV. Special Shape Core Part List

(1) Part List

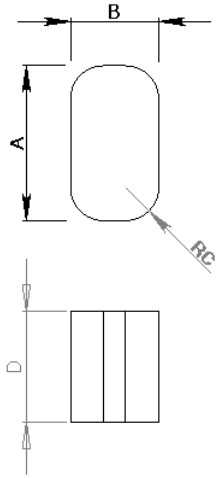
1) Plates

P/N	Dimensions				Cross Section Area(㎠)
	A Length (mm)	B Width (mm)	RC Radius (mm)	D Height (mm)	
LK5035-13	50.5±0.5	35.3±0.3	7.5±0.2	13.5±0.2	4.77
LK5035-18	50.5±0.5	35.3±0.3	7.5±0.2	18.5±0.2	6.52
LK6035-13	60.5±0.5	35.3±0.3	7.5±0.2	13.5±0.2	4.77
LK6035-18	60.5±0.5	35.3±0.3	7.5±0.2	18.5±0.2	6.52
LK7035-13	70.5±0.5	35.3±0.3	7.5±0.2	13.5±0.2	4.77
LK7035-18	70.5±0.5	35.3±0.3	7.5±0.2	18.5±0.2	6.52
LK8035-13	80.5±0.5	35.3±0.3	7.5±0.2	13.5±0.2	4.77
LK8035-18	80.5±0.5	35.3±0.3	7.5±0.2	18.5±0.2	6.52

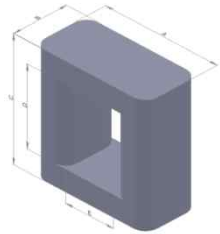


2) Posts

P/N	Dimensions				Cross Section Area (㎠)
	A Length (mm)	B Width (mm)	RC Radius (mm)	D Height (mm)	
LK3515-20	35.3±0.3	15.2±0.2	7.5±0.2	20.0±0.2	4.77
LK3515-25	35.3±0.3	15.2±0.2	7.5±0.2	25.0±0.2	4.77
LK3520-20	35.3±0.3	20.2±0.2	7.5±0.2	20.0±0.2	6.52
LK3520-25	35.3±0.3	20.2±0.2	7.5±0.2	25.0±0.2	6.52



IV. Special Shape Core Part List

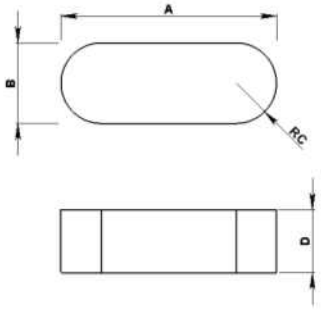


(2) Assembling

PLATE	POST		Dimensions					Path length (㎝)	Cross Section Area (㎠)	Window Area (㎠)	AL value (nH/n²)±12%		
	P/N	1 LEG STACK	A Length (mm)	B Width (mm)	C Height (mm)	D Inner HT (mm)	E Inner Length (mm)				A= 026u	B= 040u	C= 060u
LK5035-13	LK3515-20	2	50.5±0.5	35.3±0.3	67.0±0.5	40.0±0.4	20.0±0.4	16.47	4.77	8	113	146	218
	LK3515-25	2	50.5±0.5	35.3±0.3	77.0±0.5	50.0±0.4	20.0±0.4	18.47	4.77	10	101	130	195
	LK3515-20	3	50.5±0.5	35.3±0.3	87.0±0.5	60.0±0.4	20.0±0.4	20.47	4.77	12	91	117	176
LK5035-18	LK3515-20	2	50.5±0.5	35.3±0.3	67.0±0.5	40.0±0.4	10.0±0.4	16.04	6.52	4	158	204	306
	LK3515-25	2	50.5±0.5	35.3±0.3	77.0±0.5	50.0±0.4	10.0±0.4	18.04	6.52	5	141	182	273
	LK3515-20	3	50.5±0.5	35.3±0.3	87.0±0.5	60.0±0.4	10.0±0.4	20.04	6.52	6	127	164	245
LK6035-13	LK3515-20	2	60.5±0.5	35.3±0.3	67.0±0.5	40.0±0.4	30.0±0.4	18.47	4.77	12	101	130	195
	LK3515-25	2	60.5±0.5	35.3±0.3	77.0±0.5	50.0±0.4	30.0±0.4	20.47	4.77	15	91	117	176
	LK3515-20	3	60.5±0.5	35.3±0.3	87.0±0.5	60.0±0.4	30.0±0.4	22.47	4.77	18	83	107	160
LK6035-18	LK3520-20	2	60.5±0.5	35.3±0.3	77.0±0.5	40.0±0.4	20.0±0.4	18.04	6.52	8	141	182	273
	LK3520-25	2	60.5±0.5	35.3±0.3	87.0±0.5	50.0±0.4	20.0±0.4	20.04	6.52	10	127	164	245
	LK3520-20	3	60.5±0.5	35.3±0.3	97.0±0.5	60.0±0.4	20.0±0.4	22.04	6.52	12	115	149	223
LK7035-13	LK3515-20	2	70.5±0.5	35.3±0.3	67.0±0.5	40.0±0.4	40.0±0.4	20.47	4.77	16	91	117	176
	LK3515-25	2	70.5±0.5	35.3±0.3	77.0±0.5	50.0±0.4	40.0±0.4	22.47	4.77	20	83	107	160
	LK3515-20	3	70.5±0.5	35.3±0.3	87.0±0.5	60.0±0.4	40.0±0.4	24.47	4.77	24	76	98	147
LK7035-18	LK3520-20	2	70.5±0.5	35.3±0.3	77.0±0.5	40.0±0.4	30.0±0.4	20.04	6.52	12	127	164	245
	LK3520-25	2	70.5±0.5	35.3±0.3	87.0±0.5	50.0±0.4	30.0±0.4	22.04	6.52	15	115	149	223
	LK3520-20	3	70.5±0.5	35.3±0.3	97.0±0.5	60.0±0.4	30.0±0.4	24.04	6.52	18	106	136	204

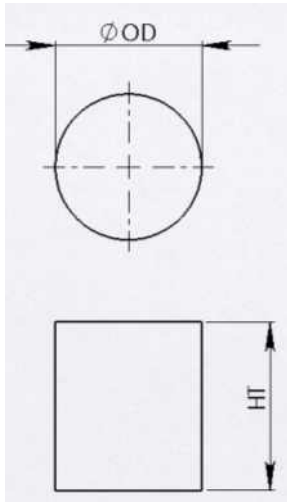
(1) Plate : Round Block Core

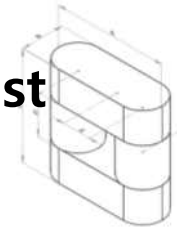
P/N	Dimensions				Cross Section Area (㎠)	POST
	A Length (mm)	B Width (mm)	RC Radius (mm)	D Height (mm)		
RBK5420A	54.5±0.5	20.2±0.3	10.0±0.2	15.7±0.2	3.14	CK2020
RBK6424A	64.5±0.5	24.2±0.3	12.0±0.2	18.8±0.2	4.52	CK2424
RBK6725A	67.5±0.5	25.2±0.3	12.5±0.2	19.6±0.2	4.91	CK2525
RBK7428A	74.5±0.5	27.5±0.3	13.7±0.2	21.7±0.2	6.00	CK2828
RBK8030A	80.5±0.5	30.2±0.3	15.0±0.2	23.5±0.2	7.07	CK3030



(2) Post : Cylinder Core

P/N	Dimensions		1Turn length (mm)	Cross Section Area (㎠)	PLATE
	OD (mm)	HT (mm)			
CK2020	20.2±0.3	20.0±0.2	62.80	3.14	RBK5420A
CK2424	24.2±0.3	24.0±0.2	75.40	4.52	RBK6424A
CK2525	25.2±0.3	25.0±0.2	78.50	4.91	RBK6725A
CK2828	27.5±0.3	27.5±0.2	86.40	6.00	RBK7428A
CK3030	30.2±0.3	30.0±0.2	94.20	7.07	RBK8030A





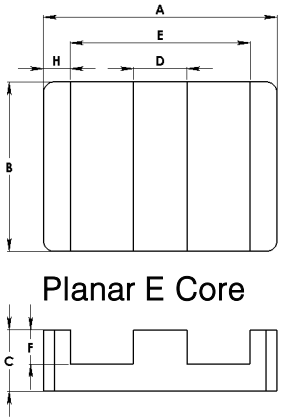
(3) Assembling

PLATE P/N	POST		Dimensions					Path Length (㎝)	Cross Section Area (㎠)	Window Area (㎠)	AL value (nH/n²) ±12%		
	P/N	1 LEG STACK	A Length (mm)	B Width (mm)	C Height (mm)	D Inner Height (mm)	E Inner Length (mm)				026u	040u	060u
RBK5420A	CK2020	1	54	20	51.4	20	14	12.41	3.14	2.8	99	127	191
		2	54	20	71.4	40	14	16.41	3.14	5.6	75	96	144
		3	54	20	91.4	60	14	20.41	3.14	8.4	60	77	116
RBK6424A	CK2424	1	64	24	61.6	24	16	14.72	4.52	3.84	120	154	232
		2	64	24	85.6	48	16	19.52	4.52	7.68	90	116	175
		3	64	24	109.6	72	16	24.32	4.52	11.52	72	93	140
RBK6725A	CK2525	1	67	25	64.2	25	17	15.41	4.91	4.25	124	160	240
		2	67	25	89.2	50	17	20.41	4.91	8.5	94	121	181
		3	67	25	114.2	75	17	25.41	4.91	12.75	75	97	146
RBK7428A	CK2828	1	74	27.5	71.4	28	19	17.13	6.00	5.32	136	176	264
		2	74	27.5	99.4	56	19	22.73	6.00	10.64	103	133	199
		3	74	27.5	127.4	84	19	28.33	6.00	15.96	83	106	160
RBK8030A	CK3030	1	80	30	77	30	20	18.4	7.07	6	150	193	290
		2	80	30	107	60	20	24.4	7.07	12	113	146	218
		3	80	30	137	90	20	30.4	7.07	18	91	117	175

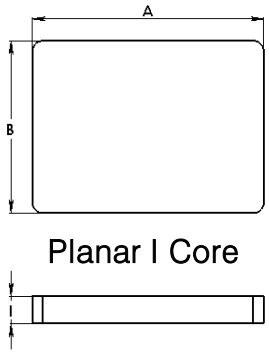
IV. Special Shape Core Part List

(1) Dimension

P/N	Dimensions							Path length (㎝)	Cross Section Area (㎠)	AL value (nH/n²) ±12%		
	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	H, I (mm)			026u	040u	060u
PEK1810A	18.0±0.3	10.0±0.2	4.0±0.2	4.0±0.2	14.0±0.2	2.0±0.3	2.0±0.2	2.03	0.394	63	98	146
PIK1810A	18.0±0.3	10.0±0.2					2.0±0.2					
PEK2216A	21.8±0.3	15.8±0.2	5.7±0.2	5.0±0.2	16.8±0.2	3.2±0.3	2.5±0.2	2.61	0.780	98	150	225
PIK2216A	21.8±0.3	15.8±0.2					2.5±0.2					
PEK3220A	31.8±0.3	20.3±0.2	6.4±0.2	6.4±0.2	25.4±0.3	3.2±0.3	3.2±0.2	3.55	1.283	118	182	272
PIK3220A	31.8±0.3	20.3±0.2					3.2±0.2					
PEK3825A	38.0±0.3	25.4±0.2	8.2±0.2	7.6±0.2	30.4±0.3	4.4±0.3	3.8±0.2	4.35	1.906	143	220	330
PIK3825A	38.0±0.3	25.4±0.2					3.8±0.2					
PEK4328A	43.2±0.4	27.9±0.3	9.5±0.2	8.2±0.2	35.0±0.3	5.4±0.3	4.1±0.2	5.05	2.257	146	225	337
PIK4328A	43.2±0.4	27.9±0.3					4.1±0.2					



Planar E Core



Planar I Core

Thank You !