Ferrite Cores for Coil

DR/FT/THP/P/TH series

Issue date: February 2009

- All specifications are subject to change without notice.
- Conformity to RoHS Directive: This means that, in conformity with EU Directive 2002/95/EC, lead, cadmium, mercury, hexavalent chromium, and specific bromine-based flame retardants, PBB and PBDE, have not been used, except for exempted applications.

TDK

Ferrite Cores for Coil
DR, FT, THP P, TH Series

MATERIAL CHARACTERISTICS

Recommended Material	Practical frequency (MHz)	Initial permeability μi	Relative loss factor tanδ/μi ×10⁻⁶	Temperature factor of initial permeability αμir ×10⁻⁶/°C [20 to 60°C]	Curie temperature Tc (°C)	Saturation magnetic flux density Bs (mT)	Remanent flux density Br (mT)	Coercive force Hc (A/m)	Electrical resistivity ρv (Ω-m)	Density d_b (kg/m³)	Material's feature
L8F	0.01 to 0.5	1500±25%	<10[0.01MHz] <60[0.5MHz]	1 to 6	>130	320[1.6kA/m]	130	30	10^5	5.1×10^3	For general purpose
GT2	0.1 to 2	250±25%	<60[2MHz]	9 to 15	>140	310[1.6kA/m]	160	100	10^5	5.1×10^3	For general purpose
GT3	0.4 to 10	120±25%	<100[10MHz]	8 to 18	>250	400[4kA/m]	240	350	10^5	5.2×10^3	For general purpose
L7H	0.05 to 1	800±25%	<12[0.05MHz] <80[1MHz]	7 to 15	>180	390[4kA/m]	220	16	10^5	5.1×10^3	High Bs
L13H	0.05 to 1	500±25%	<55[0.1MHz] <65[1MHz]	15 to 35	>240	460[4kA/m]	320	37	10^5	5.2×10^3	High Bs
L2H	0.05 to 2	400±25%	<15[0.05MHz] <65[2MHz]	15 to 25	>250	430[4kA/m]	240	35	10^5	5.1×10^3	High Bs
L20H	0.05 to 2	400±25%	<60[0.05MHz] <80[2MHz]	13 to 19	>300	480[4kA/m]	340	50	$>10^5$	5.2×10^3	High Bs
L14H	0.05 to 3	300±25%	<160[0.1MHz] <90[2MHz]	25 to 40	>250	480[4kA/m]	350	65	10^5	5.2×10^3	High Bs
L11H	0.05 to 3	300±25%	<30[0.05MHz] <60[3MHz]	20 to 30	>250	470[4kA/m]	340	60	$>10^5$	5.2×10^3	High Bs
L9H	0.05 to 3	200±25%	<35[0.05MHz] <65[3MHz]	20 to 30	>300	500[12kA/m]	280	64	10^5	5.2×10^3	High Bs
L6	0.01 to 0.5	1500±25%	<10[0.01MHz] <60[0.5MHz]	1 to 3	>100	280[1.6kA/m]	105	16	10^5	5×10^3	Low temperature coefficient
GT1	0.1 to 1.5	500±25%	<350[1.5MHz]	0 to 2	>120	300[1.6kA/m]	90	55	$>10^5$	5.1×10^3	Low temperature coefficient
L6N	0.1 to 1.5	400±25%	<15[0.1MHz] <50[1.5MHz]	−1 to 1	>180	350[4kA/m]	180	120	$>10^5$	5.2×10^3	Low temperature coefficient
GT8	0.1 to 1.5	300±25%	<350[1.5MHz]	0 to 2	>150	260[1.6kA/m]	105	120	$>10^5$	5.1×10^3	Low temperature coefficient
GT4	0.5 to 20	70±25%	<350[20MHz]	−1 to 5	>300	360[4kA/m]	260	700	$>10^5$	5×10^3	Low temperature coefficient
GT10	0.5 to 30	45±25%	<350[30MHz]	−5 to 5	>300	320[4kA/m]	250	950	$>10^5$	5×10^3	Low temperature coefficient
GT6	10 to 120	12±25%	<1500[120MHz]	−10 to 10	>300	230[8kA/m]	160	2700	$>10^5$	4.7×10^3	Low temperature coefficient
GT9	10 to 80	11±25%	<1500[120MHz]	−70 to −30	>300	220[16kA/m]	130	2800	$>10^5$	4.2×10^3	Low temperature coefficient

• 1 (mT): 10 (gauss), 1(A/m): 0.012566 (Oersted)

• All specifications are subject to change without notice.

MATERIAL CHARACTERISTICS

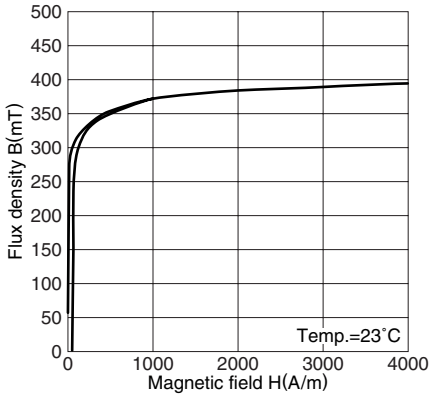
Recommended Material	Practical frequency	Initial permeability μi	Relative loss factor tanδ/μi	Temperature factor of initial permeability αμir	Curie temperature Tc	Saturation magnetic flux density Bs	Remanent flux density Br	Coercive force Hc	Electrical resistivity ρv	Density d_b	Material's feature
	(MHz)		$\times 10^{-6}$	$\times 10^{-6}$/°C [20 to 60°C]	(°C)	(mT)	(mT)	(A/m)	(Ω-m)	(kg/m^3)	
T2F	0.1 to 1.5	400±25%	<25[0.1MHz] <50[1.5MHz]	2 to 8	>170	420[4kA/m]	180	95	10^5	5.2×10^3	Stress-insensitive
T6F	0.1 to 50	18±25%	<300[0.1MHz] <1000[50MHz]	55 to 65	>250	320[16kA/m]	57	1350	10^5	5.1×10^3	Stress-insensitive
T7F	0.1 to 100	8±25%	<700[0.1MHz] <1500[100MHz]	15 to 25	>300	220[16kA/m]	130	3500	10^5	5×10^3	Stress-insensitive
T9F	0.1 to 1000	1	—	—	—	—	—	—	10^5	5.3×10^3	Stress-insensitive
L17H	0.05 to 0.5	1200±25%	<10[0.05MHz] <45[0.5MHz]	9 to 18	>160	375[4kA/m]	240	10	$>10^5$	5.2×10^3	Low loss
L18H	0.05 to 1.0	800±25%	<18[0.05MHz] <140[1.5MHz]	12 to 18	>180	420[4kA/m]	280	13	$>10^5$	5.2×10^3	Low loss
L7R	0.05 to 1	750±25%	<90[1MHz]	7 to 15	>180	400[4kA/m]	290	26	10^5	5.2×10^3	Low loss
SY20	1 to 5	290±25%	<31[1MHz] <600[5MHz]	15 to 25	>150	330[2kA/m]	250	110	10^5	5.1×10^3	Low loss
SY22	5 to 15	80	<230[1MHz] <100[10MHz]	25 to 45	>250	310[2kA/m]	200	370	$>10^5$	5.2×10^3	Low loss
L5	0.1 to 1.5	750±25%	<15[0.1MHz] <280[1.5MHz]	1 to 3	>120	310[1.6kA/m]	105	40	10^5	5×10^3	High Q
GT5	3 to 80	25±25%	<470[80MHz]	30 to 70	>300	300[4kA/m]	220	1100	10^5	5.1×10^3	High Q
GT7	10 to 250	9±25%	<1500[250MHz]	100 to 140	>300	180[16kA/m]	110	2900	10^5	5.1×10^3	High Q

• 1 (mT): 10 (gauss), 1(A/m): 0.012566 (Oersted)

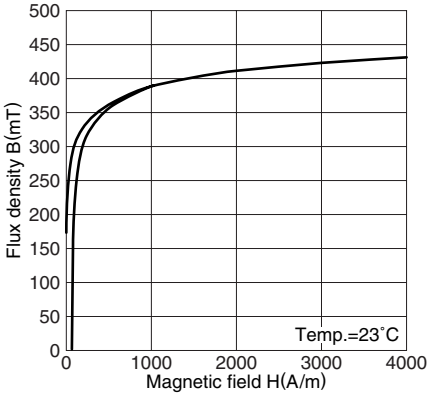
• All specifications are subject to change without notice.

MAGNETIZATION CURVES (TYPICAL)

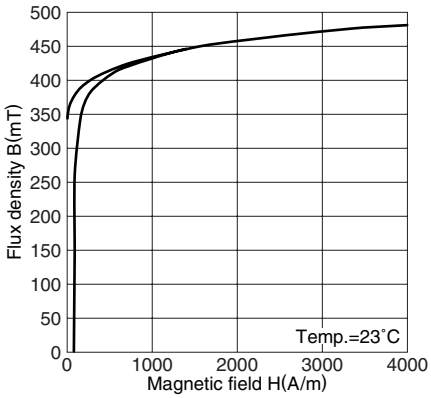
Material: L7H



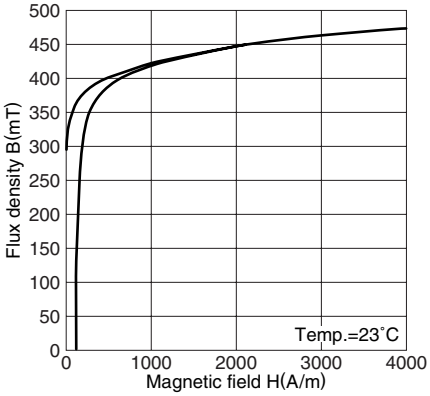
Material: L2H



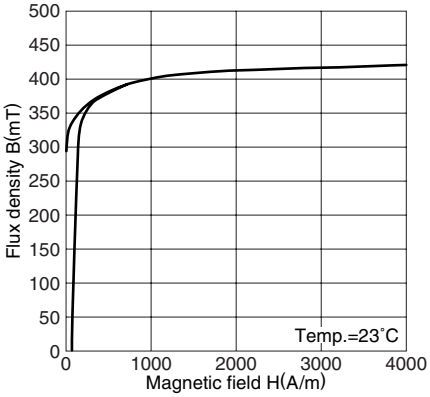
Material: L20H



Material: L9H

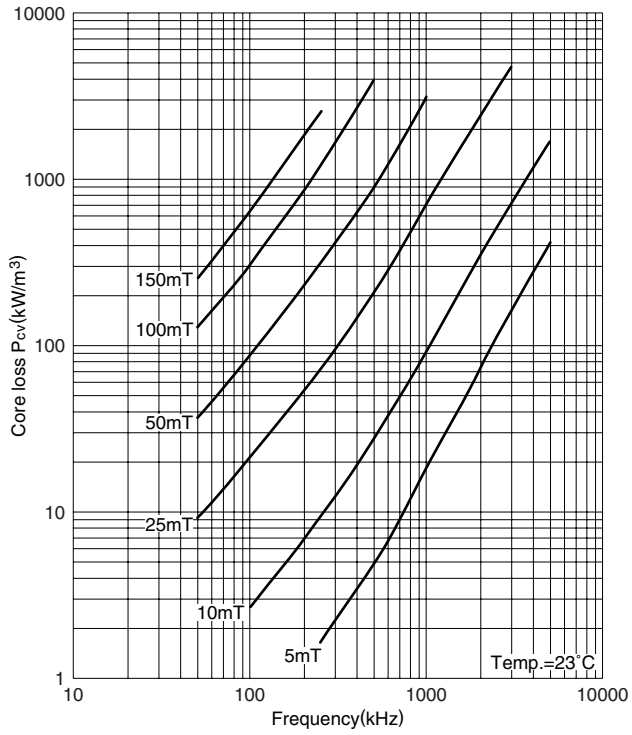


Material: L18H

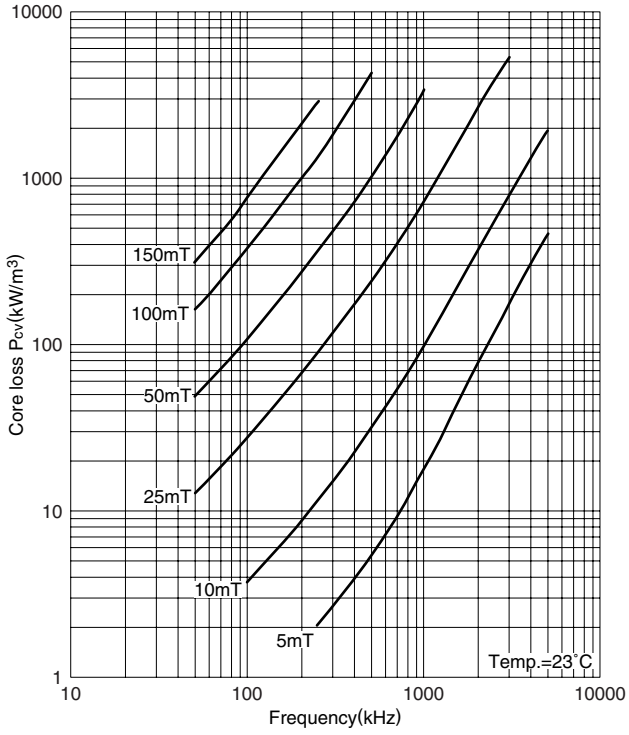


CORE LOSS (TYPICAL)

Material: L17H



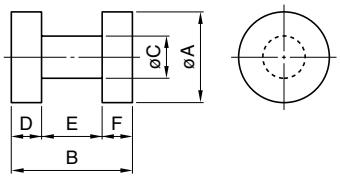
Material: L18H



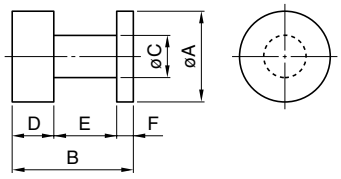
DR SERIES

SHAPES

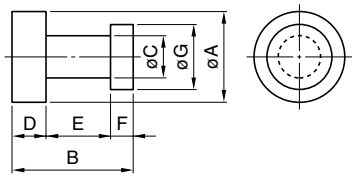
STANDARD TYPE



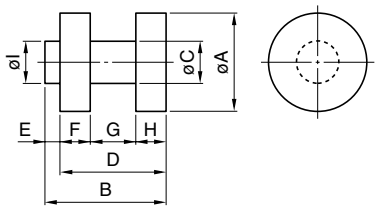
D1 TYPE



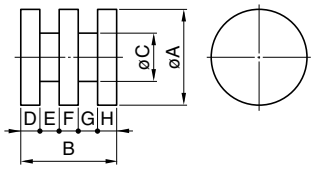
D3 TYPE



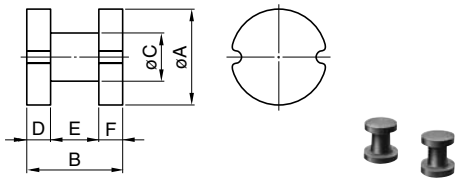
D23 TYPE



MD28 TYPE



M TYPE



PRODUCT IDENTIFICATION

L7H	DR	3 × 1.9	D3
(1)	(2)	(3) (4)	(5)

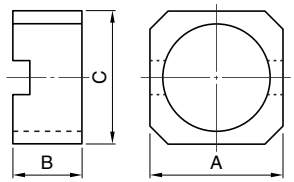
(1) Material name
(2) Series
(3) Outer diameter
(4) Height
(5) Type(In case of standard type, this code is omitted.)

- Please consult us about the size of the details separately.

FT(T) SERIES

T: Round shaped flange type
FT: Square shaped flange type and flange type of other shapes that exempted round shaped flange type

SHAPES



PRODUCT IDENTIFICATION

L7H	FT(T)	5 × 2.5 × 3.5	T
(1)	(2)	(3) (4) (5)	(6)

(1) Material name
(2) Series
(3) Outer diameter
(4) Height
(5) Inner diameter
(6) In case of convex, concave, and other irregular types(not standard type), this code is added.

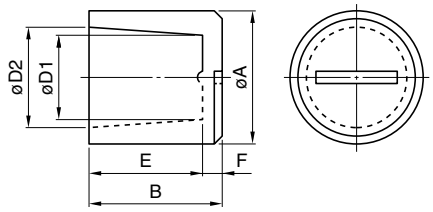
- Please consult us about the size of the details separately.

• All specifications are subject to change without notice.

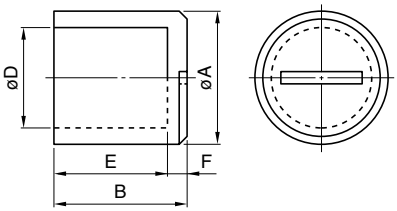
THP SERIES

SHAPES

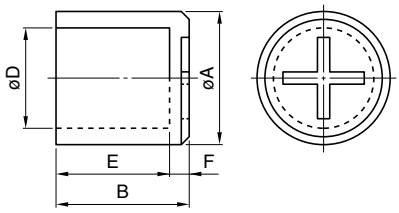
C1 TYPE



C4 TYPE



C7 TYPE



PRODUCT IDENTIFICATION

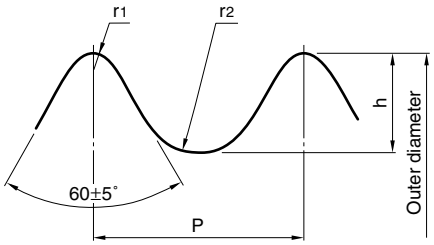
GT4	THP	3.89 × 1.37	C8	(OC3, P0.35)
(1)	(2)	(3)	(4)	(5)	(6)

(1) Material name
(2) Series
(3) Outer diameter
(4) Height
(5) Type
(6) Screw shape

- Please consult us about the size of the details separately.

THREADED DIAGRAMS

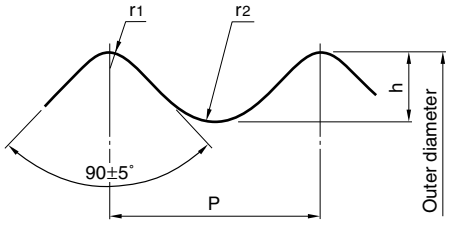
OC3 TYPE



Dimensions in mm

P	h	r1	r2 max.
0.35±0.03	0.16+0.1, –0.05	0.06±0.03	0.12
0.5±0.03	0.23+0.1, –0.03	0.06±0.03	0.15
0.6±0.03	0.28+0.1, –0.03	0.07±0.03	0.17
0.75±0.03	0.35+0.14, –0.03	0.08±0.03	0.22

OC4 TYPE



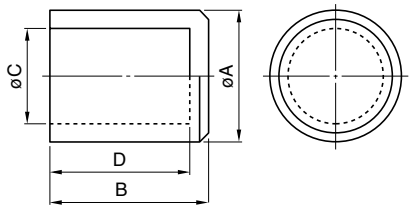
Dimensions in mm

P	h	r1	r2 max.
0.5±0.03	0.17+0.06, –0.03	0.06±0.03	0.15
0.6±0.03	0.2+0.08, –0.03	0.07±0.03	0.18
0.75±0.03	0.25+0.1, –0.03	0.07±0.03	0.22
0.8±0.03	0.28+0.1, –0.03	0.07±0.03	0.22

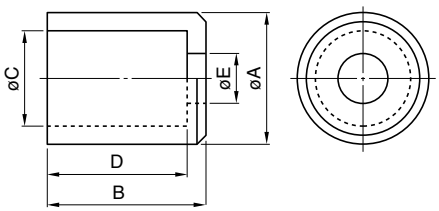
P SERIES(CUP CORE)

SHAPES

STANDARD TYPE



P2 TYPE



PRODUCT IDENTIFICATION

GT5	P	6.9 ×	6	P2
(1)	(2)	(3)	(4)	(5)

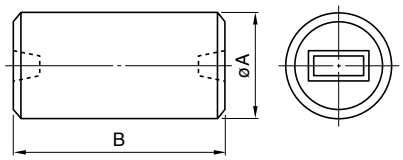
(1) Material name
(2) Series
(3) Outer diameter
(4) Height
(5) Type(In case of standard type, this code is omitted.)

- Please consult us about the size of the details separately.

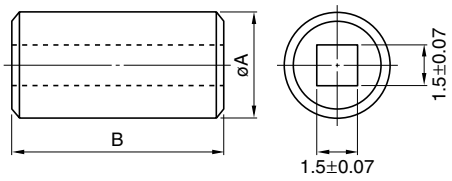
• All specifications are subject to change without notice.

TH SERIES

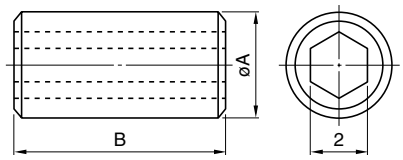
STANDARD TYPE



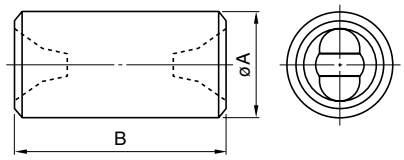
S8 TYPE



S4 TYPE



S14 TYPE



PRODUCT IDENTIFICATION

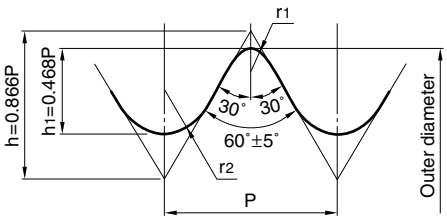
GT6	TH	4.6 ×	8	S4	(OC3, P0.75)
(1)	(2)	(3)	(4)	(5)	(6)

(1) Material name
(2) Series
(3) Outer diameter
(4) Height
(5) Type(In case of standard type, this code is omitted.)
(6) Screw shape

- Please consult us about the size of the details separately.

THREADED DIAGRAM

OC3 TYPE



Dimensions in mm

P±0.03	h	h_1	r_1	r_2 max.
0.35	0.303	0.16+0.1, –0.05	0.06±0.03	0.12
0.5	0.433	0.23+0.1, –0.03	0.06±0.03	0.15
0.6	0.52	0.28+0.1, –0.03	0.07±0.03	0.17
0.75	0.65	0.35+0.14, –0.03	0.08±0.03	0.2
1	0.866	0.47+0.14, –0.03	0.11±0.03	0.29

- Other various shapes are available. Please contact us with your desired shapes and applications.