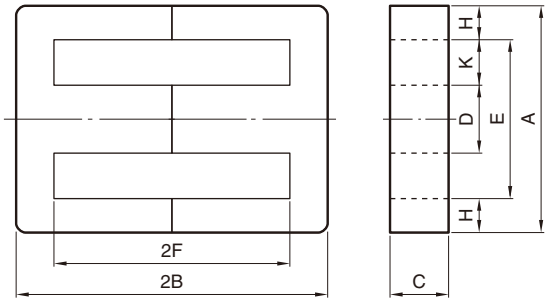
Mn-Zn EE Cores

SHAPES AND DIMENSIONS



PE22 EE 70 × 91 × 19

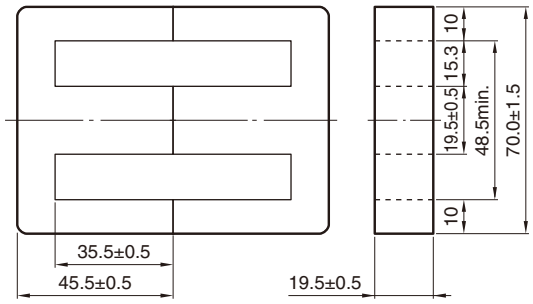
Material	Core shape	Width	Thickness	Inside Diameter

Part No.	Dimensions (mm)									
	A	2B	C	D	E	2F	H	R	K	K×2F(mm²)
PE22 EE70×91×19 PC40 EE70×91×19 PE90 EE70×91×19	70.0±1.5	91.0±1.0	19.5±0.5	19.5±0.5	48.5min.	71.0±1.0	10.0±0.5	0	15.3	1086
PE22 EE80×76×20 PC40 EE80×76×20 PE90 EE80×76×20	80.0±1.5	76.0±1.0	20.0±0.5	20.0±0.5	58.5min.	55.0±0.8	10.0±0.5	0.5max.	20.0	1100
PE22 EE90×56×16 PC40 EE90×56×16 PE90 EE90×56×16	90.0±2.0	56.4±1.0	16.5±0.5	25.0±1.0	63.0min.	30.4±1.0	12.5±0.5	0.5max.	20.0	608
PE22 EE70×108×31N PC40 EE70×108×31N PE90 EE70×108×31N	70.0±1.5	108.0±1.0	31.6±0.5	22.2±0.5	46.3min.	85.6±1.0	11.1±0.5	2.0max.	12.8	1096

Part No.	Effective parameter						Electrical characteristics
	Core factor C_1 (mm^{-1})	$C_2 \times 10^{-2}$ (mm^{-3})	**Effective cross-sectional area** A_e (mm^2)	**Effective magnetic path length** ℓ_e (mm)	**Effective core volume** V_e (mm^3)	**Weigh (approx.)** (g)	**A_L-value** (nH/N^2) 1kHz 0.4A/m 23°C
PE22 EE70×91×19 PC40 EE70×91×19 PE90 EE70×91×19	0.52779	0.13669	386	204	78690	394 394 402	3930±25% 4910±25% 4697±25%
PE22 EE80×76×20 PC40 EE80×76×20 PE90 EE80×76×20	0.44878	0.11058	406	182	73910	372 372 380	4590±25% 5720±25% 5471±25%
PE22 EE90×56×16 PC40 EE90×56×16 PE90 EE90×56×16	0.33583	0.08009	419	141	59050	306 306 312	5960±25% 7380±25% 7059±25%
PE22 EE70×108×31N PC40 EE70×108×31N PE90 EE70×108×31N	0.32992	0.04695	703	232	162900	815 815 832	6360±25% 7970±25% 7623±25%

Mn-Zn EE series Part No.: PC40 EE70X91X19

SHAPES AND DIMENSIONS



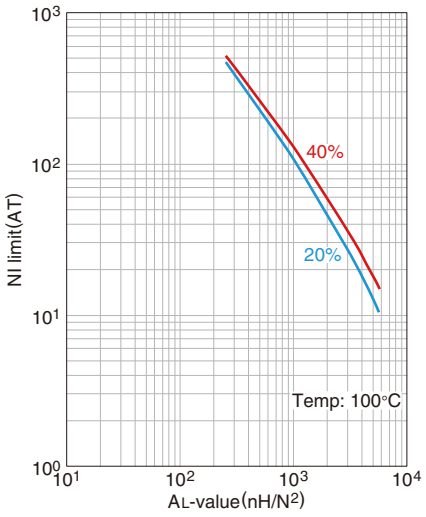
Dimensions in mm

Effective parameter									Electrical characteristics
Core factor		Effective magnetic path length	Effective cross-sectional area	Effective core volume	Cross-sectional center pole area	Minimum cross-sectional area	Winding cross-sectional area	Weigh (approx.)	AL-value
C_1 (mm^{-1})	$C_2 \times 10^{-2}$ (mm^{-3})	ℓe (mm)	Ae (mm^2)	Ve (mm^3)	Ac (mm^2)	A min.* (mm^2)	Acw (mm^2)	(g)	(nH/N^2) 1kHz 0.4A/m 23°C
0.5278	0.1367	204	386	78690	380	380C*	1086	394	4910±25%

* The symbol followed A min. value shows minimum cross-sectional area part.
C is center pole part, L is outer pole part, B is the back part.

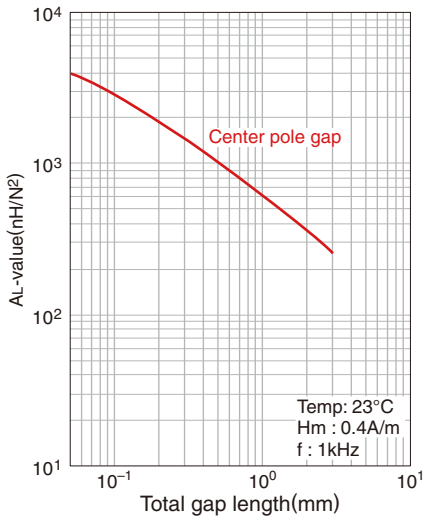
○ Calculated output power (forward converter mode): 1.6kW (100kHz)

NI limit vs. AL-value



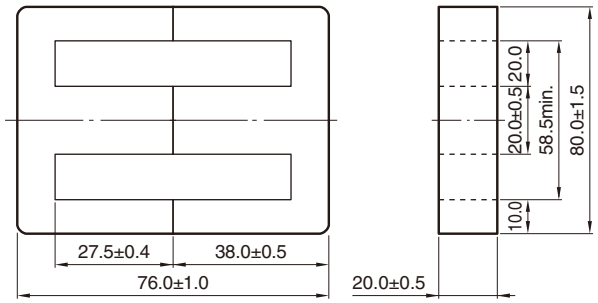
The 20% and 40% graph shows when a 20% and 40% drop from the initial AL-value has been made due to the DC superimposition.

AL-value vs. Air gap length



Mn-Zn EE series Part No.: PC40 EE80X76X20

SHAPES AND DIMENSIONS



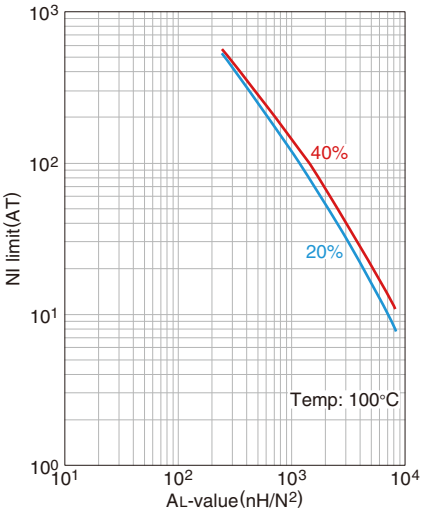
Dimensions in mm

Effective parameter									Electrical characteristics
Core factor		Effective magnetic path length	Effective cross-sectional area	Effective core volume	Cross-sectional center pole area	Minimum cross-sectional area	Winding cross-sectional area	Weigh (approx.)	AL-value
C_1 (mm^{-1})	$C_2 \times 10^{-2}$ (mm^{-3})	ℓe (mm)	Ae (mm^2)	Ve (mm^3)	Ac (mm^2)	A min.* (mm^2)	Acw (mm^2)	(g)	(nH/N^2) 1kHz 0.4A/m 23°C
0.44878	0.1106	182	406	73910	400	400LC*	1100	372	5720±25%

* The symbol followed A min. value shows minimum cross-sectional area part.
C is center pole part, L is outer pole part, B is the back part.

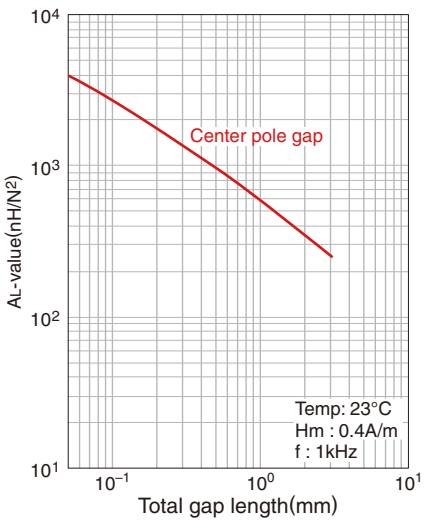
○ Calculated output power (forward converter mode): 1.5kW (100kHz)

NI limit vs. AL-value



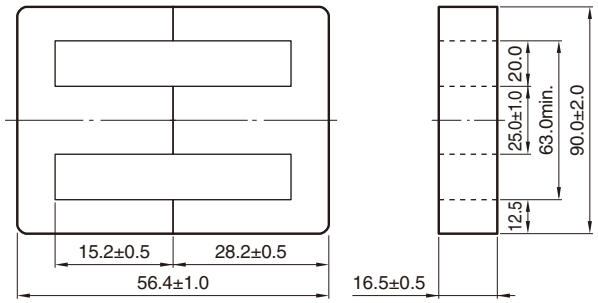
The 20% and 40% graph shows when a 20% and 40% drop from the initial AL-value has been made due to the DC superimposition.

AL-value vs. Air gap length



Mn-Zn EE series Part No.: PC40 EE90X56X16

SHAPES AND DIMENSIONS



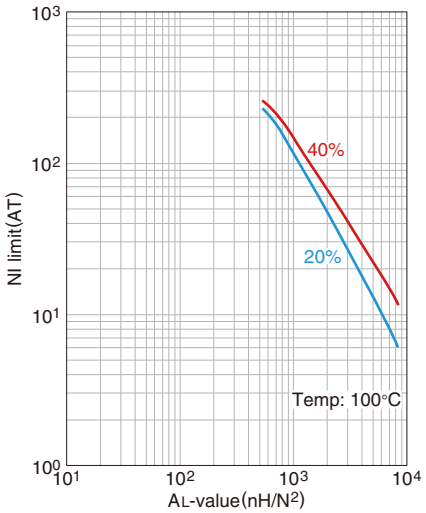
Dimensions in mm

Effective parameter									Electrical characteristics
Core factor		Effective magnetic path length	Effective cross-sectional area	Effective core volume	Cross-sectional center pole area	Minimum cross-sectional area	Winding cross-sectional area	Weigh (approx.)	AL-value
C_1 (mm^{-1})	$C_2 \times 10^{-2}$ (mm^{-3})	ℓe (mm)	Ae (mm^2)	Ve (mm^3)	Ac (mm^2)	A min.* (mm^2)	Acw (mm^2)	(g)	(nH/N^2) 1kHz 0.4A/m 23°C
0.33583	0.0801	141	419	59050	413	413LC*	608	306	7380±25%

* The symbol followed A min. value shows minimum cross-sectional area part.
C is center pole part, L is outer pole part, B is the back part.

○ Calculated output power (forward converter mode): 1.3kW (100kHz)

NI limit vs. AL-value



The 20% and 40% graph shows when a 20% and 40% drop from the initial AL-value has been made due to the DC superimposition.

AL-value vs. Air gap length