Ferrite for Switching Power Supplies

Planar cores

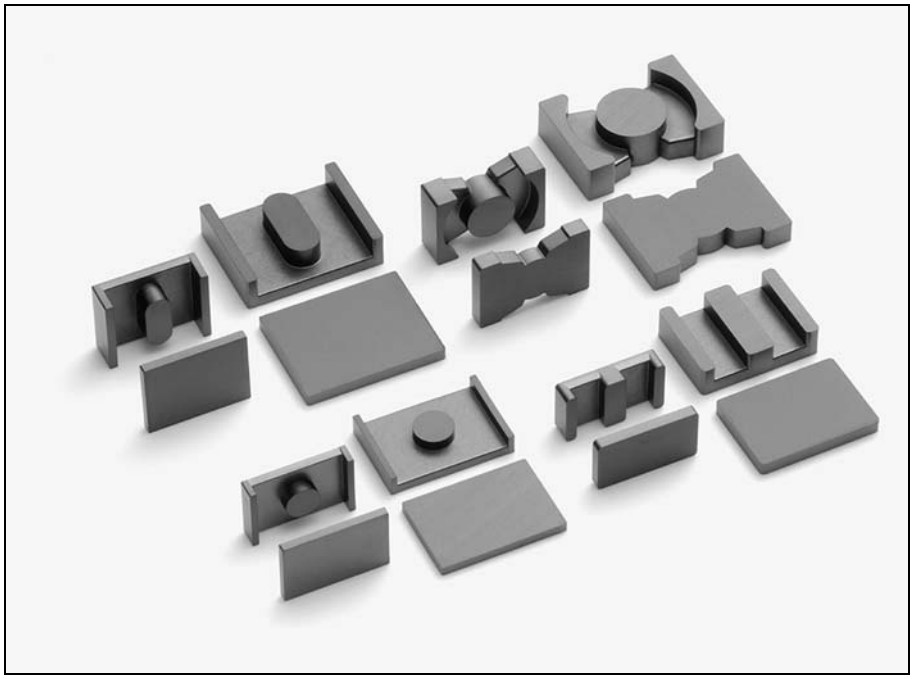
EL/ELT/PQI/EIR/ER/EI series

Issue date: February 2010

- 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.

Ferrite for Switching Power Supplies
Planar Cores

EL11X4 to EL25X8.6
ELT11X3 to ELT25X8.6
PQI16/7.8 to PQI26/11.5
EIR14/4.5/9 to EIR22/5.5/15
ER9.5/5 to ER25/5.5/18
EI14/5/5 to EI22/8/16

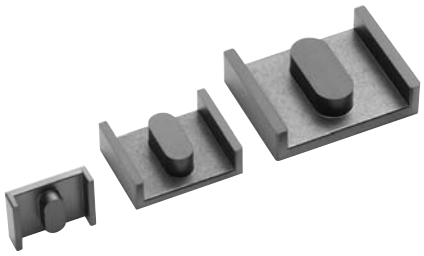


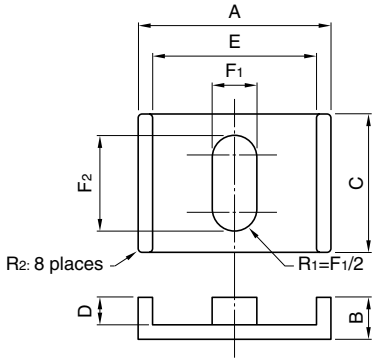
Ordering Code System

PC95 **EL 11X4** – **A125**

Material
Size of EL core
A_L-value(Z: without air gap)

EL CORES





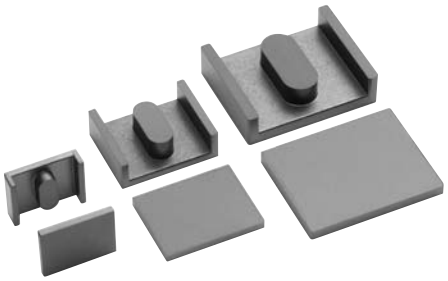
ELH core

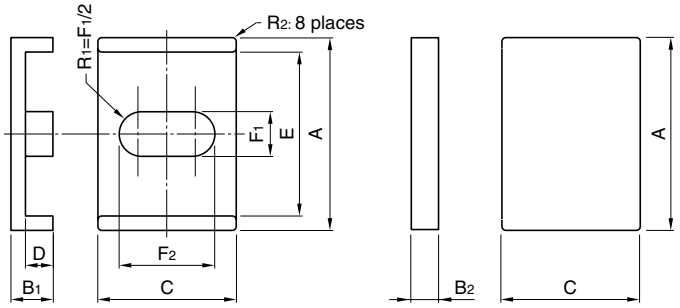
Part No.(ELH+ELH)	Dimensions in mm							
	A	B	C	D	E	F_1	F_2	R_2
PC95EL11X4-Z PC90EL11X4-Z	11.00±0.20	2.01±0.10	8.80±0.20	1.00±0.10	9.17±0.20	2.78±0.10	6.40±0.15	0.30
PC95EL13X4.4-Z PC90EL13X4.4-Z	13.00±0.25	2.19±0.10	10.40±0.20	1.00±0.10	10.83±0.20	3.29±0.10	7.56±0.15	0.30
PC95EL15.5X5.8-Z PC90EL15.5X5.8-Z	15.50±0.30	2.92±0.10	12.40±0.25	1.50±0.10	12.92±0.25	3.92±0.10	9.01±0.20	0.30
PC95EL18X7.3-Z PC90EL18X7.3-Z	18.00±0.30	3.65±0.10	14.40±0.25	2.00±0.10	15.00±0.30	4.55±0.10	10.47±0.20	0.30
PC95EL20X7.7-Z PC90EL20X7.7-Z	20.00±0.35	3.83±0.10	16.00±0.30	2.00±0.10	16.67±0.30	5.06±0.15	11.63±0.20	0.50
PC95EL22X8-Z PC90EL22X8-Z	22.00±0.40	4.02±0.10	17.60±0.30	2.00±0.10	18.33±0.35	5.56±0.15	12.79±0.25	0.50
PC95EL25X8.6-Z PC90EL25X8.6-Z	25.00±0.45	4.29±0.10	20.00±0.35	2.00±0.10	20.83±0.35	6.32±0.15	14.54±0.25	0.50

Part No. (ELH+ELH)	Effective parameter							Electrical characteristics	
	C_1 (mm^{-1})	ℓe (mm)	Ae (mm^2)	Ve (mm^3)	Amin. (mm^2)	Acw (mm^2)	Weight (g)	A_L-value (nH/N^2)* Without air gap	With air gap
PC95EL11X4-Z PC90EL11X4-Z	0.826	13.7	16.5	226	15.9	6.39	1.3	2400±25% 1950±25%	50±3% 80±5% 125±7%
PC95EL13X4.4-Z PC90EL13X4.4-Z	0.667	15.4	23.1	357	22.4	7.54	2.0	3160±25% 2500±25%	63±3% 100±5% 160±7%
PC95EL15.5X5.8-Z PC90EL15.5X5.8-Z	0.597	19.6	32.9	646	31.9	13.5	3.5	3680±25% 3000±25%	63±3% 100±3% 160±5%
PC95EL18X7.3-Z PC90EL18X7.3-Z	0.538	23.8	44.3	1050	43.0	20.9	6.0	4760±25% 3600±25%	80±3% 125±3% 200±5%
PC95EL20X7.7-Z PC90EL20X7.7-Z	0.469	25.6	54.6	1400	52.9	23.2	7.8	5630±25% 4050±25%	80±3% 125±3% 200±5%
PC95EL22X8-Z PC90EL22X8-Z	0.413	27.3	66.2	1810	64.2	25.5	10	6540±25% 5050±25%	100±3% 160±3% 250±5%
PC95EL25X8.6-Z PC90EL25X8.6-Z	0.350	30.0	85.6	2570	83.0	29.0	15	7540±25% 5700±25%	100±3% 160±3% 250±5%

* A_L-value: 1kHz, 0.5mA, 100Ts

ELT CORES





Part No.(ELH+PLT)	Dimensions in mm								
	A	B_1	B_2	C	D	E	F_1	F_2	R_2
PC95ELT11X3-Z PC90ELT11X3-Z	11.00±0.20	2.01±0.10	1.01±0.05	8.80±0.20	1.00±0.10	9.17±0.20	2.78±0.10	6.40±0.15	0.30
PC95ELT11X4-Z PC90ELT11X4-Z	11.00±0.20	3.01±0.10	1.01±0.05	8.80±0.20	2.00±0.10	9.17±0.20	2.78±0.10	6.40±0.15	0.30
PC95ELT13X3.4-Z PC90ELT13X3.4-Z	13.00±0.25	2.19±0.10	1.19±0.05	10.40±0.20	1.00±0.10	10.83±0.20	3.29±0.10	7.56±0.15	0.30
PC95ELT13X4.4-Z PC90ELT13X4.4-Z	13.00±0.25	3.19±0.10	1.19±0.05	10.40±0.20	2.00±0.10	10.83±0.20	3.29±0.10	7.56±0.15	0.30
PC95ELT15.5X4.3-Z PC90ELT15.5X4.3-Z	15.50±0.30	2.92±0.10	1.42±0.10	12.40±0.25	1.50±0.10	12.92±0.25	3.92±0.10	9.01±0.20	0.30
PC95ELT15.5X5.8-Z PC90ELT15.5X5.8-Z	15.50±0.30	4.42±0.10	1.42±0.10	12.40±0.25	3.00±0.10	12.92±0.25	3.92±0.10	9.01±0.20	0.30
PC95ELT18X5.3-Z PC90ELT18X5.3-Z	18.00±0.30	3.65±0.10	1.65±0.10	14.40±0.25	2.00±0.10	15.00±0.30	4.55±0.10	10.47±0.20	0.30

Part No. (ELH+PLT)	Effective parameter							Electrical characteristics	
	C_1 (mm^{-1})	ℓe (mm)	Ae (mm^2)	Ve (mm^3)	Amin. (mm^2)	Acw (mm^2)	Weight (g)	A_L-value (nH/N^2)*	
								Without air gap	With air gap
PC95ELT11X3-Z	0.702	11.7	16.6	194	15.9	3.20	1.1	2590±25%	50±3% 80±5% 125±7%
PC90ELT11X3-Z								1750±25%	
PC95ELT11X4-Z	0.826	13.7	16.5	226	15.9	6.39	1.3	2400±25%	50±3% 80±5% 125±7%
PC90ELT11X4-Z								1700±25%	
PC95ELT13X3.4-Z	0.578	13.4	23.2	312	22.4	3.77	1.8	3390±25%	63±3% 100±5% 160±7%
PC90ELT13X3.4-Z								2400±25%	
PC95ELT13X4.4-Z	0.667	15.4	23.1	357	22.4	7.54	2.0	3160±25%	63±3% 100±5% 160±7%
PC90ELT13X4.4-Z								2300±25%	
PC95ELT15.5X4.3-Z	0.503	16.6	33.1	550	31.9	6.75	3.0	4340±25%	63±3% 100±3% 160±5%
PC90ELT15.5X4.3-Z								2900±25%	
PC95ELT15.5X5.8-Z	0.597	19.6	32.9	646	31.9	13.5	3.5	3680±25%	63±3% 100±3% 160±5%
PC90ELT15.5X5.8-Z								2200±25%	
PC95ELT18X5.3-Z	0.446	19.8	44.5	882	43.0	10.5	5.0	5330±25%	80±3% 125±3% 200±5%
PC90ELT18X5.3-Z								3500±25%	

* A_L-value: 1kHz, 0.5mA, 100Ts

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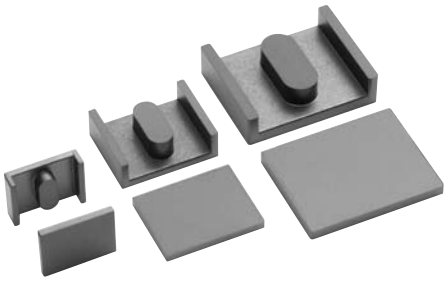
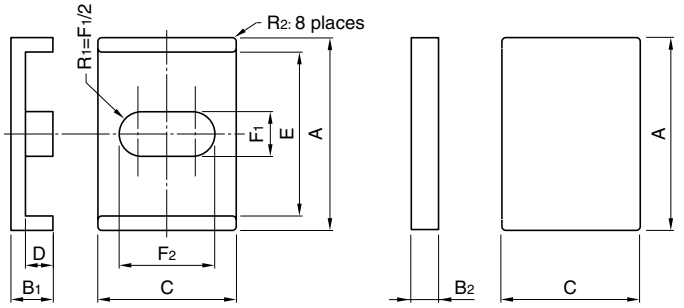
ELT CORES



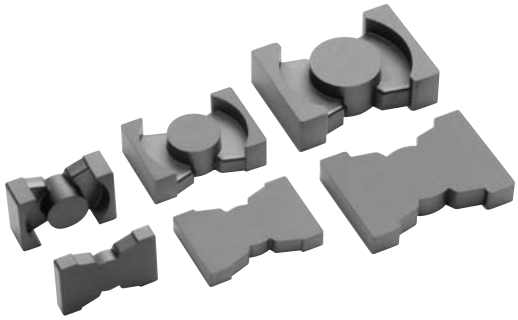


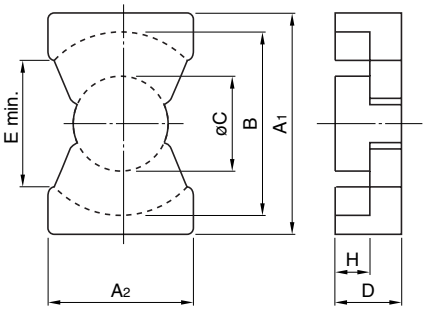
Part No.(ELH+PLT)	Dimensions in mm								
	A	B_1	B_2	C	D	E	F_1	F_2	R_2
PC95ELT18X7.3-Z	18.00±0.30	5.65±0.10	1.65±0.10	14.40±0.25	4.00±0.15	15.00±0.30	4.55±0.10	10.47±0.20	0.30
PC90ELT18X7.3-Z									
PC95ELT20X5.7-Z	20.00±0.35	3.83±0.10	1.83±0.10	16.00±0.30	2.00±0.10	16.67±0.30	5.06±0.15	11.63±0.20	0.50
PC90ELT20X5.7-Z									
PC95ELT20X7.7-Z	20.00±0.35	5.83±0.15	1.83±0.10	16.00±0.30	4.00±0.15	16.67±0.30	5.06±0.15	11.63±0.20	0.50
PC90ELT20X7.7-Z									
PC95ELT22X6-Z	22.00±0.40	4.02±0.10	2.02±0.10	17.60±0.30	2.00±0.10	18.33±0.35	5.56±0.15	12.79±0.25	0.50
PC90ELT22X6-Z									
PC95ELT22X8-Z	22.00±0.40	6.02±0.15	2.02±0.10	17.60±0.30	4.00±0.15	18.33±0.35	5.56±0.15	12.79±0.25	0.50
PC90ELT22X8-Z									
PC95ELT25X6.6-Z	25.00±0.45	4.29±0.10	2.29±0.10	20.00±0.35	2.00±0.10	20.83±0.35	6.32±0.15	14.54±0.25	0.50
PC90ELT25X6.6-Z									
PC95ELT25X8.6-Z	25.00±0.45	6.29±0.15	2.29±0.10	20.00±0.35	4.00±0.15	20.83±0.35	6.32±0.15	14.54±0.25	0.50
PC90ELT25X8.6-Z									

Part No. (ELH+PLT)	Effective parameter							Electrical characteristics	
	C_1 (mm^{-1})	ℓe (mm)	Ae (mm^2)	Ve (mm^3)	Amin. (mm^2)	Acw (mm^2)	Weight (g)	A_L-value (nH/N^2)*	
								Without air gap	With air gap
PC95ELT18X7.3-Z	0.538	23.8	44.3	1050	43.0	20.9	6.0	4760±25%	80±3% 125±3% 200±5%
PC90ELT18X7.3-Z								3100±25%	
PC95ELT20X5.7-Z	0.393	21.6	54.9	1180	52.9	11.6	6.7	6270±25%	80±3% 125±3% 200±5%
PC90ELT20X5.7-Z								4150±25%	
PC95ELT20X7.7-Z	0.469	25.6	54.6	1400	52.9	23.2	7.8	5630±25%	80±3% 125±3% 200±5%
PC90ELT20X7.7-Z								3900±25%	
PC95ELT22X6-Z	0.351	23.4	66.6	1560	64.2	12.8	9.0	7250±25%	100±3% 160±3% 250±5%
PC90ELT22X6-Z								4800±25%	
PC95ELT22X8-Z	0.413	27.3	66.2	1810	64.2	25.5	10	6540±25%	100±3% 160±3% 250±5%
PC90ELT22X8-Z								4250±25%	
PC95ELT25X6.6-Z	0.302	26.0	86.0	2230	83.0	14.5	13	8600±25%	100±3% 160±3% 250±5%
PC90ELT25X6.6-Z								6100±25%	
PC95ELT25X8.6-Z	0.350	30.0	85.6	2570	83.0	29.0	15	7540±25%	100±3% 160±3% 250±5%
PC90ELT25X8.6-Z								5400±25%	

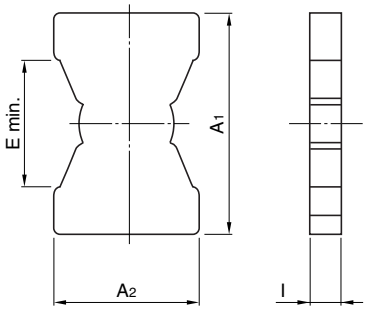
* A_L-value: 1kHz, 0.5mA, 100Ts

PQI CORES





HPQ core



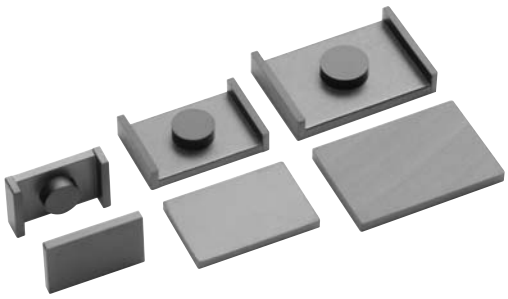
PQD core

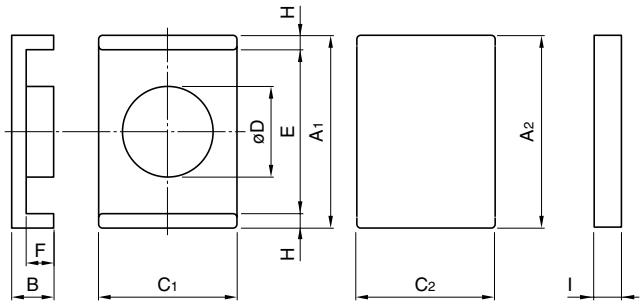
Part No.(HPQ+PQD)	Dimensions in mm							
	A_1	**A_2**	**B**	**øC**	**D**	**E min.**	**H**	**I**
PC95PQI16/7.8Z-12	16.40±0.30	11.20±0.30	14.40±0.30	7.00±0.20	5.40±0.10	9.60	3.05±0.15	2.35±0.10
PC90PQI16/7.8Z-12								
PC95PQI20/9Z-12	20.50±0.40	14.00±0.40	18.00±0.40	8.80±0.20	6.00±0.10	12.00	3.05±0.15	2.95±0.10
PC90PQI20/9Z-12								
PC95PQI26/12Z-12	26.50±0.45	19.00±0.45	22.50±0.45	12.00±0.20	7.30±0.10	15.50	3.10±0.15	4.20±0.10
PC90PQI26/12Z-12								

Part No. (HPQ+PQD)	Effective parameter							Electrical characteristics	
	C_1 (mm^{-1})	**ℓe (mm)**	**Ae (mm^2)**	**Ve (mm^3)**	**Amin. (mm^2)**	**Acw (mm^2)**	**Weight (g)**	**A_L-value (nH/N^2)***	
								Without air gap	**With air gap**
PC95PQI16/7.8Z-12	0.467	19.5	41.8	815	37.6	11.3	5.0	4910±25%	63±3% 100±5% 160±7%
PC90PQI16/7.8Z-12								3600±25%	
PC95PQI20/9Z-12	0.346	22.9	66.0	1510	59.3	14.0	9.0	7070±25%	100±3% 160±5% 250±7%
PC90PQI20/9Z-12								5200±25%	
PC95PQI26/12Z-12	0.224	27.7	123	3410	109	16.3	21	11950±25%	100±3% 160±3% 250±5%
PC90PQI26/12Z-12								8600±25%	

* A_L-value: 1kHz, 0.5mA, 100Ts

EIR CORES





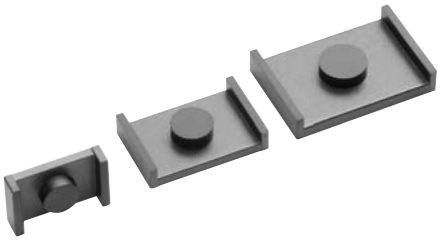
HER core

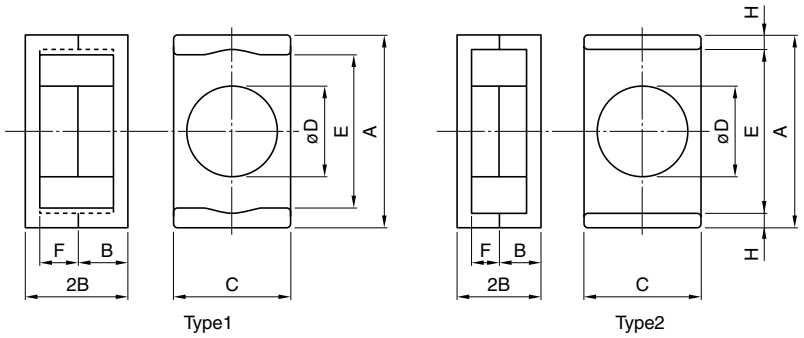
Part No.(HER+PLT)	Dimensions in mm									
	A1	**B**	**C1**	**øD**	**E**	**F**	**H**	**A2**	**C2**	**I**
PC95EIR14/4.5/9-Z	13.85±0.25	3.20±0.10	9.00±0.20	5.20±0.10	11.35±0.15	1.90±0.10	1.25	14.00±0.20	9.20±0.20	1.30±0.10
PC90EIR14/4.5/9-Z										
PC95EIR18/5/12-Z	18.15±0.30	3.50±0.10	12.00±0.20	6.00±0.10	15.75±0.25	2.00±0.10	1.20	18.20±0.25	12.20±0.20	1.50±0.10
PC90EIR18/5/12-Z										
PC95EIR22/5.5/15-Z	22.10±0.35	3.75±0.10	15.25±0.25	6.80±0.10	19.70±0.30	2.00±0.10	1.20	22.20±0.30	15.50±0.20	1.75±0.10
PC90EIR22/5.5/15-Z										

Part No. (HER+PLT)	Effective parameter							Electrical characteristics	
	C1 (mm^{-1})	**ℓe (mm)**	**Ae (mm^2)**	**Ve (mm^3)**	**Amin. (mm^2)**	**Acw (mm^2)**	**Weight (g)**	**AL-value (nH/N^2)**	
								Without air gap	**With air gap**
PC95EIR14/4.5/9-Z	0.679	15.4	22.7	349	21.2	5.84	2.0	2800±25%	63±3%
PC90EIR14/4.5/9-Z								2050±25%	100±5% 160±7%
PC95EIR18/5/12-Z	0.601	19.7	32.8	645	28.3	9.75	3.8	3690±25%	80±3%
PC90EIR18/5/12-Z								2500±25%	125±5% 200±7%
PC95EIR22/5.5/15-Z	0.505	23.2	46.1	1070	36.3	12.9	6.5	4150±25%	80±3%
PC90EIR22/5.5/15-Z								3000±25%	125±5% 200±7%

* AL-value: 1kHz, 0.5mA, 100Ts

ER CORES



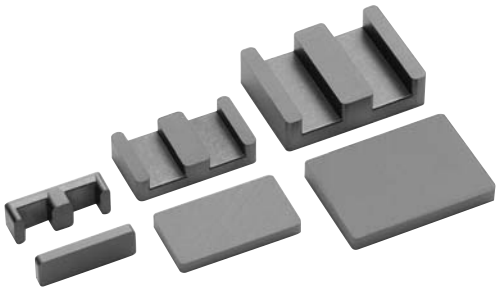


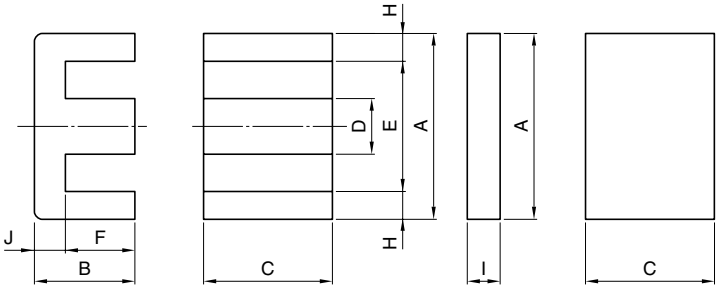
Part No.(HER+HER)	Type	Dimensions in mm						
		A	B	C	øD	E	F	H
PC95ER9.5/5-Z PC90ER9.5/5-Z	1	$9.5^{+0}_{-0.3}$	$2.5^{+0}_{-0.1}$	$5.0^{+0}_{-0.2}$	$3.5^{+0}_{-0.2}$	7.0min.	$1.6^{+0.15}_{-0}$	—
PC95ER11/5-Z PC90ER11/5-Z	1	$11.0^{+0}_{-0.35}$	$2.5^{+0}_{-0.1}$	$6.0^{+0}_{-0.2}$	$4.25^{+0}_{-0.25}$	7.9min.	$1.5^{+0.15}_{-0}$	—
PC95ER14/4.5/9-Z PC90ER14/4.5/9-Z	2	13.85±0.25	2.25±0.10	9.00±0.20	5.20±0.10	11.35±0.15	0.95±0.10	1.25
PC95ER14.5/6-Z PC90ER14.5/6-Z	2	14.5±0.2	$3.0^{+0}_{-0.1}$	6.7±0.1	4.7±0.1	11.8±0.2	1.65±0.1	1.35
PC95ER18/5/12-Z PC90ER18/5/12-Z	2	18.15±0.30	2.50±0.10	12.00±0.20	6.00±0.10	15.75±0.25	1.00±0.10	1.20
PC95ER22/5.5/15-Z PC90ER22/5.5/15-Z	2	22.10±0.35	2.75±0.10	15.25±0.25	6.80±0.10	19.70±0.30	1.00±0.10	1.20
PC95ER25/5.5/18-Z PC90ER25/5.5/18-Z	2	25.30±0.40	2.75±0.10	18.00±0.40	7.00±0.15	22.90±0.40	1.00±0.10	1.20

Part No. (HER+HER)	Effective parameter							Electrical characteristics	
	C_1 (mm^{-1})	ℓe (mm)	Ae (mm^2)	Ve (mm^3)	Amin. (mm^2)	Acw (mm^2)	Weight (g)	A_L-value (nH/N^2)*	
								Without air gap	With air gap
PC95ER9.5/5-Z	1.67	14.2	8.47	120	7.6	7.07	0.7	1190±25%	63±5%
PC90ER9.5/5-Z								610min.	100±7%
PC95ER11/5-Z	1.23	14.7	11.9	174	10.3	7.44	1.1	1680±25%	63±5%
PC90ER11/5-Z								1300±25%	100±7%
PC95ER14/4.5/9-Z	0.679	15.4	22.7	349	21.2	5.84	2.0	2550±25%	63±3% 100±5% 160±7%
PC90ER14/4.5/9-Z								2100±25%	
PC95ER14.5/6-Z	1.08	19.0	17.6	333	17.3	8.42	2.0	1880±25%	100±5%
PC90ER14.5/6-Z								1300±25%	160±7%
PC95ER18/5/12-Z	0.601	19.7	32.8	645	28.3	9.75	3.8	3500±25%	80±3% 125±5% 200±7%
PC90ER18/5/12-Z								2900±25%	
PC95ER22/5.5/15-Z	0.505	23.2	46.1	1070	36.3	12.9	6.5	4300±25%	80±3% 125±5% 200±7%
PC90ER22/5.5/15-Z								3200±25%	
PC95ER25/5.5/18-Z	0.486	26.1	53.7	1400	38.5	15.9	8.5	4400±25%	80±3% 125±3% 200±5%
PC90ER25/5.5/18-Z								3400±25%	

* A_L-value: 1kHz, 0.5mA, 100Ts

EI CORES





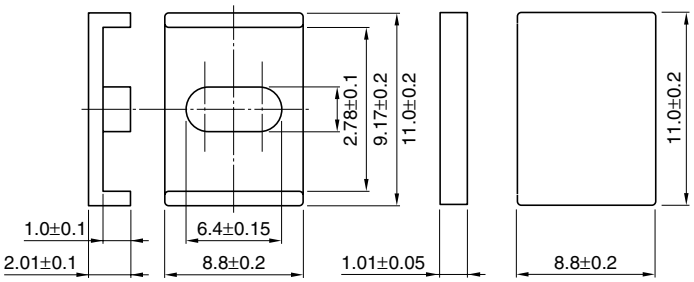
HE core PLT core

Part No.(HE+PLT)	Dimensions in mm								
	A	B	C	D	E	F	H	I	J
PC95EI14/5/5-Z PC90EI14/5/5-Z	14.00±0.30	3.50±0.10	5.00±0.10	3.00±0.10	11.00±0.25	2.00±0.10	1.50	1.50±0.05	1.50
PC95EI18/6/10-Z PC90EI18/6/10-Z	18.00±0.35	4.00±0.10	10.00±0.20	4.00±0.10	14.00±0.30	2.00±0.10	2.00	2.00±0.05	2.00
PC95EI22/8/16-Z PC90EI22/8/16-Z	21.80±0.40	5.70±0.10	15.80±0.30	5.00±0.10	16.80±0.40	3.20±0.10	2.50	2.50±0.05	2.50

Part No. (HE+PLT)	Effective parameter							Electrical characteristics	
	C_1 (mm^{-1})	ℓe (mm)	Ae (mm^2)	Ve (mm^3)	Amin. (mm^2)	Acw (mm^2)	Weight (g)	A_L-value (nH/N^2)*	
								Without air gap	With air gap
PC95EI14/5/5-Z	1.11	16.7	15.0	251	15.0	8.00	1.3	1550±25%	63±3% 100±5% 160±7%
PC90EI14/5/5-Z								1200±25%	
PC95EI18/6/10-Z	0.507	20.3	40.0	811	40.0	10.0	4.4	4720±25%	100±3% 160±3% 250±5%
PC90EI18/6/10-Z								3100±25%	
PC95EI22/8/16-Z	0.330	26.1	79.0	2060	79.0	18.9	11	8010±25%	160±3% 250±3% 315±3%
PC90EI22/8/16-Z								5300±25%	

* A_L-value: 1kHz, 0.5mA, 100Ts

ELT Series ELT11X3 Cores



Dimensions in mm

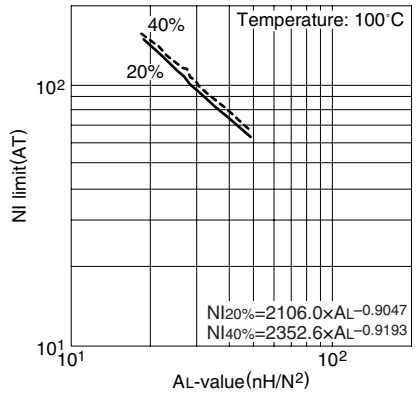
PARAMETER

Core factor	C1	mm^{-1}	0.702
Effective magnetic path length	ℓe	mm	11.7
Effective cross-sectional area	Ae	mm^2	16.6
Effective core volume	Ve	mm^3	194
Cross-sectional winding area of core	Acw	mm^2	3.20
Weight (approx.)		g	1.1

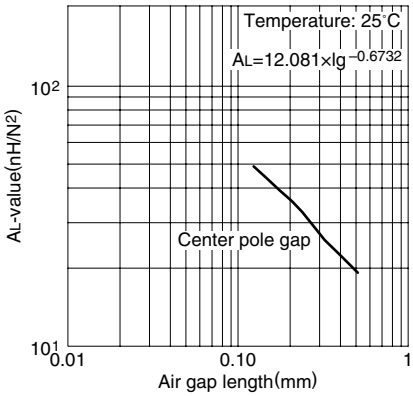
Part No.	AL-value (nH/N²)*	Core loss (W)
		100kHz, 200mT
PC90ELT11X3-Z	1750±25%	0.15(100°C)
PC95ELT11X3-Z	2590±25%	0.14/0.12/0.14(25°C/80°C/120°C)

* 1kHz, 0.5mA, 100Ts

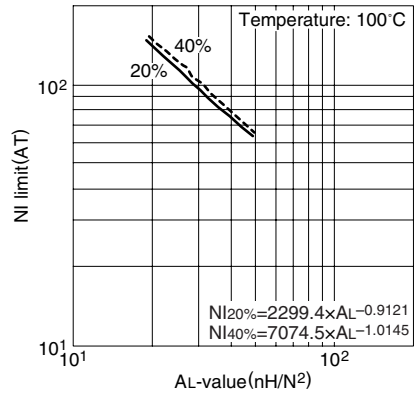
NI limit vs. AL-value for PC90ELT11X3 gapped core (Typical)



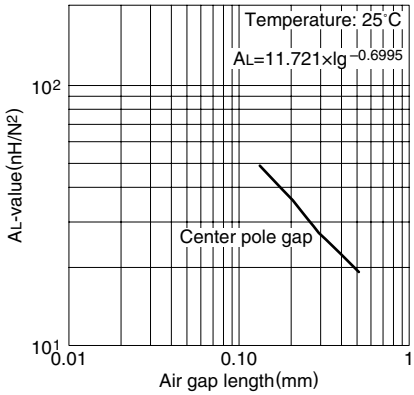
AL-value vs. Air gap length for PC90ELT11X3 core (Typical)



NI limit vs. AL-value for PC95ELT11X3 gapped core (Typical)



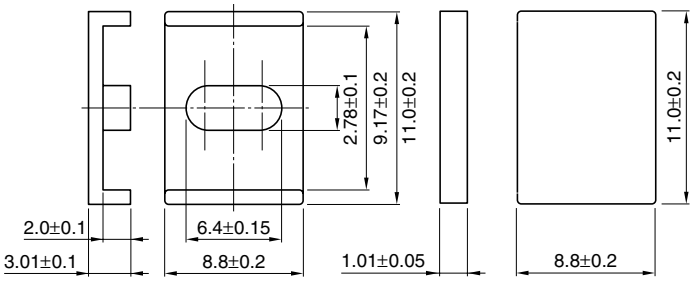
AL-value vs. Air gap length for PC95ELT11X3 core (Typical)



Note: NI limit shows the point where the exciting current is 20% and 40% away from its extended linear part.

Measuring conditions
- Coil: ø0.18 2UEW 100Ts
- Frequency: 1kHz
- Level: 0.5mA

ELT Series ELT11X4 Cores



Dimensions in mm

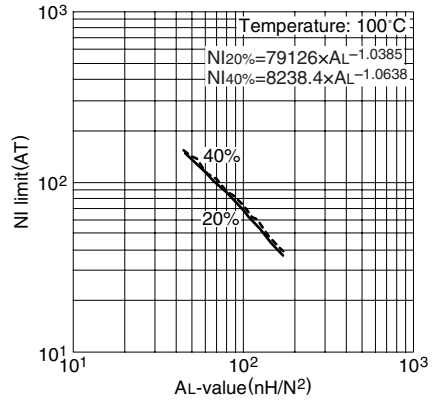
PARAMETER

Core factor	C1	mm^{-1}	0.826
Effective magnetic path length	ℓe	mm	13.7
Effective cross-sectional area	Ae	mm^2	16.5
Effective core volume	Ve	mm^3	226
Cross-sectional winding area of core	Acw	mm^2	6.39
Weight (approx.)		g	1.3

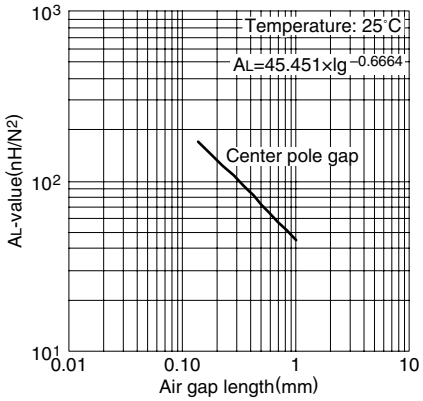
Part No.	AL-value (nH/N²)*	Core loss (W)
		100kHz, 200mT
PC90ELT11X4-Z	1700±25%	0.18(100°C)
PC95ELT11X4-Z	2400±25%	0.16/0.15/0.16(25°C/80°C/120°C)

* 1kHz, 0.5mA, 100Ts

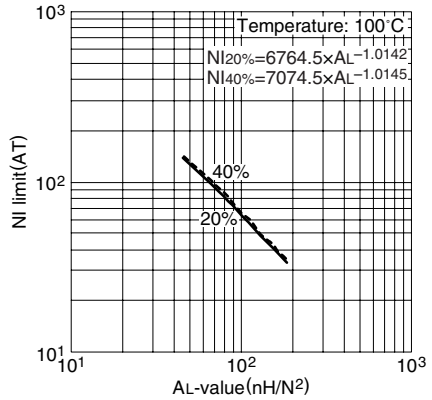
NI limit vs. AL-value for PC90ELT11X4 gapped core (Typical)



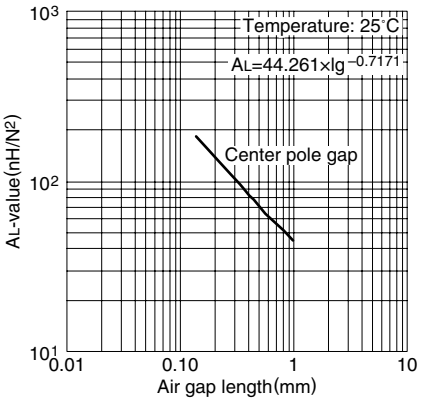
AL-value vs. Air gap length for PC90ELT11X4 core (Typical)



NI limit vs. AL-value for PC95ELT11X4 gapped core (Typical)



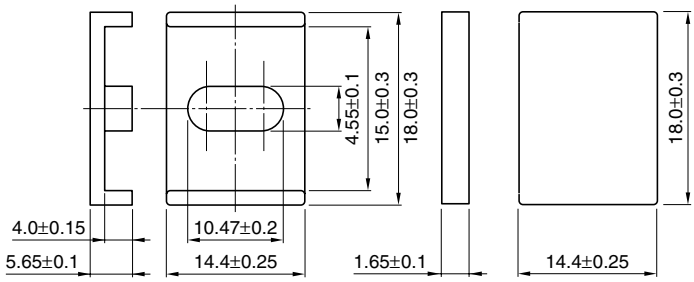
AL-value vs. Air gap length for PC95ELT11X4 core (Typical)



Note: NI limit shows the point where the exciting current is 20% and 40% away from its extended linear part.

Measuring conditions
- Coil: ø0.18 2UEW 100Ts
- Frequency: 1kHz
- Level: 0.5mA

ELT Series ELT18X7.3 Cores



Dimensions in mm

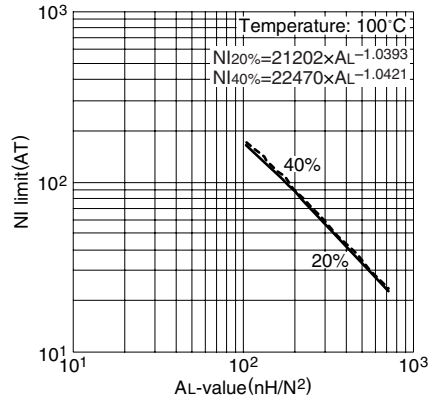
PARAMETER

Core factor	C1	mm^{-1}	0.538
Effective magnetic path length	ℓe	mm	23.8
Effective cross-sectional area	Ae	mm^2	44.3
Effective core volume	Ve	mm^3	1050
Cross-sectional winding area of core	Acw	mm^2	20.9
Weight (approx.)		g	6.0

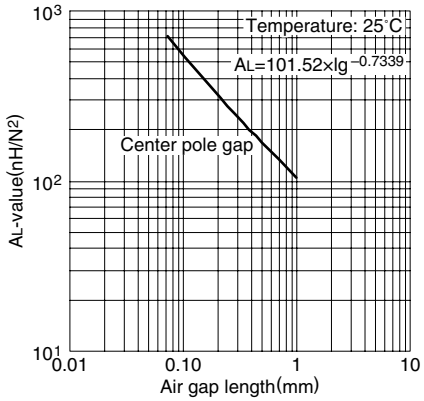
Part No.	AL-value (nH/N^2)*	Core loss (W)
		100kHz, 200mT
PC90ELT18X7.3-Z	3100±25%	0.7(100°C)
PC95ELT18X7.3-Z	4760±25%	0.6/0.55/0.6(25°C/80°C/120°C)

* 1kHz, 0.5mA, 100Ts

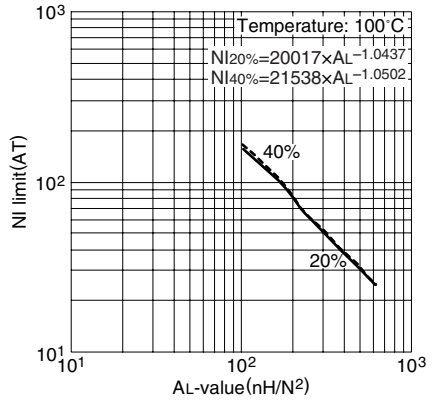
NI limit vs. AL-value for PC90ELT18X7.3 gapped core (Typical)



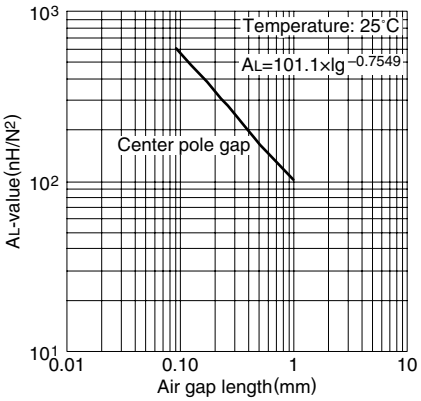
AL-value vs. Air gap length for PC90ELT18X7.3 core (Typical)



NI limit vs. AL-value for PC95ELT18X7.3 gapped core (Typical)



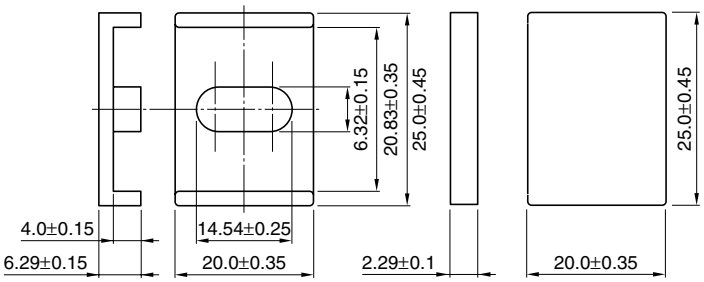
AL-value vs. Air gap length for PC95ELT18X7.3 core (Typical)



Note: NI limit shows the point where the exciting current is 20% and 40% away from its extended linear part.

Measuring conditions
- Coil: ø0.18 2UEW 100Ts
- Frequency: 1kHz
- Level: 0.5mA

ELT Series ELT25X8.6 Cores



Dimensions in mm

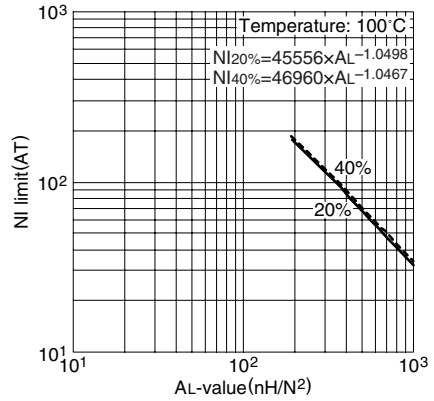
PARAMETER

Core factor	C1	mm^{-1}	0.350
Effective magnetic path length	ℓe	mm	30.0
Effective cross-sectional area	Ae	mm^2	85.6
Effective core volume	Ve	mm^3	2570
Cross-sectional winding area of core	Acw	mm^2	29.0
Weight (approx.)		g	15

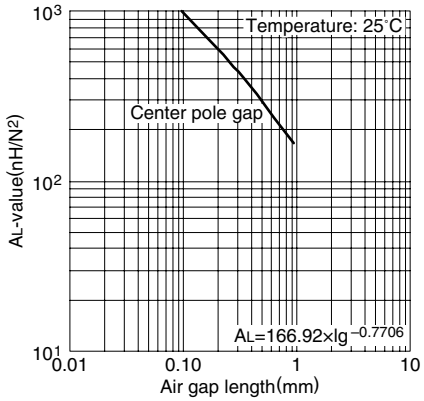
Part No.	AL-value (nH/N^2)*	Core loss (W)
		100kHz, 200mT
PC90ELT25X8.6-Z	5400±25%	1.8(100°C)
PC95ELT25X8.6-Z	7540±25%	1.6/1.5/1.6(25°C/80°C/120°C)

* 1kHz, 0.5mA, 100Ts

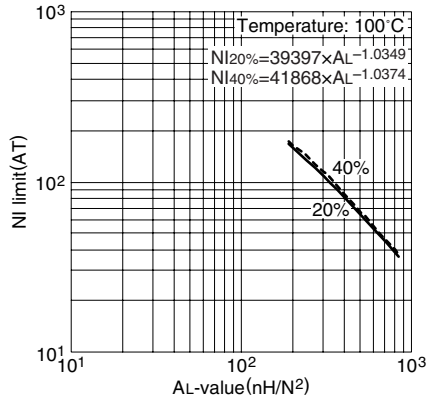
NI limit vs. AL-value for PC90ELT25X8.6 gapped core (Typical)



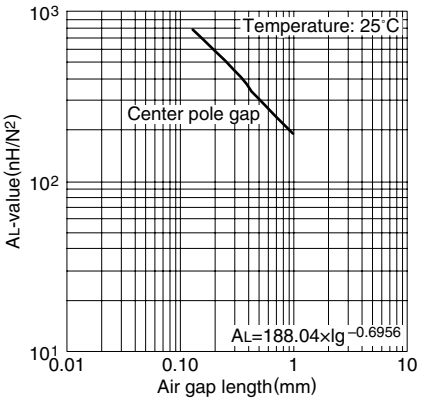
AL-value vs. Air gap length for PC90ELT25X8.6 core (Typical)



NI limit vs. AL-value for PC95ELT25X8.6 gapped core (Typical)



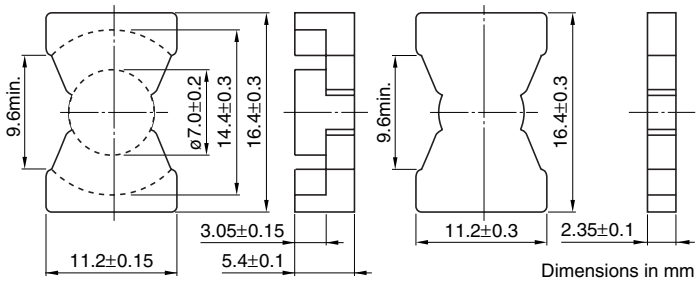
AL-value vs. Air gap length for PC95ELT25X8.6 core (Typical)



Note: NI limit shows the point where the exciting current is 20% and 40% away from its extended linear part.

Measuring conditions
- Coil: ø0.18 2UEW 100Ts
- Frequency: 1kHz
- Level: 0.5mA

PQI Series PQI16/7.8 Cores



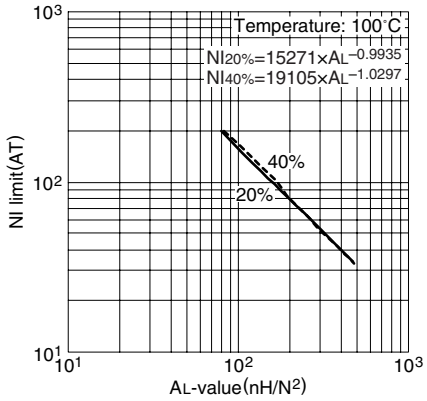
PARAMETER

Core factor	C1	mm^{-1}	0.467
Effective magnetic path length	ℓe	mm	19.5
Effective cross-sectional area	Ae	mm^2	41.8
Effective core volume	Ve	mm^3	815
Cross-sectional center pole area	Acp	mm^2	11.3
Weight (approx.)		g	5.0

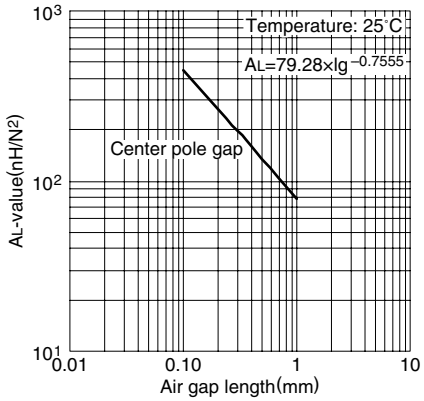
Part No.	AL-value (nH/N^2)*	Core loss (W)
		100kHz, 200mT
PC90PQI16/7.8Z-12	4910±25%	0.5(100°C)
PC95PQI16/7.8Z-12	3600±25%	0.45/0.35/0.45(25°C/80°C/120°C)

* 1kHz, 0.5mA, 100Ts

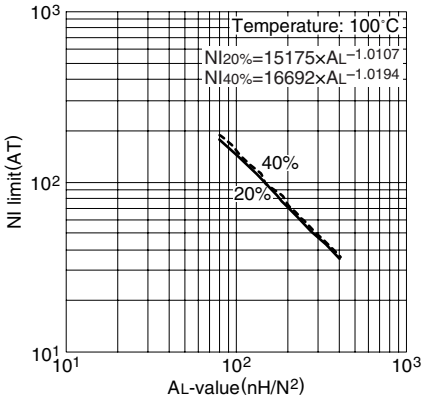
NI limit vs. AL-value for PC90PQI16/7.8 gapped core (Typical)



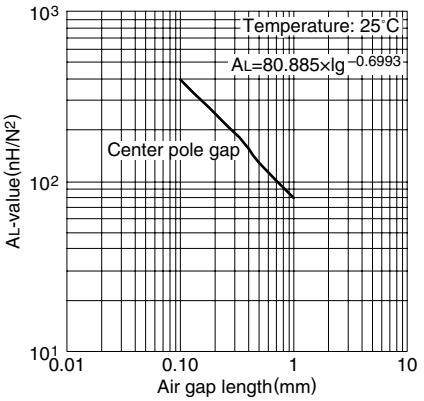
AL-value vs. Air gap length for PC90PQI16/7.8 core (Typical)



NI limit vs. AL-value for PC95PQI16/7.8 gapped core (Typical)



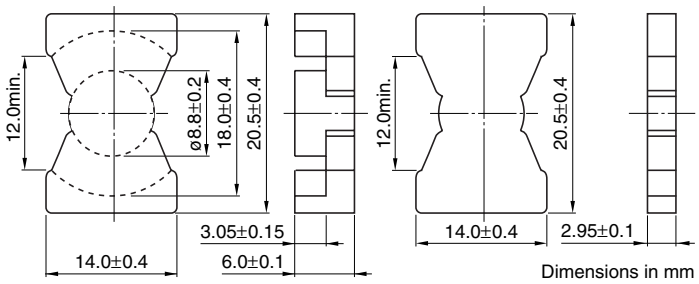
AL-value vs. Air gap length for PC95PQI16/7.8 core (Typical)



Note: NI limit shows the point where the exciting current is 20% and 40% away from its extended linear part.

Measuring conditions
- Coil: ø0.18 2UEW 100Ts
- Frequency: 1kHz
- Level: 0.5mA

PQI Series PQI20/9 Cores



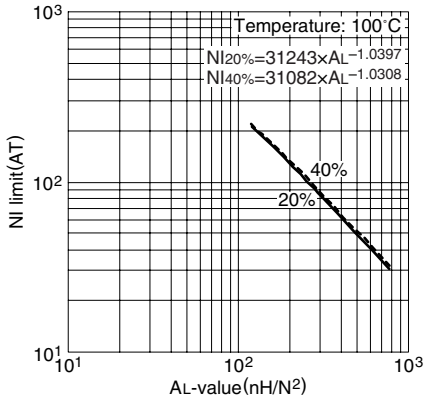
PARAMETER

Core factor	C1	mm^{-1}	0.346
Effective magnetic path length	ℓe	mm	22.9
Effective cross-sectional area	Ae	mm^2	66.0
Effective core volume	Ve	mm^3	1510
Cross-sectional winding area of core	Acw	mm^2	14.0
Weight (approx.)		g	9.0

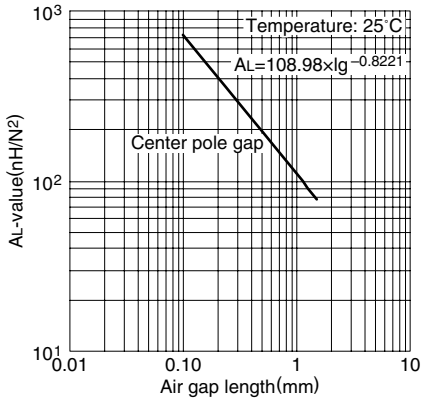
Part No.	AL-value (nH/N²)*	Core loss (W)
		100kHz, 200mT
PC90PQI20/9Z-12	5200±25%	0.8(100°C)
PC95PQI20/9Z-12	7070±25%	0.75/0.65/0.75(25°C/80°C/120°C)

* 1kHz, 0.5mA, 100Ts

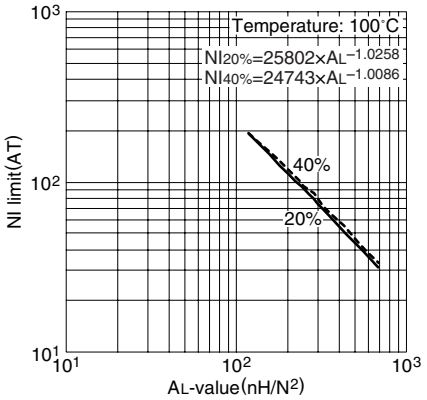
NI limit vs. AL-value for PC90PQI20/9 gapped core (Typical)



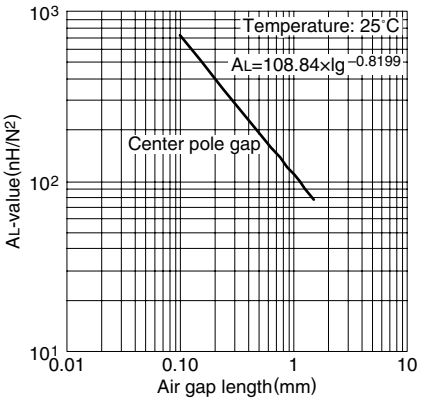
AL-value vs. Air gap length for PC90PQI20/9 core (Typical)



NI limit vs. AL-value for PC95PQI20/9 gapped core (Typical)



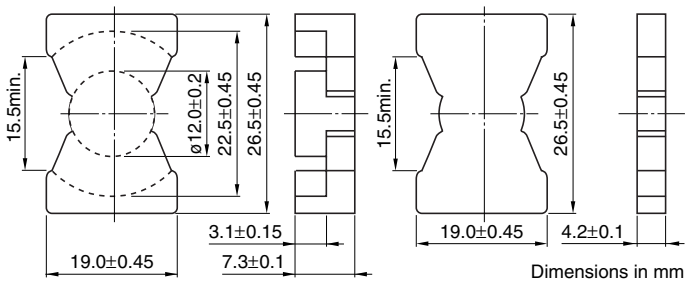
AL-value vs. Air gap length for PC95PQI20/9 core (Typical)



Note: NI limit shows the point where the exciting current is 20% and 40% away from its extended linear part.

Measuring conditions • Coil: ø0.18 2UEW 100Ts
• Frequency: 1kHz
• Level: 0.5mA

PQI Series PQI26/12 Cores



Dimensions in mm

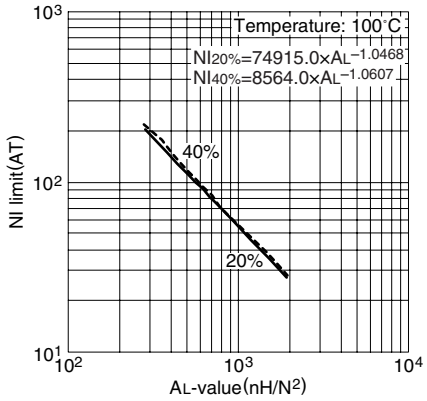
PARAMETER

Core factor	C1	mm^{-1}	0.224
Effective magnetic path length	ℓe	mm	27.7
Effective cross-sectional area	Ae	mm^2	123
Effective core volume	Ve	mm^3	3410
Cross-sectional winding area of core	Acw	mm^2	16.3
Weight (approx.)		g	21

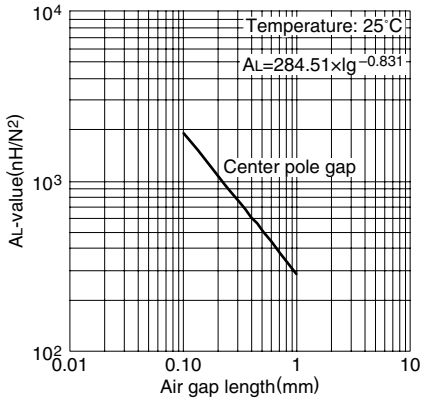
Part No.	AL-value (nH/N²)*	Core loss (W)
		100kHz, 200mT
PC90PQI26/12Z-12	8600±25%	1.6(100°C)
PC95PQI26/12Z-12	11950±25%	1.5/1.4/1.5(25°C/80°C/120°C)

* 1kHz, 0.5mA, 100Ts

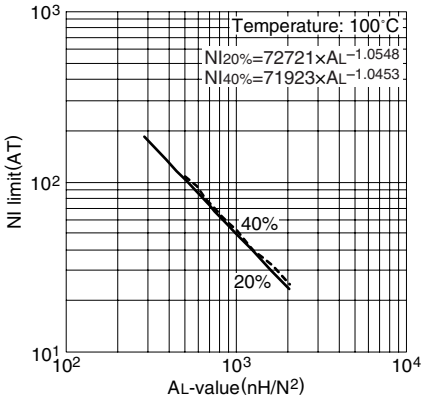
NI limit vs. AL-value for PC90PQI26/12 gapped core (Typical)



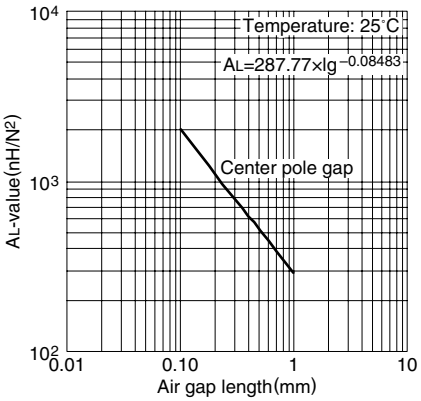
AL-value vs. Air gap length for PC90PQI26/12 core (Typical)



NI limit vs. AL-value for PC95PQI26/12 gapped core (Typical)



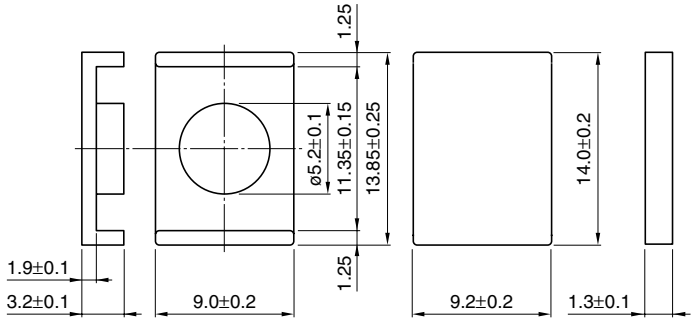
AL-value vs. Air gap length for PC95PQI26/12 core (Typical)



Note: NI limit shows the point where the exciting current is 20% and 40% away from its extended linear part.

Measuring conditions
- Coil: ø0.18 2UEW 100Ts
- Frequency: 1kHz
- Level: 0.5mA

EIR Series EIR14/4.5/9 Cores



Dimensions in mm

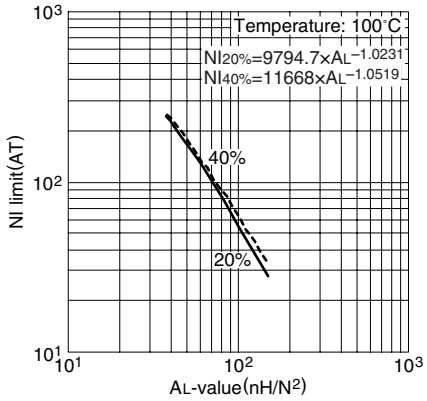
PARAMETER

Core factor	C1	mm^{-1}	0.679
Effective magnetic path length	ℓe	mm	15.4
Effective cross-sectional area	Ae	mm^2	22.7
Effective core volume	Ve	mm^3	349
Cross-sectional winding area of core	Acw	mm^2	5.84
Weight (approx.)		g	2.0

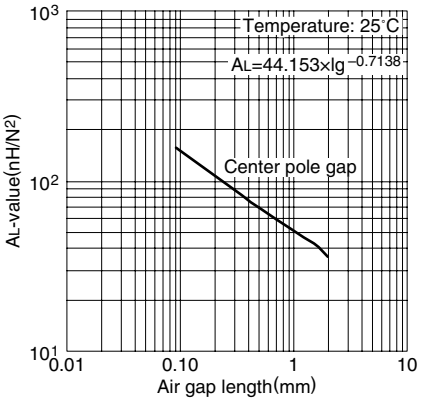
Part No.	AL-value (nH/N^2)*	Core loss (W) 100kHz, 200mT
PC90EIR14/4.5/9-Z	2050±25%	0.3(100°C)
PC95EIR14/4.5/9-Z	2800±25%	0.25/0.2/0.25(25°C/80°C/120°C)

* 1kHz, 0.5mA, 100Ts

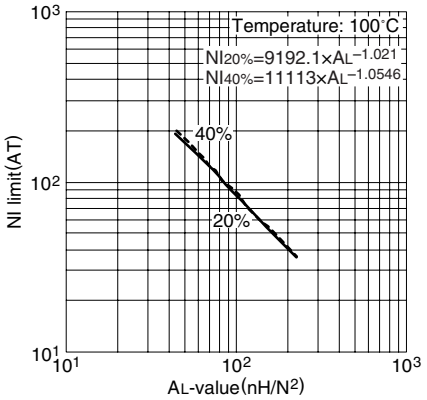
NI limit vs. AL-value for PC90EIR14/4.5/9 gapped core (Typical)



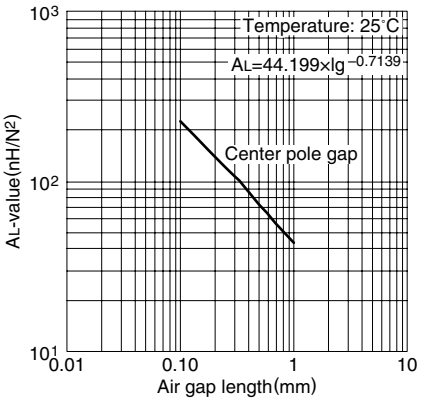
AL-value vs. Air gap length for PC90EIR14/4.5/9 core (Typical)



NI limit vs. AL-value for PC95EIR14/4.5/9 gapped core (Typical)



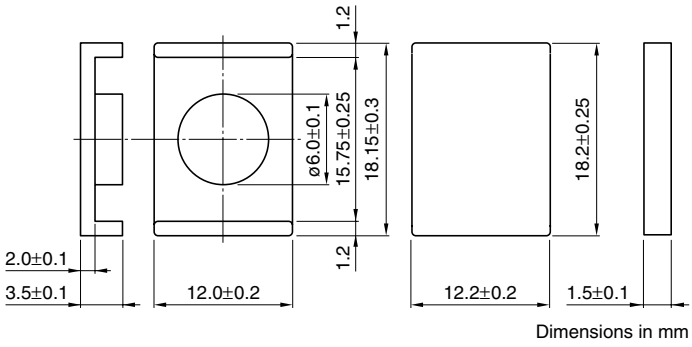
AL-value vs. Air gap length for PC95EIR14/4.5/9 core (Typical)



Note: NI limit shows the point where the exciting current is 20% and 40% away from its extended linear part.

Measuring conditions
- Coil: ø0.18 2UEW 100Ts
- Frequency: 1kHz
- Level: 0.5mA

EIR Series EIR18/5/12 Cores



Dimensions in mm

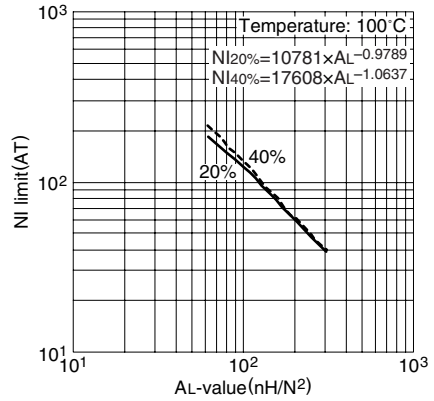
PARAMETER

Core factor	C1	mm^{-1}	0.601
Effective magnetic path length	ℓe	mm	19.7
Effective cross-sectional area	Ae	mm^2	32.8
Effective core volume	Ve	mm^3	645
Cross-sectional winding area of core	Acw	mm^2	9.75
Weight (approx.)		g	3.8

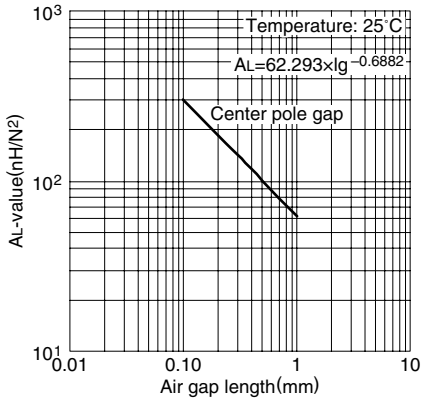
Part No.	AL-value (nH/N^2)*	Core loss (W)
		100kHz, 200mT
PC90EIR18/5/12-Z	2500±25%	0.45(100°C)
PC95EIR18/5/12-Z	3690±25%	0.4/0.35/0.4(25°C/80°C/120°C)

* 1kHz, 0.5mA, 100Ts

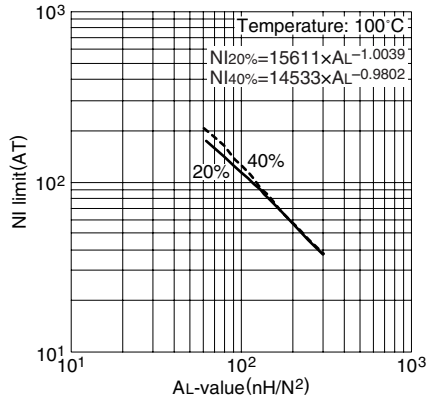
NI limit vs. AL-value for PC90EIR18/5/12 gapped core (Typical)



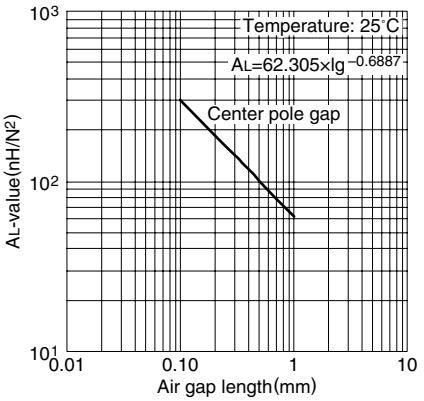
AL-value vs. Air gap length for PC90EIR18/5/12 core (Typical)



NI limit vs. AL-value for PC95EIR18/5/12 gapped core (Typical)



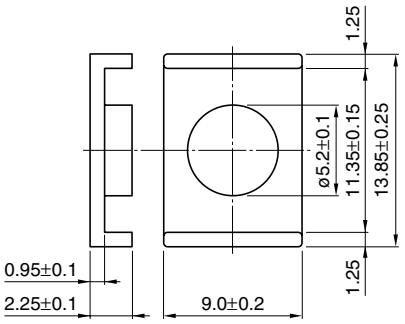
AL-value vs. Air gap length for PC95EIR18/5/12 core (Typical)



Note: NI limit shows the point where the exciting current is 20% and 40% away from its extended linear part.

Measuring conditions
- Coil: ø0.18 2UEW 100Ts
- Frequency: 1kHz
- Level: 0.5mA

ER Series ER14/4.5/9 Cores



Dimensions in mm

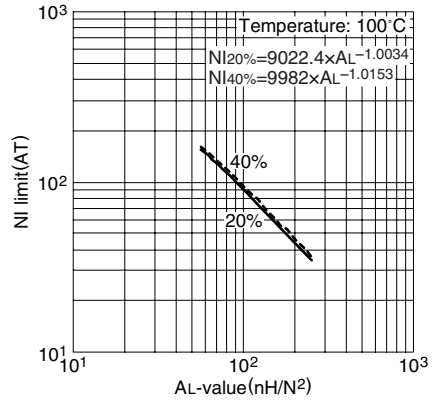
PARAMETER

Core factor	C1	mm^{-1}	0.679
Effective magnetic path length	ℓe	mm	15.4
Effective cross-sectional area	Ae	mm^2	22.7
Effective core volume	Ve	mm^3	349
Cross-sectional winding area of core	Acw	mm^2	5.84
Weight (approx.)		g	2.0

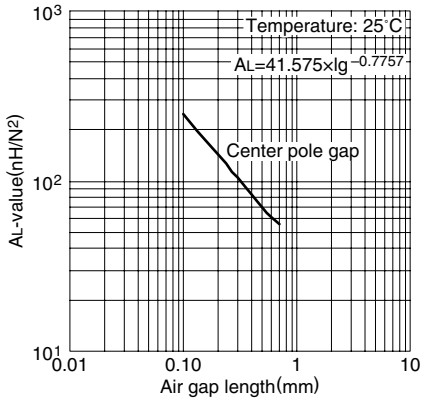
Part No.	AL-value (nH/N^2)*	Core loss (W)
		100kHz, 200mT
PC90ER14/4.5/9-Z	2100±25%	0.3(100°C)
PC95ER14/4.5/9-Z	2550±25%	0.25/0.2/0.25(25°C/80°C/120°C)

* 1kHz, 0.5mA, 100Ts

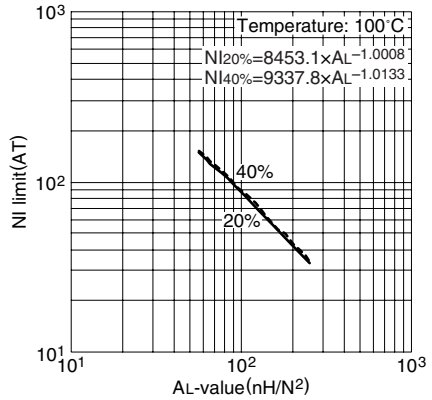
NI limit vs. AL-value for PC90ER14/4.5/9 gapped core (Typical)



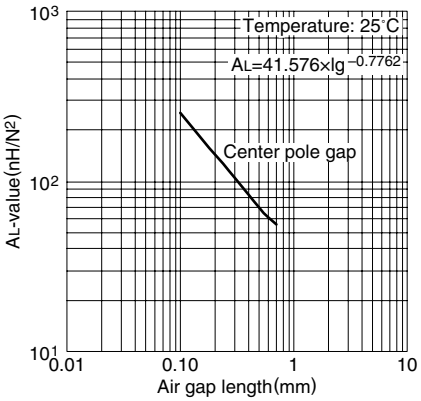
AL-value vs. Air gap length for PC90ER14/4.5/9 core (Typical)



NI limit vs. AL-value for PC95ER14/4.5/9 gapped core (Typical)



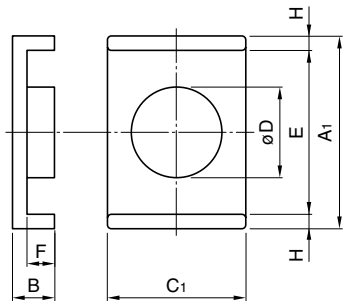
AL-value vs. Air gap length for PC95ER14/4.5/9 core (Typical)



Note: NI limit shows the point where the exciting current is 20% and 40% away from its extended linear part.

Measuring conditions
- Coil: ø0.18 2UEW 100Ts
- Frequency: 1kHz
- Level: 0.5mA

ER Series ER14.5/6 Cores



Dimensions in mm

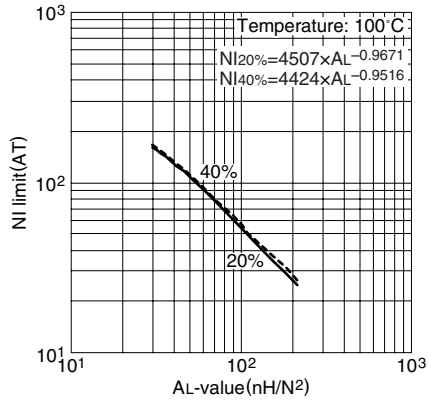
PARAMETER

Core factor	C1	mm^{-1}	1.08
Effective magnetic path length	ℓe	mm	19.0
Effective cross-sectional area	Ae	mm^2	17.6
Effective core volume	Ve	mm^3	333
Cross-sectional winding area of core	Acw	mm^2	8.42
Weight (approx.)		g	2.0

Part No.	AL-value (nH/N2)*	Core loss (W) at 25/80/120°C 100kHz, 200mT
PC95ER14.5/6-Z	3500±25%	0.3/0.28/0.3

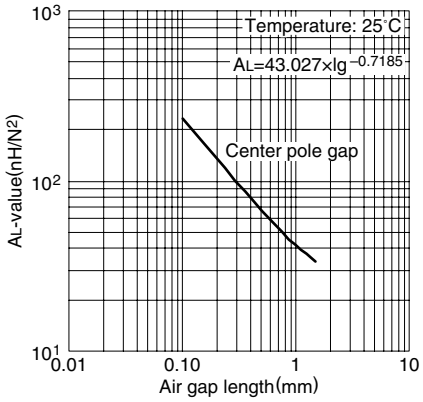
* 1kHz, 0.5mA, 100Ts

NI limit vs. AL-value for PC95ER14.5/6 gapped core (Typical)



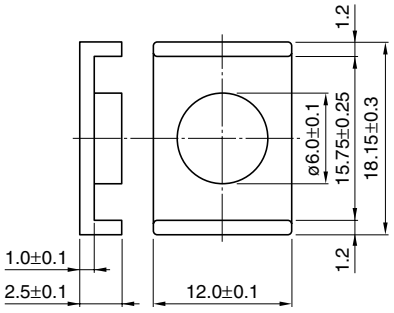
Note: NI limit shows the point where the exciting current is 20% and 40% away from its extended linear part.

AL-value vs. Air gap length for PC95ER14.5/6 core (Typical)



Measuring conditions
- Coil: ø0.18 2UEW 100Ts
- Frequency: 1kHz
- Level: 0.5mA

ER Series ER18/5/12 Cores



Dimensions in mm

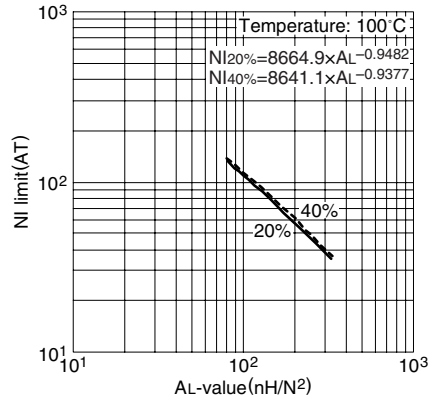
PARAMETER

Core factor	C1	mm^{-1}	0.601
Effective magnetic path length	ℓe	mm	19.7
Effective cross-sectional area	Ae	mm^2	32.8
Effective core volume	Ve	mm^3	645
Cross-sectional winding area of core	Acw	mm^2	9.75
Weight (approx.)		g	3.8

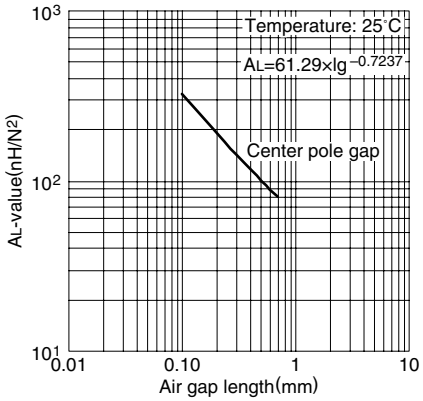
Part No.	AL-value (nH/N^2)*	Core loss (W)
		100kHz, 200mT
PC90ER18/5/12-Z	2900±25%	0.5(100°C)
PC95ER18/5/12-Z	3500±25%	0.45/0.4/0.45(25°C/80°C/120°C)

* 1kHz, 0.5mA, 100Ts

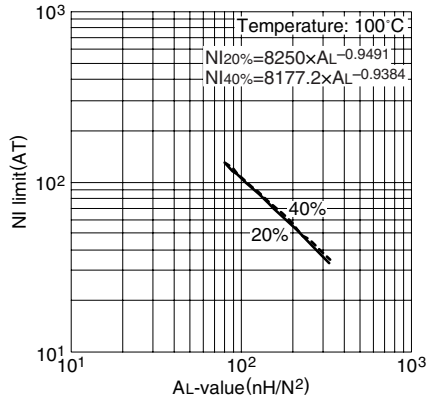
NI limit vs. AL-value for PC90ER18/5/12 gapped core (Typical)



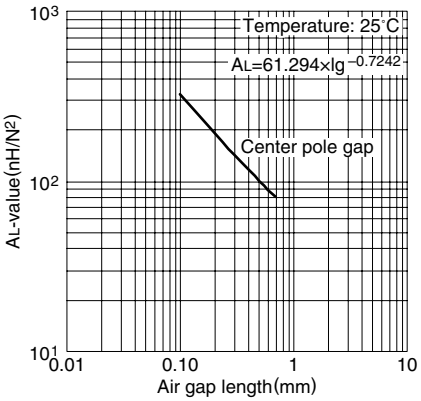
AL-value vs. Air gap length for PC90ER18/5/12 core (Typical)



NI limit vs. AL-value for PC95ER18/5/12 gapped core (Typical)



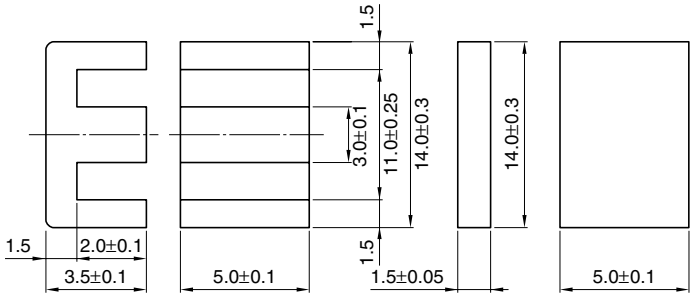
AL-value vs. Air gap length for PC95ER18/5/12 core (Typical)



Note: NI limit shows the point where the exciting current is 20% and 40% away from its extended linear part.

Measuring conditions
- Coil: ø0.18 2UEW 100Ts
- Frequency: 1kHz
- Level: 0.5mA

EI Series EI14/5/5 Cores



Dimensions in mm

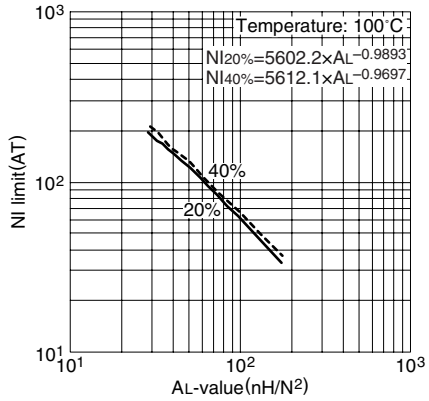
PARAMETER

Core factor	C1	mm^{-1}	1.11
Effective magnetic path length	ℓe	mm	16.7
Effective cross-sectional area	Ae	mm^2	15.0
Effective core volume	Ve	mm^3	251
Cross-sectional winding area of core	Acw	mm^2	8.0
Weight (approx.)		g	1.3

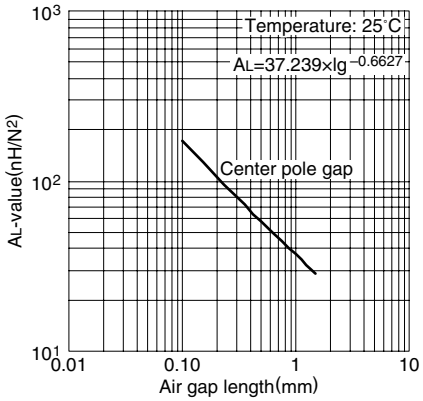
Part No.	AL-value (nH/N^2)*	Core loss (W) 100kHz, 200mT
PC90EI14/5/5-Z	1200±25%	0.3(100°C)
PC95EI14/5/5-Z	1550±25%	0.3/0.25/0.3(25°C/80°C/120°C)

* 1kHz, 0.5mA, 100Ts

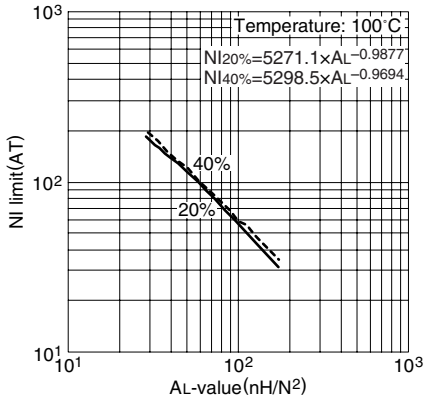
NI limit vs. AL-value for PC90EI14/5/5 gapped core (Typical)



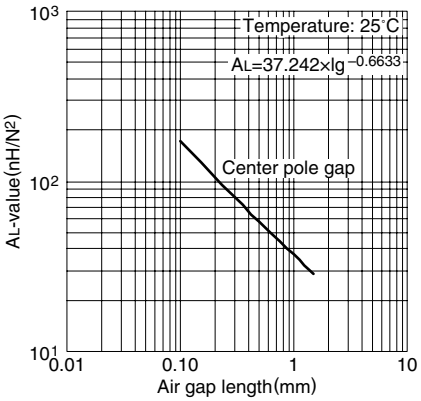
AL-value vs. Air gap length for PC90EI14/5/5 core (Typical)



NI limit vs. AL-value for PC95EI14/5/5 gapped core (Typical)



AL-value vs. Air gap length for PC95EI14/5/5 core (Typical)



Note: NI limit shows the point where the exciting current is 20% and 40% away from its extended linear part.

Measuring conditions
- Coil: ø0.18 2UEW 100Ts
- Frequency: 1kHz
- Level: 0.5mA