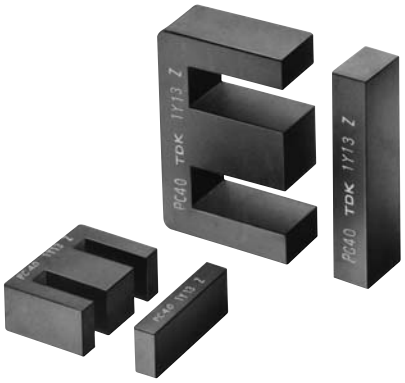
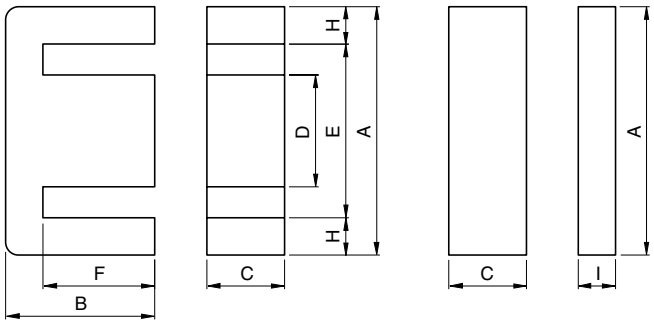
EI CORES



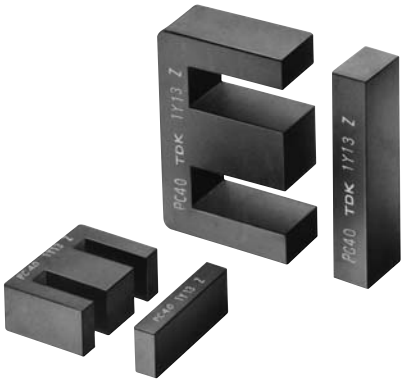


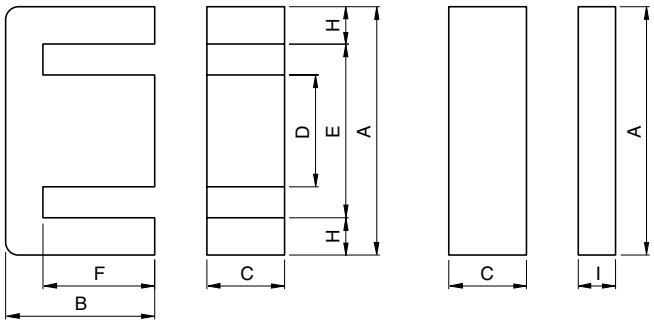
Part No.	JIS	Dimensions in mm							
		A	B	C	D	E min.	F	H	I
PC47EI12.5-Z	JIS FEI 12.5	12.4±0.3	7.4±0.1	4.85±0.15	2.4±0.1	8.8	5.1±0.1	1.6	1.5±0.1
PC47EI16-Z	JIS FEI 16	16.0±0.3	12.2±0.2	4.8±0.2	4.0±0.2	11.6	10.2±0.2	2.05	2.0±0.2
PC47EI19-Z		20.0±0.3	13.55±0.25	5.0±0.2	4.55±0.15	14.3	11.15±0.15	2.75	2.3±0.1
PC47EI22-Z		22.0±0.3	14.55±0.25	5.75±0.25	5.75±0.25	13.0	10.55±0.25	4.5	4.5±0.2
PC47EI22/19/6-Z	JIS FEI 22	22.0±0.4	14.7±0.2	5.75±0.25	5.75±0.25	15.75	10.7±0.2	3.0	4.0±0.2
PC47EI25-Z		25.3±0.5	15.55±0.25	6.75±0.25	6.5±0.3	19.0	12.35±0.25	3.0	2.7±0.2
PC47EI28-Z	JIS FEI 28	$28.0^{+0.7}_{-0.5}$	16.75±0.25	10.6±0.2(E core) 10.7±0.3(I core)	7.2±0.3	18.4	12.25±0.25	4.5	3.5±0.3
PC47EI30-Z	JIS FEI 30	$30.0^{+0.7}_{-0.4}$	21.25±0.25	10.7±0.3	10.7±0.3	19.7	16.25±0.25	5.0	5.5±0.2
PC47EI33/29/13-Z		$33.0^{+0.8}_{-0.5}$	23.75±0.25	12.7±0.3	9.7±0.3	23.4	19.25±0.25	4.45	5.0±0.3
PC47EI35-Z	JIS FEI 35	35.0±0.5	24.35±0.15	10.0±0.3	10.0±0.3	24.5	18.25±0.15	5.0	4.6±0.3

Part No.	Effective parameter				Electrical characteristics			Weight (g)
	C_1 (mm^{-1})	Ae (mm^2)	ℓe (mm)	Ve (mm^3)	A_L-value (nH/N^2)*		Core loss (W) max. 100kHz, 200mT, 100°C	
					Without air gap	With air gap		
PC47EI12.5-Z	1.48	14.4	21.3	308	1200±25%	63±7% 100±10%	0.1	1.9
PC47EI16-Z	1.75	19.8	34.6	685	1100±25%	80±7% 160±10%	0.3	3.3
PC47EI19-Z	1.65	24.0	39.6	950	1400±25%	80±7% 160±10%	0.4	5.1
PC47EI22-Z	0.936	42.0	39.3	1650	2400±25%	125±7% 250±10%	0.6	9.8
PC47EI22/19/6-Z	1.13	37.0	41.8	1550	2000±25%	125±7% 250±10%	0.6	8.5
PC47EI25-Z	1.15	41.0	47.0	1930	2140±25%	125±7% 250±10%	0.8	9.8
PC47EI28-Z	0.56	86.0	48.2	4150	4300±25%	200±5% 400±7%	1.6	22
PC47EI30-Z	0.522	111	58.0	6440	4690±25%	200±5% 400±7%	2.2	34
PC47EI33/29/13-Z	0.567	119	67.5	8030	4400±25%	200±5% 400±7%	2.7	41
PC47EI35-Z	0.664	101	67.1	6780	3800±25%	200±5% 400±7%	2.3	36

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

EI CORES



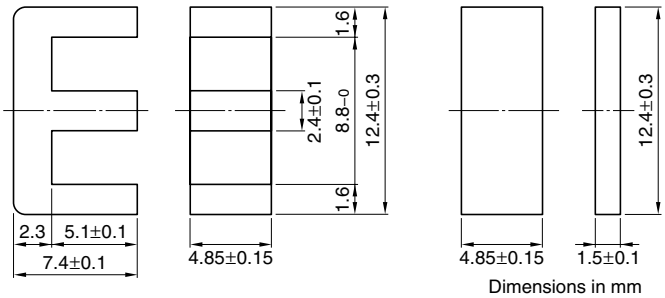


Part No.	JIS	Dimensions in mm							
		A	B	C	D	E min.	F	H	I
PC47EI40-Z	JIS FEI 40	40.0±0.5	27.25±0.25	11.65±0.35	11.65±0.35	27.2	20.25±0.25	6.2	7.5±0.3
PC47EI50-Z	JIS FEI 50	$50.0^{+1.2}_{-0.7}$	33.35±0.35	14.6±0.4	14.6±0.4	33.5	24.75±0.25	7.7	9.0±0.3
PC47EI60-Z	JIS FEI 60	$60.0^{+1.4}_{-0.8}$	35.85±0.35	15.6±0.4	15.6±0.4	43.6	27.85±0.35	7.7	8.5±0.3

Part No.	Effective parameter				Electrical characteristics			
					AL-value (nH/N²)*		Core loss (W) max.	Weight (g)
	C_1 (mm^{-1})	Ae (mm^2)	ℓe (mm)	Ve (mm^3)	Without air gap	With air gap	100kHz, 200mT, 100°C	
PC47EI40-Z	0.520	148	77.0	11400	4860±25%	200±5% 400±7%	3.7	60
PC47EI50-Z	0.409	230	94.0	21620	6110±25%	250±5% 500±7%	8.6	115
PC47EI60-Z	0.441	247	109	26900	5670±25%	250±5% 500±7%	9.2	139

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

EI Series EI12.5 Cores(JIS FEI 12.5)



Dimensions in mm

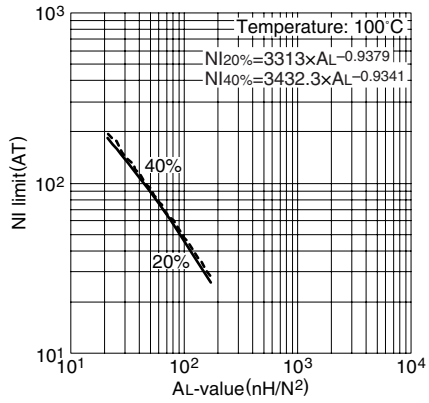
PARAMETER

Core factor	C1	mm^{-1}	1.48
Effective magnetic path length	ℓe	mm	21.3
Effective cross-sectional area	Ae	mm^2	14.4
Effective core volume	Ve	mm^3	308
Cross-sectional center pole area	Acp	mm^2	11.6
Minimum cross-sectional area	Acp min.	mm^2	10.8
Cross-sectional winding area of core	Acw	mm^2	17.3
Weight (approx.)		g	1.9

Part No.	AL-value (nH/N^2)	Core loss (W) at 100°C 100kHz, 200mT	Calculated output power (forward converter mode)
PC47EI12.5-Z	1200±25% (1kHz, 0.5mA)* 2120 min. (100kHz, 200mT)	0.10 max.	11.5W (100kHz)

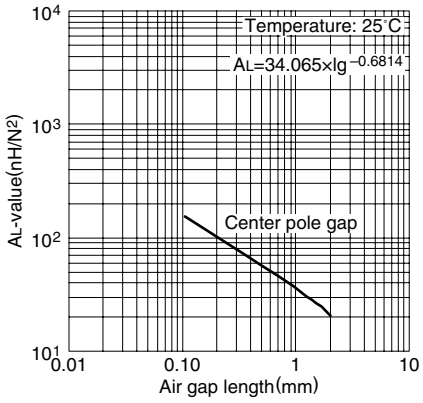
* Coil: ø0.2 2UEW 100Ts

NI limit vs. AL-value for PC47EI12.5 gapped core (Typical)



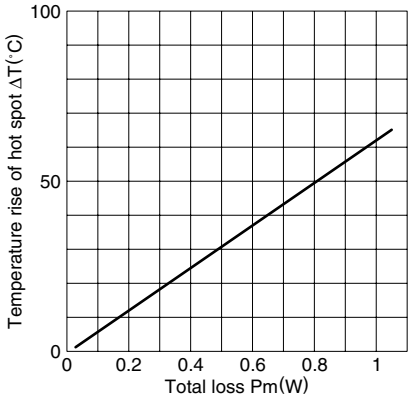
Note: NI limit shows the point where the exciting current is 20% and 40% away from its extended linear part.

AL-value vs. Air gap length for PC47EI12.5 core (Typical)

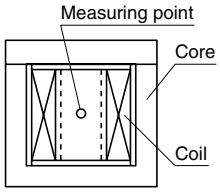


Measuring conditions
- Coil: ø0.2 2UEW 100Ts
- Frequency: 1kHz
- Level: 0.5mA

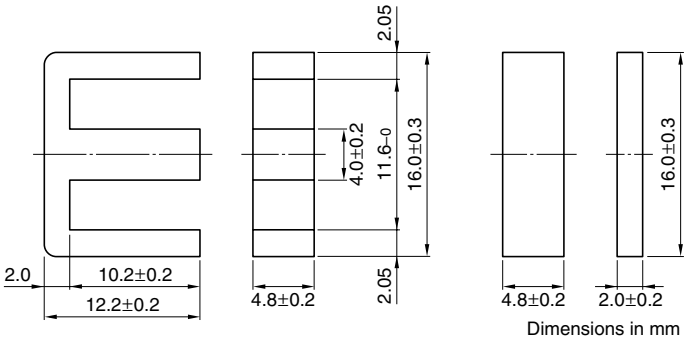
Temperature rise vs. Total loss for EI12.5 core (Typical) (Ambient temperature: 25°C)



Note: The temperature rise is measured in the room whose temperature and humidity are fixed to 25°C and 45(%)RH. respectively. (approx. 400×300×300cm)



EI Series EI16 Cores(JIS FEI 16)



Dimensions in mm

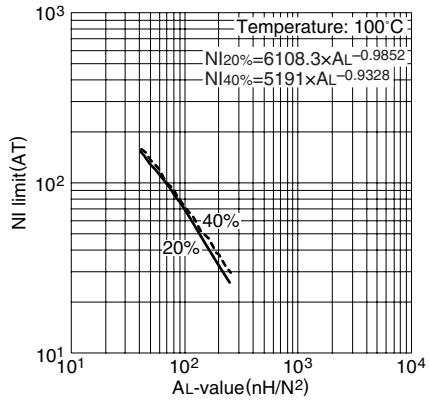
PARAMETER

Core factor	C1	mm^{-1}	1.75
Effective magnetic path length	ℓe	mm	34.6
Effective cross-sectional area	Ae	mm^2	19.8
Effective core volume	Ve	mm^3	685
Cross-sectional center pole area	Acp	mm^2	19.2
Minimum cross-sectional area	Acp min.	mm^2	17.5
Cross-sectional winding area of core	Acw	mm^2	40.3
Weight (approx.)		g	3.3

Part No.	AL-value (nH/N2)	Core loss (W) at 100°C 100kHz, 200mT	Calculated output power (forward converter mode)
PC47EI16-Z	1100±25% (1kHz, 0.5mA)* 1750 min. (100kHz, 200mT)	0.29 max.	33W (100kHz)

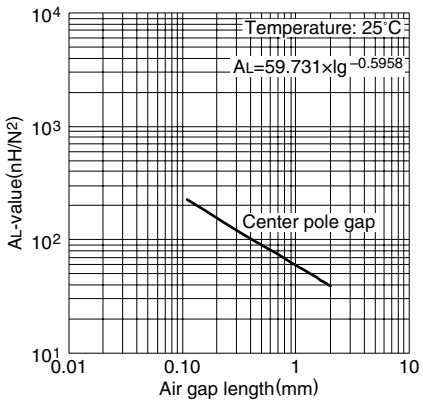
* Coil: ø0.23 2UEW 100Ts

NI limit vs. AL-value for PC47EI16 gapped core (Typical)



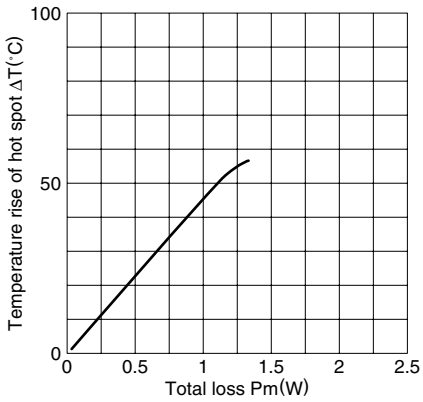
Note: NI limit shows the point where the exciting current is 20% and 40% away from its extended linear part.

AL-value vs. Air gap length for PC47EI16 core (Typical)

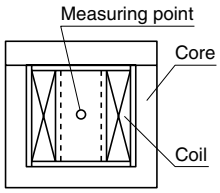


Measuring conditions
- Coil: ø0.23 2UEW 100Ts
- Frequency: 1kHz
- Level: 0.5mA

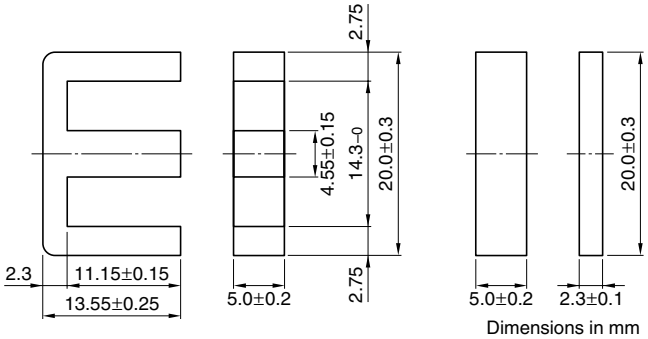
Temperature rise vs. Total loss for EI16 core (Typical) (Ambient temperature: 25°C)



Note: The temperature rise is measured in the room whose temperature and humidity are fixed to 25°C and 45(%)RH. respectively. (approx. 400×300×300cm)



EI Series EI19 Cores



Dimensions in mm

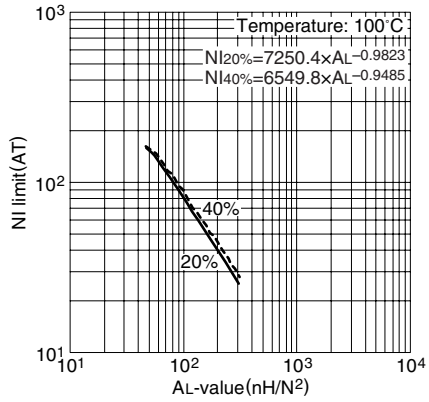
PARAMETER

Core factor	C1	mm^{-1}	1.65
Effective magnetic path length	ℓe	mm	39.6
Effective cross-sectional area	Ae	mm^2	24.0
Effective core volume	Ve	mm^3	950
Cross-sectional center pole area	Acp	mm^2	22.8
Minimum cross-sectional area	Acp min.	mm^2	21.1
Cross-sectional winding area of core	Acw	mm^2	55.5
Weight (approx.)		g	5.1

Part No.	AL-value (nH/N2)	Core loss (W) at 100°C 100kHz, 200mT	Calculated output power (forward converter mode)
PC47EI19-Z	1400±25% (1kHz, 0.5mA)* 1830 min. (100kHz, 200mT)	0.39 max.	45W (100kHz)

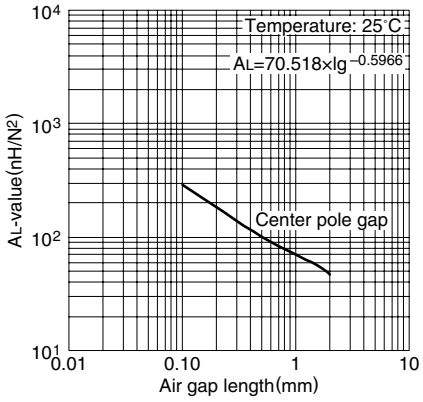
* Coil: ø0.23 2UEW 100Ts

NI limit vs. AL-value for PC47EI19 gapped core (Typical)



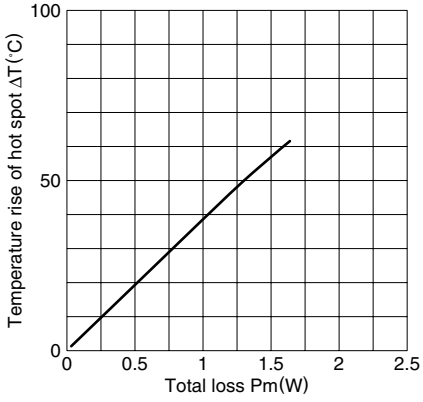
Note: NI limit shows the point where the exciting current is 20% and 40% away from its extended linear part.

AL-value vs. Air gap length for PC47EI19 core (Typical)

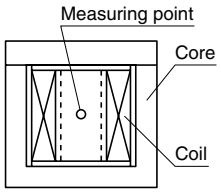


Measuring conditions
- Coil: ø0.23 2UEW 100Ts
- Frequency: 1kHz
- Level: 0.5mA

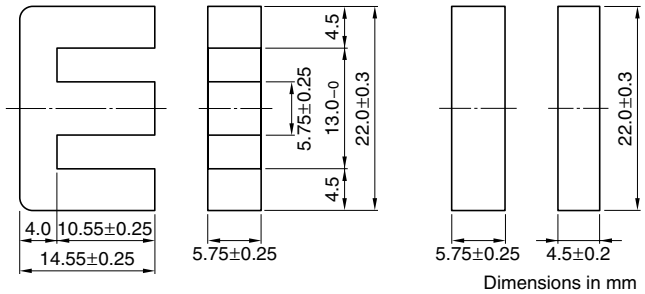
Temperature rise vs. Total loss for EI19 core (Typical) (Ambient temperature: 25°C)



Note: The temperature rise is measured in the room whose temperature and humidity are fixed to 25°C and 45(%)RH. respectively. (approx. 400×300×300cm)



EI Series EI22 Cores



Dimensions in mm

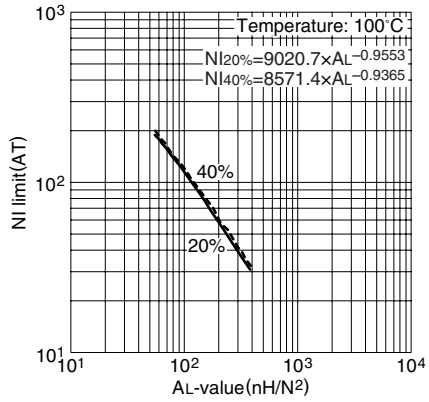
PARAMETER

Core factor	C_1	mm^{-1}	0.936
Effective magnetic path length	ℓe	mm	39.3
Effective cross-sectional area	Ae	mm^2	42.0
Effective core volume	Ve	mm^3	1650
Cross-sectional center pole area	Acp	mm^2	33.1
Minimum cross-sectional area	Acp min.	mm^2	30.3
Cross-sectional winding area of core	Acw	mm^2	38.2
Weight (approx.)		g	9.8

Part No.	A_L-value (nH/N^2)	Core loss (W) at 100°C 100kHz, 200mT	Calculated output power (forward converter mode)
PC47EI22-Z	2400±25% (1kHz, 0.5mA)* 3360 min. (100kHz, 200mT)	0.56 max.	49W (100kHz)

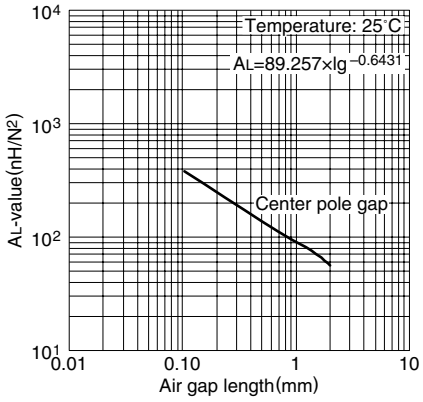
* Coil: ø0.23 2UEW 100Ts

NI limit vs. A_L-value for PC47EI22 gapped core (Typical)



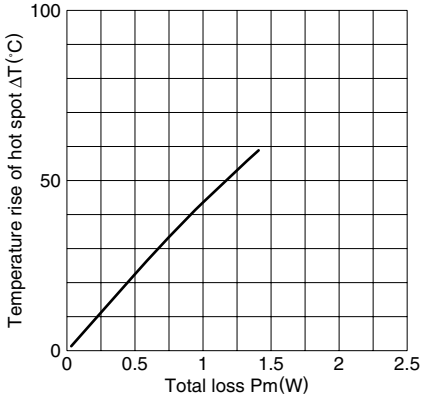
Note: NI limit shows the point where the exciting current is 20% and 40% away from its extended linear part.

A_L-value vs. Air gap length for PC47EI22 core (Typical)

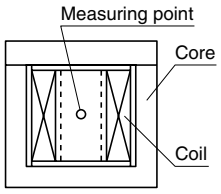


Measuring conditions
- Coil: ø0.23 2UEW 100Ts
- Frequency: 1kHz
- Level: 0.5mA

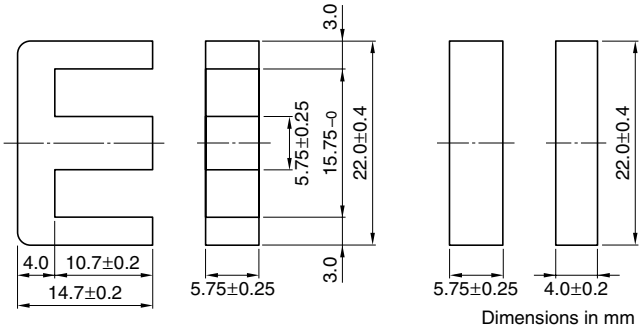
Temperature rise vs. Total loss for EI22 core (Typical) (Ambient temperature: 25°C)



Note: The temperature rise is measured in the room whose temperature and humidity are fixed to 25°C and 45(%)RH. respectively. (approx. 400×300×300cm)



EI Series EI22/19/6 Cores(JIS FEI 22)



Dimensions in mm

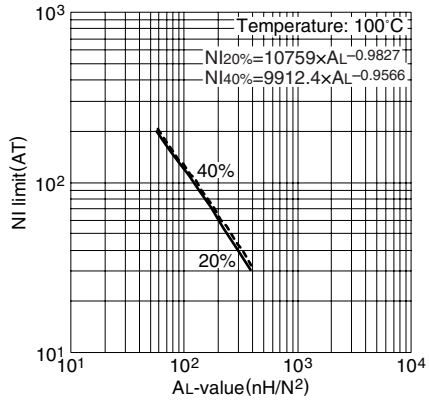
PARAMETER

Core factor	C1	mm^{-1}	1.13
Effective magnetic path length	ℓe	mm	41.8
Effective cross-sectional area	Ae	mm^2	37.0
Effective core volume	Ve	mm^3	1550
Cross-sectional center pole area	Acp	mm^2	33.1
Minimum cross-sectional area	Acp min.	mm^2	30.3
Cross-sectional winding area of core	Acw	mm^2	54.8
Weight (approx.)		g	8.5

Part No.	AL-value (nH/N2)	Core loss (W) at 100°C 100kHz, 200mT	Calculated output power (forward converter mode)
PC47EI22/19/6-Z	2000±25% (1kHz, 0.5mA)* 2780 min. (100kHz, 200mT)	0.59 max.	59W (100kHz)

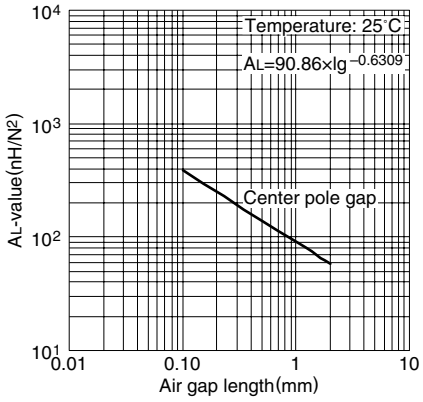
* Coil: ø0.23 2UEW 100Ts

NI limit vs. AL-value for PC47EI22/19/6 gapped core (Typical)



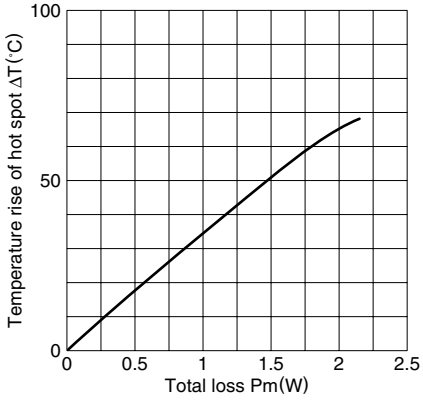
Note: NI limit shows the point where the exciting current is 20% and 40% away from its extended linear part.

AL-value vs. Air gap length for PC47EI22/19/6 core (Typical)

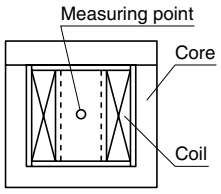


Measuring conditions
- Coil: ø0.23 2UEW 100Ts
- Frequency: 1kHz
- Level: 0.5mA

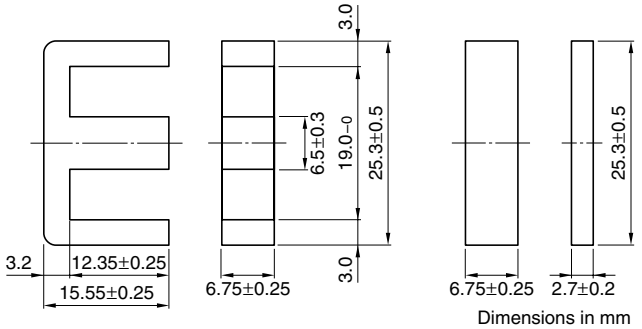
Temperature rise vs. Total loss for EI22/19/6 core (Typical) (Ambient temperature: 25°C)



Note: The temperature rise is measured in the room whose temperature and humidity are fixed to 25°C and 45(%)RH. respectively. (approx. 400×300×300cm)



EI Series EI25 Cores



Dimensions in mm

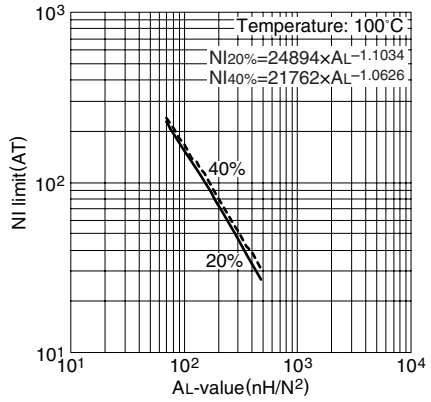
PARAMETER

Core factor	C_1	mm^{-1}	1.15
Effective magnetic path length	ℓe	mm	47.0
Effective cross-sectional area	Ae	mm^2	41.0
Effective core volume	Ve	mm^3	1930
Cross-sectional center pole area	Acp	mm^2	43.9
Minimum cross-sectional area	Acp min.	mm^2	40.3
Cross-sectional winding area of core	Acw	mm^2	77.2
Weight (approx.)		g	9.8

Part No.	AL-value (nH/N²)	Core loss (W) at 100°C 100kHz, 200mT	Calculated output power (forward converter mode)
PC47EI25-Z	2140±25% (1kHz, 0.5mA)* 2950 min. (100kHz, 200mT)	0.82 max.	82W (100kHz)

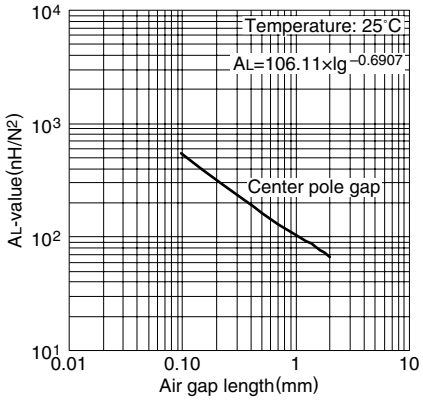
* Coil: ø0.35 2UEW 100Ts

NI limit vs. AL-value for PC47EI25 gapped core (Typical)



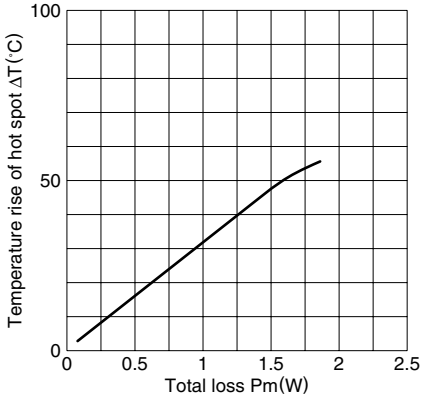
Note: NI limit shows the point where the exciting current is 20% and 40% away from its extended linear part.

AL-value vs. Air gap length for PC47EI25 core (Typical)

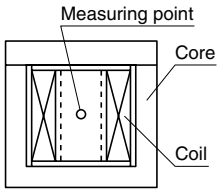


Measuring conditions
- Coil: ø0.35 2UEW 100Ts
- Frequency: 1kHz
- Level: 0.5mA

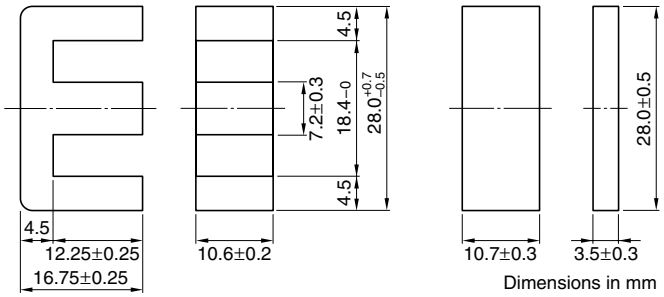
Temperature rise vs. Total loss for EI25 core (Typical) (Ambient temperature: 25°C)



Note: The temperature rise is measured in the room whose temperature and humidity are fixed to 25°C and 45(%)RH. respectively. (approx. 400×300×300cm)



EI Series EI28 Cores(JIS FEI 28)



Dimensions in mm

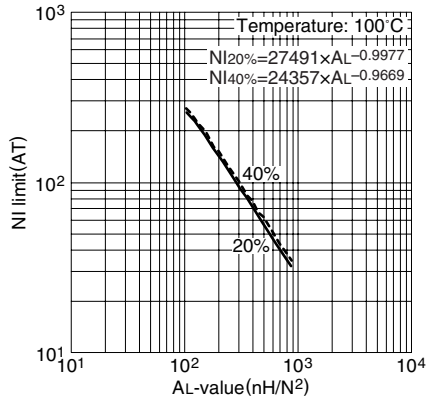
PARAMETER

Core factor	C1	mm^{-1}	0.560
Effective magnetic path length	ℓe	mm	48.2
Effective cross-sectional area	Ae	mm^2	86.0
Effective core volume	Ve	mm^3	4150
Cross-sectional center pole area	Acp	mm^2	76.3
Minimum cross-sectional area	Acp min.	mm^2	71.8
Cross-sectional winding area of core	Acw	mm^2	69.8
Weight (approx.)		g	22

Part No.	AL-value (nH/N2)	Core loss (W) at 100°C 100kHz, 200mT	Calculated output power (forward converter mode)
PC47EI28-Z	4300±25% (1kHz, 0.5mA)* 6060 min. (100kHz, 200mT)	1.58 max.	145W (100kHz)

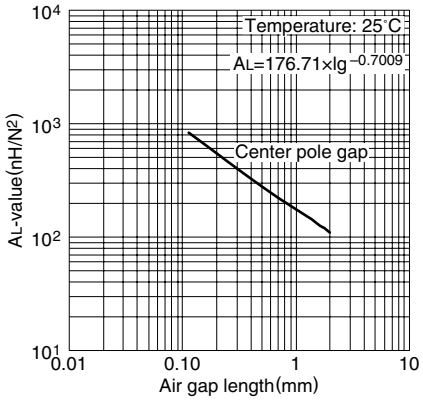
* Coil: ø0.35 2UEW 100Ts

NI limit vs. AL-value for PC47EI28 gapped core (Typical)



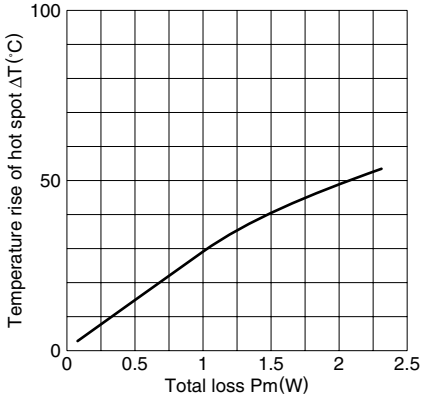
Note: NI limit shows the point where the exciting current is 20% and 40% away from its extended linear part.

AL-value vs. Air gap length for PC47EI28 core (Typical)

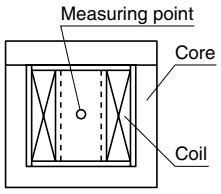


Measuring conditions
- Coil: ø0.35 2UEW 100Ts
- Frequency: 1kHz
- Level: 0.5mA

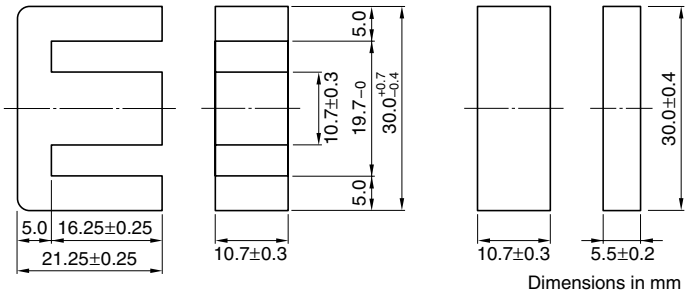
Temperature rise vs. Total loss for EI28 core (Typical) (Ambient temperature: 25°C)



Note: The temperature rise is measured in the room whose temperature and humidity are fixed to 25°C and 45(%)RH. respectively. (approx. 400×300×300cm)



EI Series EI30 Cores(JIS FEI 30)



Dimensions in mm

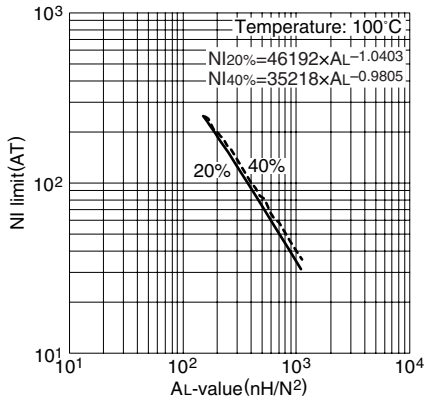
PARAMETER

Core factor	C1	mm^{-1}	0.523
Effective magnetic path length	ℓe	mm	58.0
Effective cross-sectional area	Ae	mm^2	111
Effective core volume	Ve	mm^3	6440
Cross-sectional center pole area	Acp	mm^2	114
Minimum cross-sectional area	Acp min.	mm^2	108
Cross-sectional winding area of core	Acw	mm^2	75.6
Weight (approx.)		g	34

Part No.	AL-value (nH/N2)	Core loss (W) at 100°C 100kHz, 200mT	Calculated output power (forward converter mode)
PC47EI30-Z	4690±25% (1kHz, 0.5mA)* 6490 min. (100kHz, 200mT)	2.17 max.	214W (100kHz)

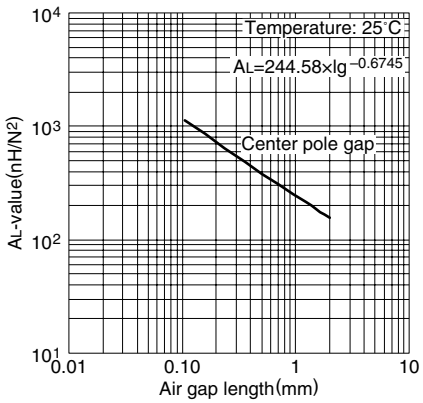
* Coil: ø0.35 2UEW 100Ts

NI limit vs. AL-value for PC47EI30 gapped core (Typical)



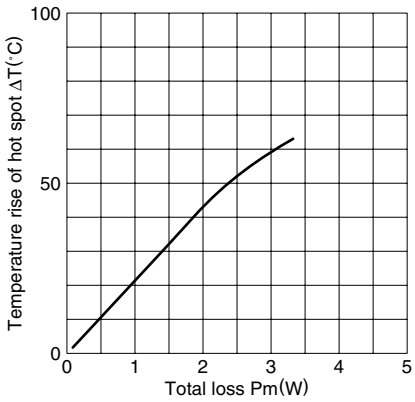
Note: NI limit shows the point where the exciting current is 20% and 40% away from its extended linear part.

AL-value vs. Air gap length for PC47EI30 core (Typical)

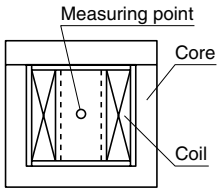


Measuring conditions
- Coil: ø0.35 2UEW 100Ts
- Frequency: 1kHz
- Level: 0.5mA

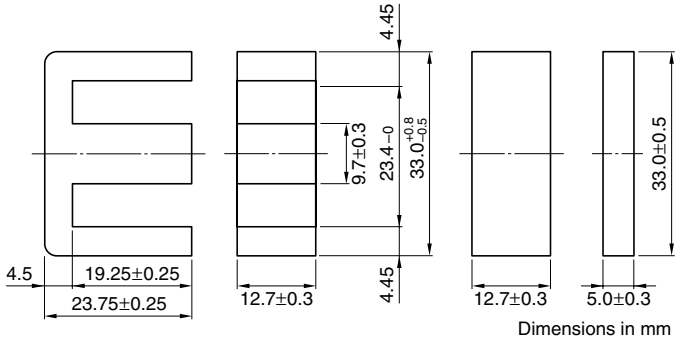
Temperature rise vs. Total loss for EI30 core (Typical) (Ambient temperature: 25°C)



Note: The temperature rise is measured in the room whose temperature and humidity are fixed to 25°C and 45(%)RH. respectively. (approx. 400×300×300cm)



EI Series EI33/29/13 Cores



Dimensions in mm

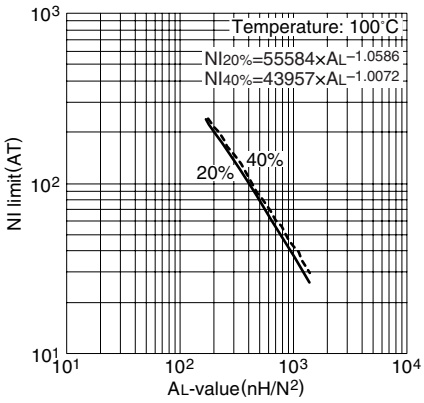
PARAMETER

Core factor	C1	mm^{-1}	0.567
Effective magnetic path length	ℓe	mm	67.5
Effective cross-sectional area	Ae	mm^2	119
Effective core volume	Ve	mm^3	8030
Cross-sectional center pole area	Acp	mm^2	123
Minimum cross-sectional area	Acp min.	mm^2	117
Cross-sectional winding area of core	Acw	mm^2	138.6
Weight (approx.)		g	41

Part No.	AL-value (nH/N2)	Core loss (W) at 100°C 100kHz, 200mT	Calculated output power (forward converter mode)
PC47EI33/29/13-Z	4400±25% (1kHz, 0.5mA)* 5980 min. (100kHz, 200mT)	2.67 max.	288W (100kHz)

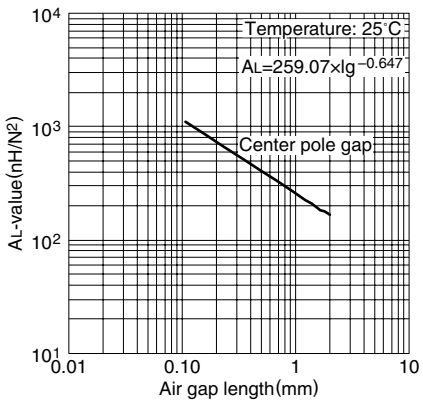
* Coil: ø0.35 2UEW 100Ts

NI limit vs. AL-value for PC47EI33/29/13 gapped core (Typical)



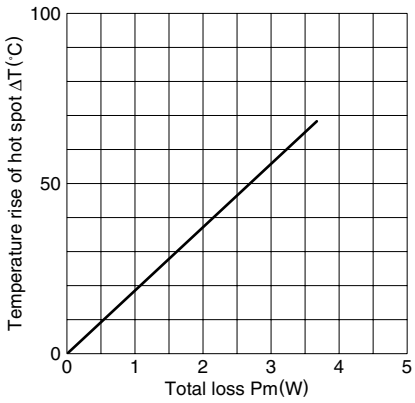
Note: NI limit shows the point where the exciting current is 20% and 40% away from its extended linear part.

AL-value vs. Air gap length for PC47EI33/29/13 core (Typical)

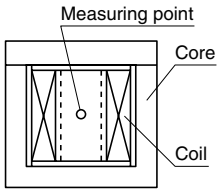


Measuring conditions
- Coil: ø0.35 2UEW 100Ts
- Frequency: 1kHz
- Level: 0.5mA

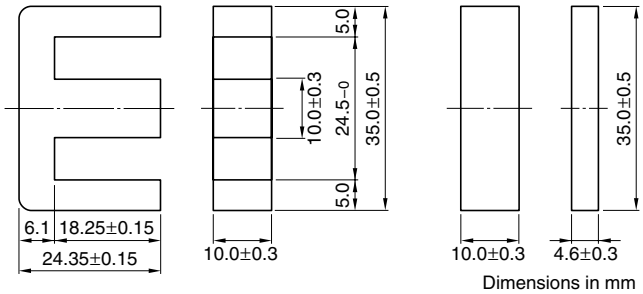
Temperature rise vs. Total loss for EI33/29/13 core (Typical) (Ambient temperature: 25°C)



Note: The temperature rise is measured in the room whose temperature and humidity are fixed to 25°C and 45(%)RH. respectively. (approx. 400×300×300cm)



EI Series EI35 Cores(JIS FEI 35)



Dimensions in mm

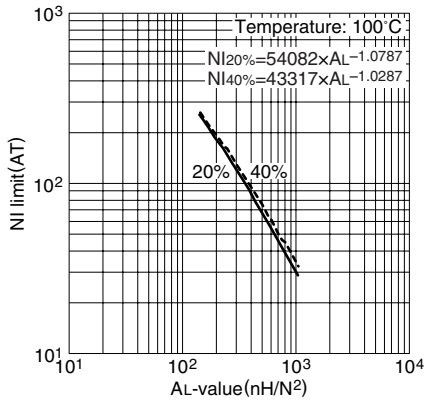
PARAMETER

Core factor	C_1	mm^{-1}	0.664
Effective magnetic path length	ℓe	mm	67.1
Effective cross-sectional area	Ae	mm^2	101
Effective core volume	Ve	mm^3	6780
Cross-sectional center pole area	Acp	mm^2	100
Minimum cross-sectional area	Acp min.	mm^2	94.1
Cross-sectional winding area of core	Acw	mm^2	131.6
Weight (approx.)		g	36

Part No.	A_L-value (nH/N^2)	Core loss (W) at 100°C 100kHz, 200mT	Calculated output power (forward converter mode)
PC47EI35-Z	3800±25% (1kHz, 0.5mA)* 5110 min. (100kHz, 200mT)	2.35 max.	266W (100kHz)

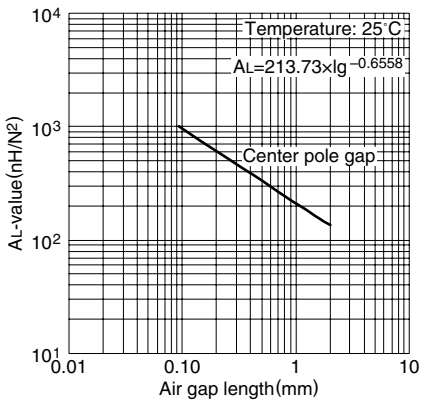
* Coil: ø0.35 2UEW 100Ts

NI limit vs. A_L-value for PC47EI35 gapped core (Typical)



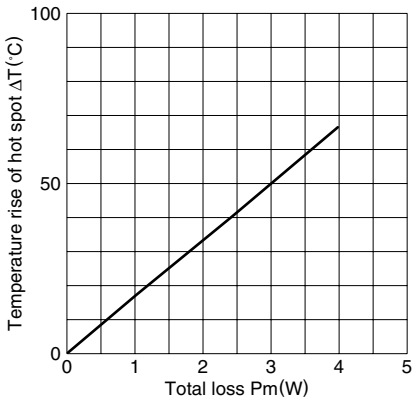
Note: NI limit shows the point where the exciting current is 20% and 40% away from its extended linear part.

A_L-value vs. Air gap length for PC47EI35 core (Typical)

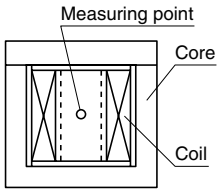


Measuring conditions
- Coil: ø0.35 2UEW 100Ts
- Frequency: 1kHz
- Level: 0.5mA

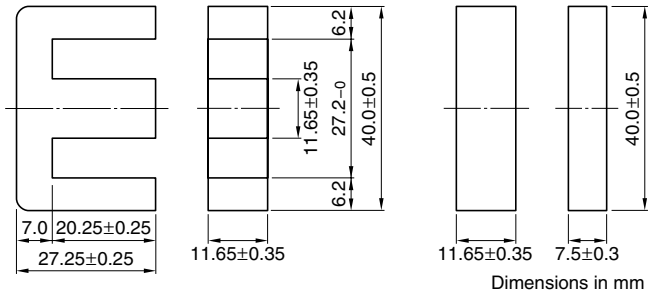
Temperature rise vs. Total loss for EI35 core (Typical) (Ambient temperature: 25°C)



Note: The temperature rise is measured in the room whose temperature and humidity are fixed to 25°C and 45(%)RH. respectively. (approx. 400×300×300cm)



EI Series EI40 Cores(JIS FEI 40)



Dimensions in mm

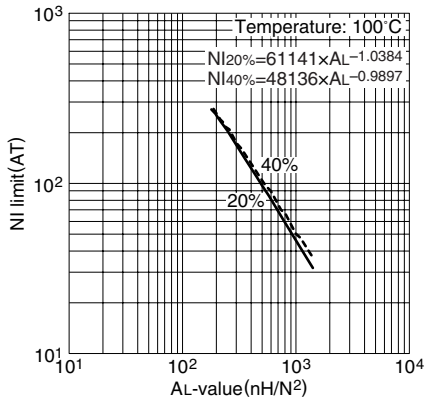
PARAMETER

Core factor	C1	mm^{-1}	0.520
Effective magnetic path length	ℓe	mm	77.0
Effective cross-sectional area	Ae	mm^2	148
Effective core volume	Ve	mm^3	11400
Cross-sectional center pole area	Acp	mm^2	136
Minimum cross-sectional area	Acp min.	mm^2	128
Cross-sectional winding area of core	Acw	mm^2	160.5
Weight (approx.)		g	60

Part No.	AL-value (nH/N2)	Core loss (W) at 100°C 100kHz, 200mT	Calculated output power (forward converter mode)
PC47EI40-Z	4860±25% (1kHz, 0.5mA)* 6520 min. (100kHz, 200mT)	3.66 max.	361W (100kHz)

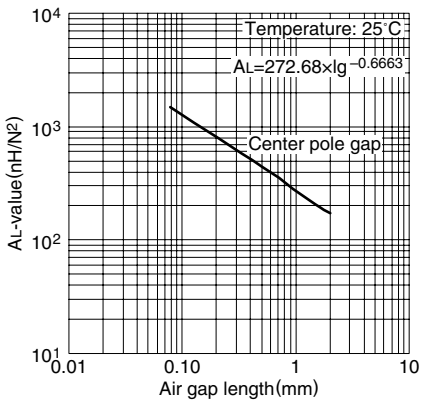
* Coil: ø0.35 2UEW 100Ts

NI limit vs. AL-value for PC47EI40 gapped core (Typical)



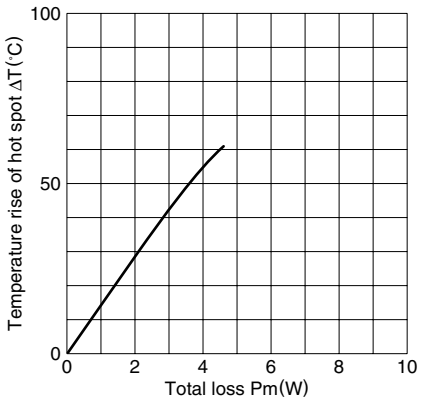
Note: NI limit shows the point where the exciting current is 20% and 40% away from its extended linear part.

AL-value vs. Air gap length for PC47EI40 core (Typical)

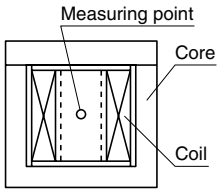


Measuring conditions
- Coil: ø0.35 2UEW 100Ts
- Frequency: 1kHz
- Level: 0.5mA

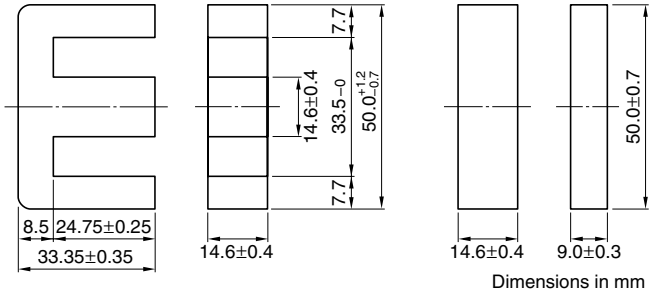
Temperature rise vs. Total loss for EI40 core (Typical) (Ambient temperature: 25°C)



Note: The temperature rise is measured in the room whose temperature and humidity are fixed to 25°C and 45(%)RH. respectively. (approx. 400×300×300cm)



EI Series EI50 Cores(JIS FEI 50)



Dimensions in mm

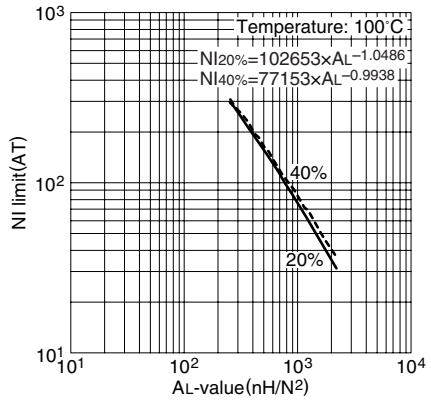
PARAMETER

Core factor	C1	mm^{-1}	0.409
Effective magnetic path length	ℓe	mm	94.0
Effective cross-sectional area	Ae	mm^2	230
Effective core volume	Ve	mm^3	21620
Cross-sectional center pole area	Acp	mm^2	213
Minimum cross-sectional area	Acp min.	mm^2	202
Cross-sectional winding area of core	Acw	mm^2	246.3
Weight (approx.)		g	115

Part No.	AL-value (nH/N^2)	Core loss (W) at 100°C 100kHz, 200mT	Calculated output power (forward converter mode)
PC47EI50-Z	6110±25% (1kHz, 0.5mA)* 8300 min. (100kHz, 200mT)	8.62 max.	554W (100kHz)

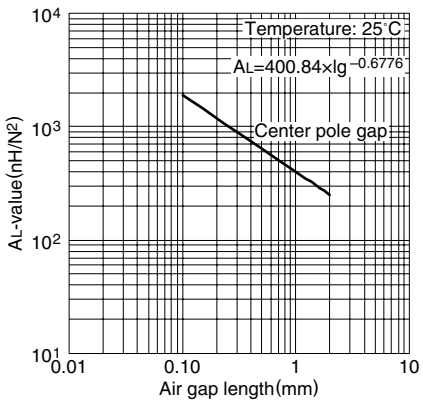
* Coil: ø0.35 2UEW 100Ts

NI limit vs. AL-value for PC47EI50 gapped core (Typical)



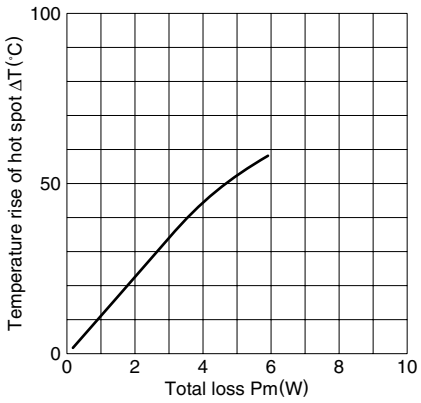
Note: NI limit shows the point where the exciting current is 20% and 40% away from its extended linear part.

AL-value vs. Air gap length for PC47EI50 core (Typical)

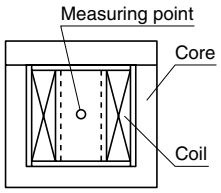


Measuring conditions
- Coil: ø0.35 2UEW 100Ts
- Frequency: 1kHz
- Level: 0.5mA

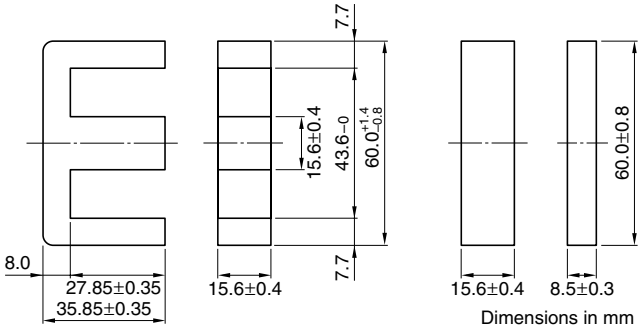
Temperature rise vs. Total loss for EI50 core (Typical) (Ambient temperature: 25°C)



Note: The temperature rise is measured in the room whose temperature and humidity are fixed to 25°C and 45(%)RH. respectively. (approx. 400×300×300cm)



EI Series EI60 Cores(JIS FEI 60)



Dimensions in mm

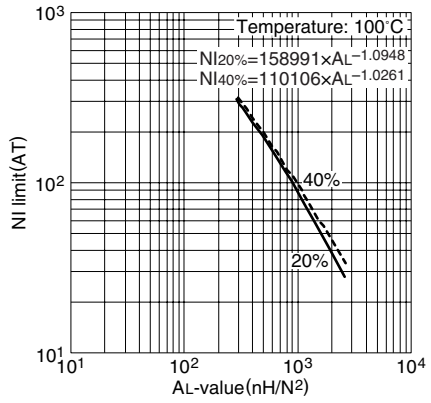
PARAMETER

Core factor	C1	mm^{-1}	0.441
Effective magnetic path length	ℓe	mm	109
Effective cross-sectional area	Ae	mm^2	247
Effective core volume	Ve	mm^3	26900
Cross-sectional center pole area	Acp	mm^2	243
Minimum cross-sectional area	Acp min.	mm^2	231
Cross-sectional winding area of core	Acw	mm^2	402.4
Weight (approx.)		g	139

Part No.	AL-value (nH/N^2)	Core loss (W) at 100°C 100kHz, 200mT	Calculated output power (forward converter mode)
PC47EI60-Z	5670±25% (1kHz, 0.5mA)* 7690 min. (100kHz, 200mT)	9.16 max.	712W (100kHz)

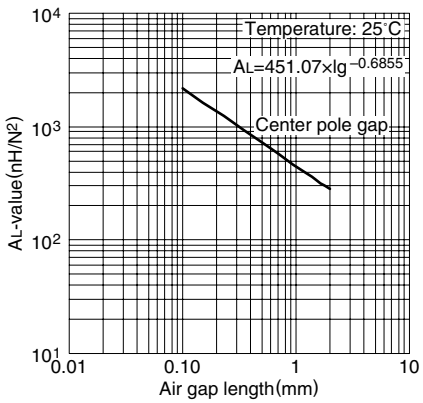
* Coil: ø0.35 2UEW 100Ts

NI limit vs. AL-value for PC47EI60 gapped core (Typical)



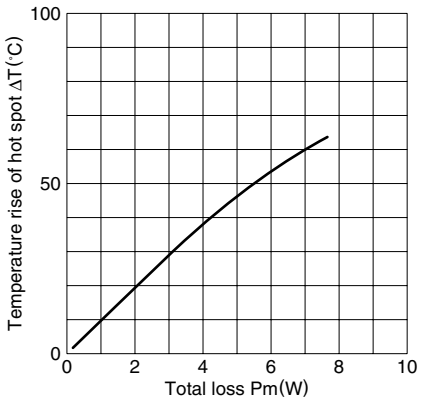
Note: NI limit shows the point where the exciting current is 20% and 40% away from its extended linear part.

AL-value vs. Air gap length for PC47EI60 core (Typical)



Measuring conditions
- Coil: ø0.35 2UEW 100Ts
- Frequency: 1kHz
- Level: 0.5mA

Temperature rise vs. Total loss for EI60 core (Typical) (Ambient temperature: 25°C)



Note: The temperature rise is measured in the room whose temperature and humidity are fixed to 25°C and 45(%)RH. respectively. (approx. 400×300×300cm)