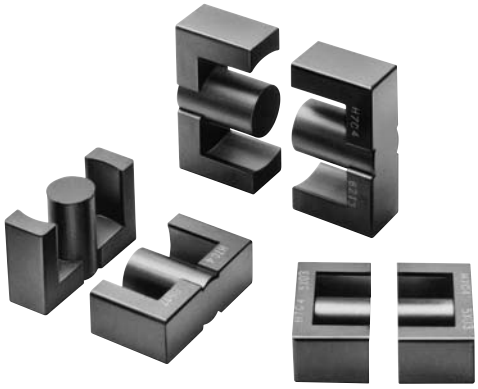
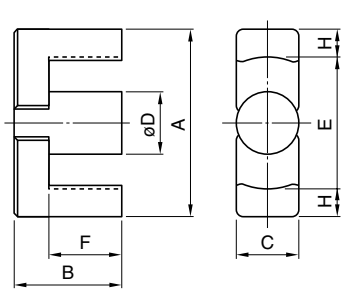
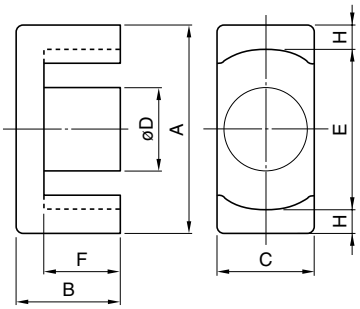
EER CORES





Type 1



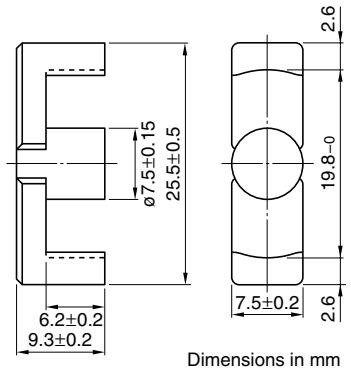
Type 2

Part No.	U.S. lam. cores, DIN standard JIS	Type	Dimensions in mm						
			A	B	C	øD	E min.	F	H
PC47EER25.5-Z **PC95EER25.5-Z**	JIS FEER25.5A	1	25.5±0.5	9.3±0.2	7.5±0.2	7.5±0.15	19.8	6.2±0.2	2.6
PC47EER28-Z **PC95EER28-Z**	JIS FEER28.5A	2	28.55±0.55	14.0±0.2	11.4±0.25	9.9±0.25	21.2	9.65±0.25	3.4
PC47EER28L-Z **PC95EER28L-Z**	JIS FEER28.5B	2	28.55±0.55	16.9±0.25	11.4±0.25	9.9±0.25	21.2	12.53±0.28	3.4
PC47EER35-Z **PC95EER35-Z**	JIS FEER35A	1	35.0±0.5	20.7±0.2	11.3±0.2	11.3±0.15	25.6	14.7±0.3	4.43
PC47EER40-Z **PC95EER40-Z**		1	40.0±0.5	22.4±0.2	13.3±0.25	13.3±0.25	29.0	15.4±0.3	5.28
PC47EER42-Z	JIS FEER42	1	42.0±0.6	22.4±0.2	15.5±0.25	15.5±0.25	29.4	15.4±0.3	6.0
PC47EER42/42/20-Z		2	42.15±0.65	21.2±0.2	19.60±0.4	17.3±0.25	31.8	15.25±0.25	4.93
PC47EER49-Z		1	49.0±0.8	19.0±0.3	17.2±0.4	17.2±0.25	36.4	12.4±0.2	6.0

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.	
					Without air gap	With air gap	100kHz, 200mT, 100°C	
PC47EER25.5-Z **PC95EER25.5-Z**	1.08	44.8	48.2	2160	1920±25% 2700±25%	100±5% 200±7%	0.75 1.1/0.9/1.1**	11
PC47EER28-Z **PC95EER28-Z**	0.780	82.1	64.0	5250	2870±25% 4000±25%	200±5% 400±7%	1.72 2.45/2.1/2.45**	28
PC47EER28L-Z **PC95EER28L-Z**	0.928	81.4	75.5	6150	2520±25% 3500±25%	160±5% 315±7%	2.03 2.9/2.45/2.9**	33
PC47EER35-Z **PC95EER35-Z**	0.849	107	90.8	9720	2770±25% 4000±25%	200±5% 400±7%	3.18 4.55/3.8/4.55**	52
PC47EER40-Z **PC95EER40-Z**	0.658	149	98.0	14600	3620±25% 5200±25%	200±5% 400±7%	4.77 6.8/5.7/6.8**	78
PC47EER42-Z	0.509	194	98.8	19200	4690±25%	250±5% 500±7%	6.47	102
PC47EER42/42/20-Z	0.411	240	98.6	23700	5340±25%	250±5% 500±7%	9.96	116
PC47EER49-Z	0.395	231	91.3	21100	6250±25%	250±5% 500±7%	4.03	110

* A_L-value: 1kHz, 0.5mA, 100Ts
** Core loss: 100kHz, 200mT, 25°C/80°C/120°C

EER Series EER25.5 Cores(JIS FEER 25.5A)



Dimensions in mm

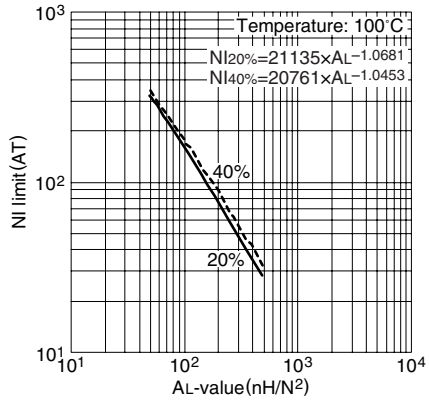
PARAMETER

Core factor	C1	mm−1	1.08
Effective magnetic path length	ℓe	mm	48.2
Effective cross-sectional area	Ae	mm2	44.8
Effective core volume	Ve	mm3	2160
Cross-sectional center pole area	Acp	mm2	44.2
Minimum cross-sectional center pole area	Acp min.	mm2	42.4
Cross-sectional winding area of core	Acw	mm2	79.4
Weight (approx.)		g	11

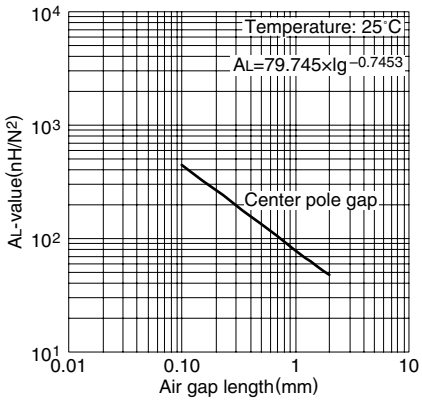
Part No.	AL-value (nH/N2)	Core loss (W) 100kHz, 200mT	Calculated output power (forward converter mode)
PC47EER25.5-Z	1920±25% (1kHz, 0.5mA)* 2910 min. (100kHz, 200mT)	0.75 max.(100°C)	112W (100kHz)
PC95EER25.5-Z	1920±25% (1kHz, 0.5mA)* 2700±25%	1.1/0.9/1.1(25°C/80°C/120°C)	96W (100kHz)

* Coil: ø0.35 2UEW 100Ts

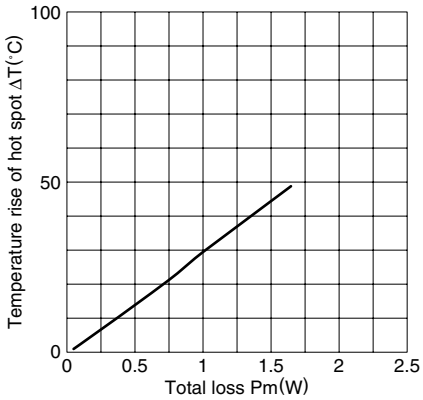
NI limit vs. AL-value for PC47EER25.5 gapped core (Typical)



AL-value vs. Air gap length for PC47EER25.5 core (Typical)

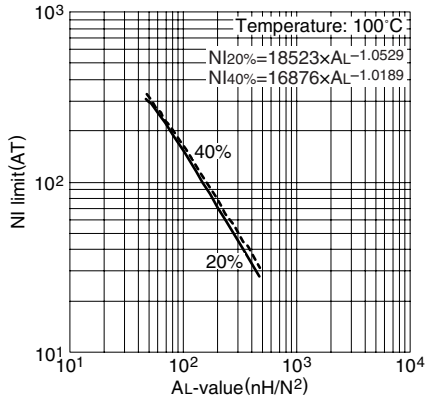


Temperature rise vs. Total loss for EER25.5 core (Typical) (Ambient temperature: 25°C)



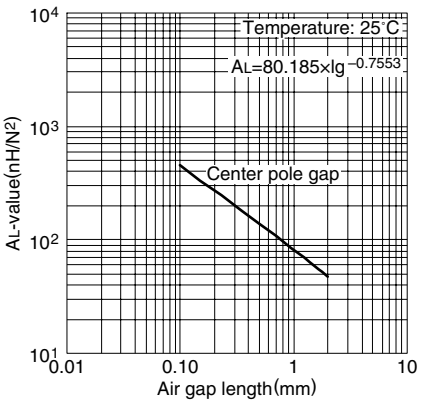
Note: The temperature rise is measured in the room whose temperature and humidity are fixed to 25°C and 45(%)RH. respectively. (approx. 400×300×300cm)

NI limit vs. AL-value for PC95EER25.5 gapped core (Typical)

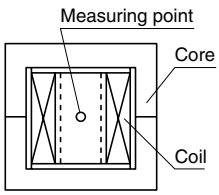


Note: NI limit shows the point where the exciting current is 20% and 40% away from its extended linear part.

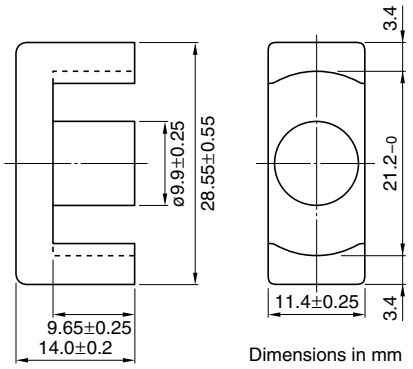
AL-value vs. Air gap length for PC95EER25.5 core (Typical)



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



EER Series EER28 Cores(JIS FEER 28.5A)



Dimensions in mm

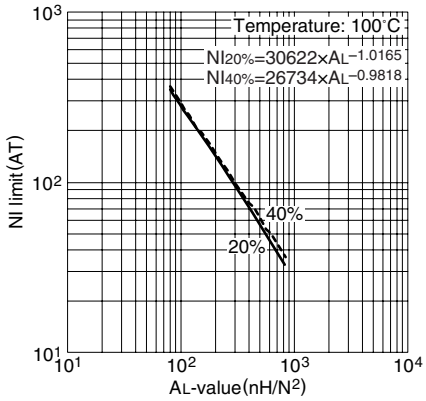
PARAMETER

Core factor	C1	mm^{-1}	0.78
Effective magnetic path length	ℓe	mm	64.0
Effective cross-sectional area	Ae	mm^2	82.1
Effective core volume	Ve	mm^3	5250
Cross-sectional center pole area	Acp	mm^2	77.0
Minimum cross-sectional center pole area	Acp min.	mm^2	73.1
Cross-sectional winding area of core	Acw	mm^2	114
Weight (approx.)		g	28

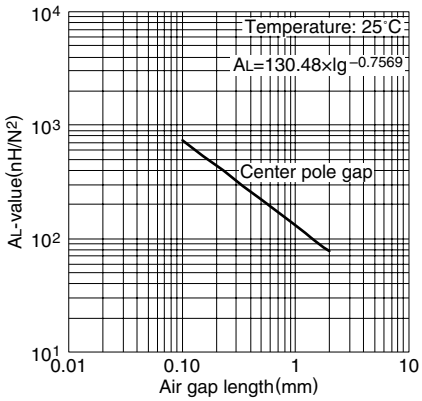
Part No.	AL-value (nH/N2)	Core loss (W) 100kHz, 200mT	Calculated output power (forward converter mode)
PC47EER28-Z	2870±25% (1kHz, 0.5mA)* 4350 min. (100kHz, 200mT)	1.72 max.(100°C)	233W (100kHz)
PC95EER28-Z	2870±25% (1kHz, 0.5mA)* 4000±25%	2.45/2.1/2.45(25°C/80°C/120°C)	223W (100kHz)

* Coil: ø0.35 2UEW 100Ts

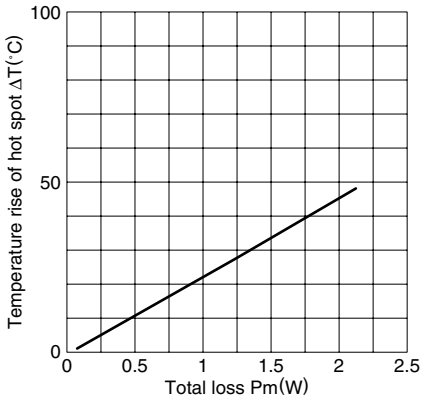
NI limit vs. AL-value for PC47EER28 gapped core (Typical)



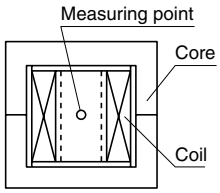
AL-value vs. Air gap length for PC47EER28 core (Typical)



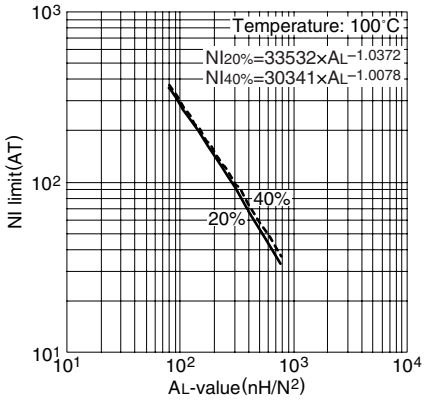
Temperature rise vs. Total loss for EER28 core (Typical) (Ambient temperature: 25°C)



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)

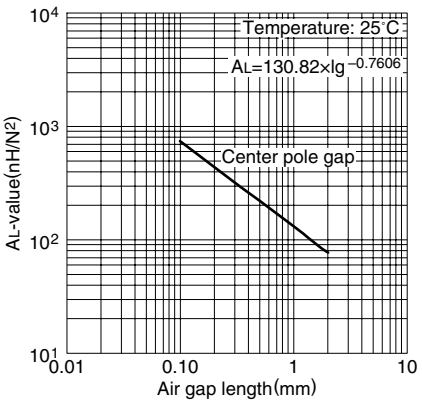


NI limit vs. AL-value for PC95EER28 gapped core (Typical)



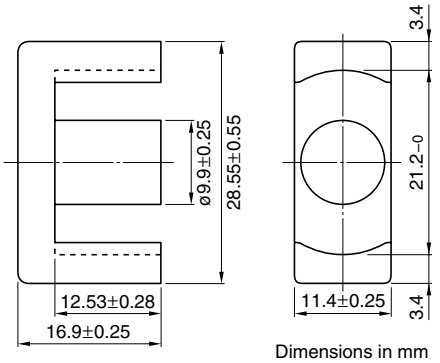
Note: NI limit shows the point where the exciting current is 20% and 40% away from its extended linear part.

AL-value vs. Air gap length for PC95EER28 core (Typical)



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

EER Series EER28L Cores(JIS FEER 28.5B)



Dimensions in mm

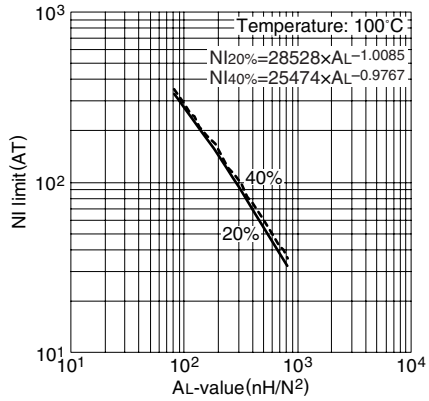
PARAMETER

Core factor	C1	mm^{-1}	0.928
Effective magnetic path length	ℓe	mm	75.5
Effective cross-sectional area	Ae	mm^2	81.4
Effective core volume	Ve	mm^3	6150
Cross-sectional center pole area	Acp	mm^2	77.0
Minimum cross-sectional center pole area	Acp min.	mm^2	73.1
Cross-sectional winding area of core	Acw	mm^2	148
Weight (approx.)		g	33

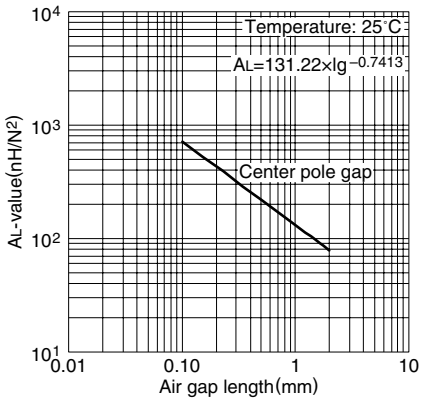
Part No.	AL-value (nH/N2)	Core loss (W) 100kHz, 200mT	Calculated output power (forward converter mode)
PC47EER28L-Z	2520±25% (1kHz, 0.5mA)* 3660 min. (100kHz, 200mT)	2.03 max.(100°C)	267W (100kHz)
PC95EER28L-Z	2520±25% (1kHz, 0.5mA)* 3500±25%	2.9/2.45/2.9(25°C/80°C/120°C)	250W (100kHz)

* Coil: ø0.35 2UEW 100Ts

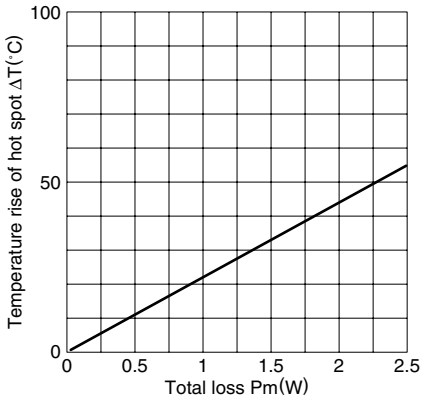
NI limit vs. AL-value for PC47EER28L gapped core (Typical)



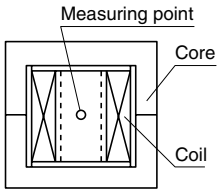
AL-value vs. Air gap length for PC47EER28L core (Typical)



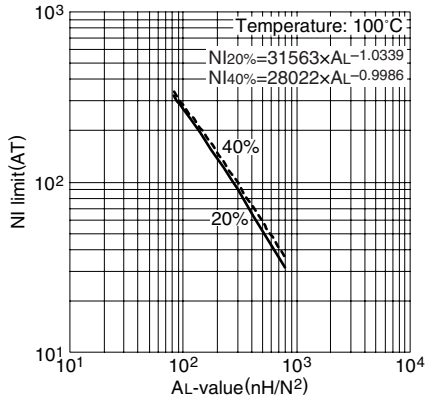
Temperature rise vs. Total loss for EER28L core (Typical) (Ambient temperature: 25°C)



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)

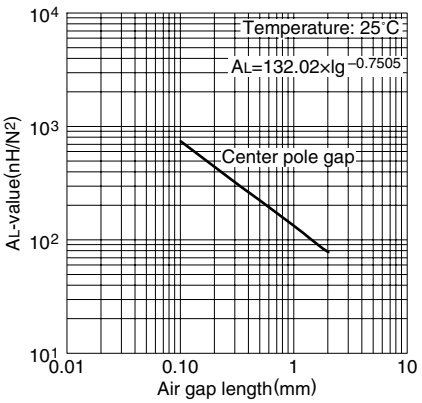


NI limit vs. AL-value for PC95EER28L gapped core (Typical)



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

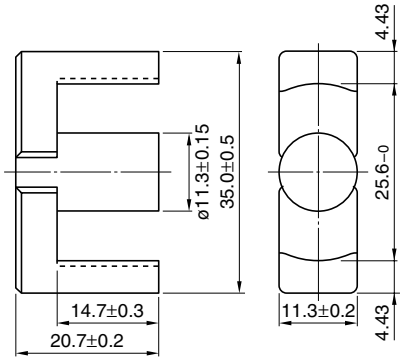
AL-value vs. Air gap length for PC95EER28L core (Typical)



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

- All specifications are subject to change without notice.

EER Series EER35 Cores(JIS FEER 35A)



Dimensions in mm

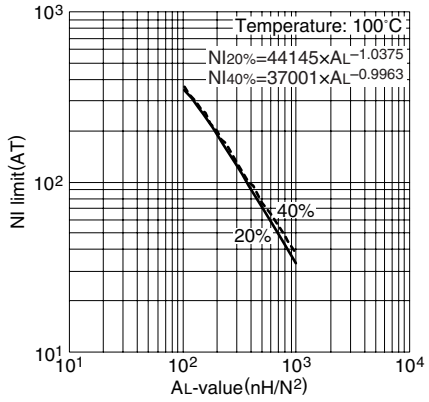
PARAMETER

Core factor	C_1	mm^{-1}	0.849
Effective magnetic path length	ℓe	mm	90.8
Effective cross-sectional area	Ae	mm^2	107
Effective core volume	Ve	mm^3	9720
Cross-sectional center pole area	Acp	mm^2	100
Minimum cross-sectional center pole area	Acp min.	mm^2	97.6
Cross-sectional winding area of core	Acw	mm^2	218
Weight (approx.)		g	52

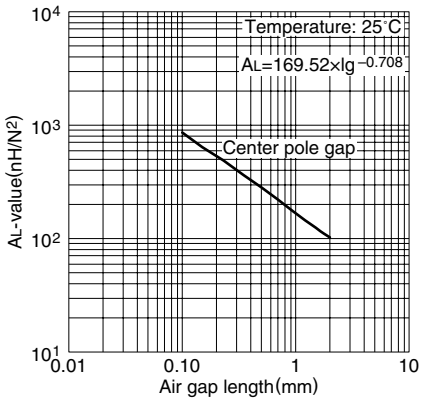
Part No.	AL-value (nH/N2)	Core loss (W) 100kHz, 200mT	Calculated output power (forward converter mode)
PC47EER35-Z	2770±25% (1kHz, 0.5mA)* 4000 min. (100kHz, 200mT)	3.18 max.(100°C)	376W (100kHz)
PC95EER35-Z	2770±25% (1kHz, 0.5mA)* 4000±25%	4.55/3.8/4.55(25°C/80°C/120°C)	336W (100kHz)

* Coil: ø0.35 2UEW 100Ts

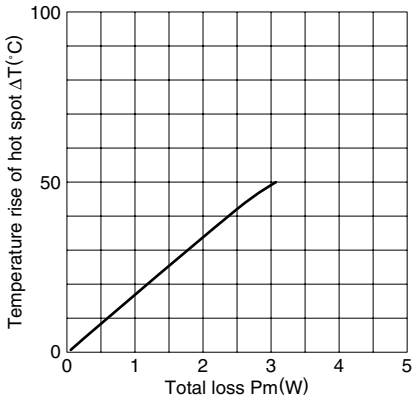
NI limit vs. AL-value for PC47EER35 gapped core (Typical)



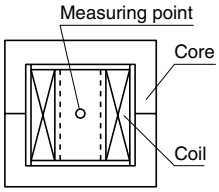
AL-value vs. Air gap length for PC47EER35 core (Typical)



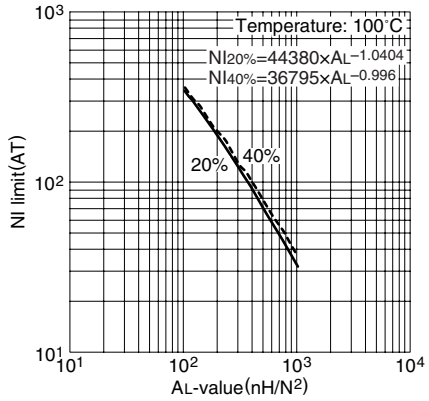
Temperature rise vs. Total loss for EER35 core (Typical) (Ambient temperature: 25°C)



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)

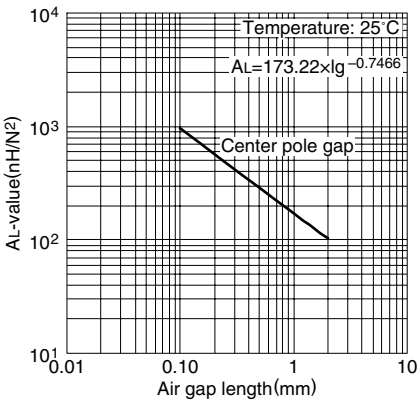


NI limit vs. AL-value for PC95EER35 gapped core (Typical)



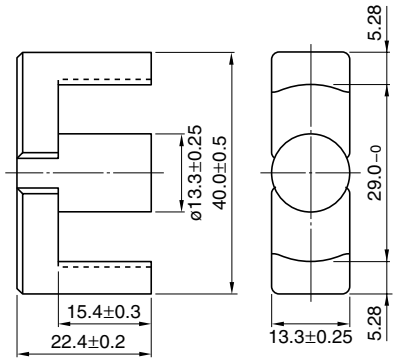
Note: NI limit shows the point where the exciting current is 20% and 40% away from its extended linear part.

AL-value vs. Air gap length for PC95EER35 core (Typical)



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

EER Series EER40 Cores



Dimensions in mm

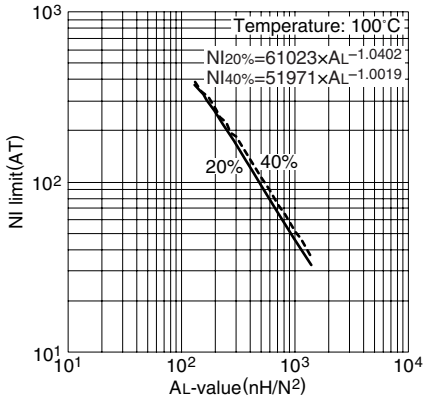
PARAMETER

Core factor	C_1	mm^{-1}	0.658
Effective magnetic path length	ℓe	mm	98.0
Effective cross-sectional area	Ae	mm^2	149
Effective core volume	Ve	mm^3	14600
Cross-sectional center pole area	Acp	mm^2	139
Minimum cross-sectional center pole area	Acp min.	mm^2	134
Cross-sectional winding area of core	Acw	mm^2	249
Weight (approx.)		g	78

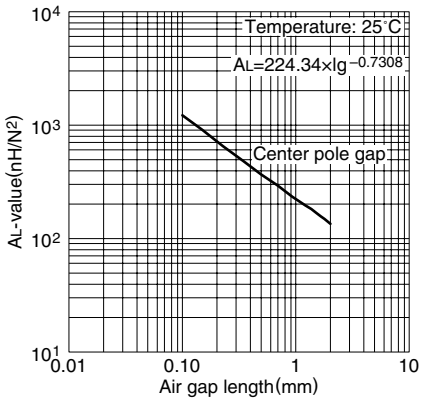
Part No.	A_L-value (nH/N^2)	Core loss (W) 100kHz, 200mT	Calculated output power (forward converter mode)
PC47EER40-Z	3620±25% (1kHz, 0.5mA)* 5160 min. (100kHz, 200mT)	4.77 max.(100°C)	484W (100kHz)
PC95EER40-Z	3620±25% (1kHz, 0.5mA)* 5200±25%	6.8/5.7/6.8(25°C/80°C/120°C)	446W (100kHz)

* Coil: ø0.35 2UEW 100Ts

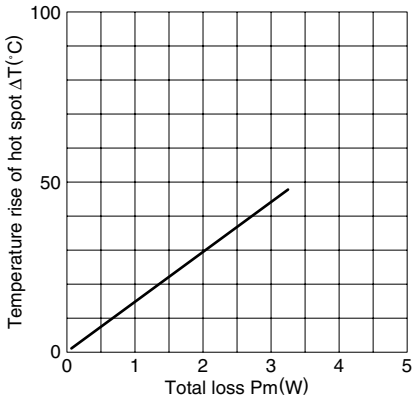
NI limit vs. A_L-value for PC47EER40 gapped core (Typical)



A_L-value vs. Air gap length for PC47EER40 core (Typical)

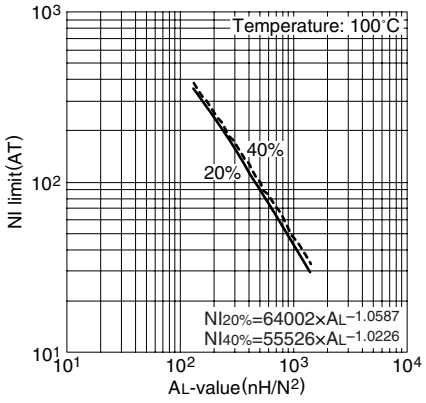


Temperature rise vs. Total loss for EER40 core (Typical) (Ambient temperature: 25°C)



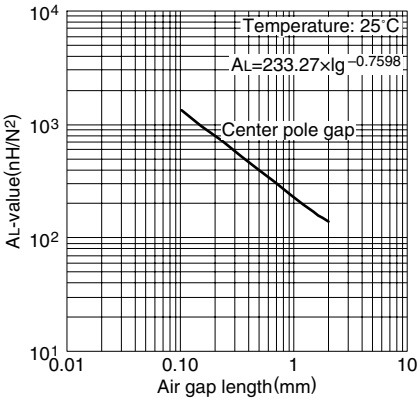
Note: The temperature rise is measured in the room whose temperature and humidity are fixed to 25°C and 45(%)RH. respectively. (approx. 400×300×300cm)

NI limit vs. A_L-value for PC95EER40 gapped core (Typical)

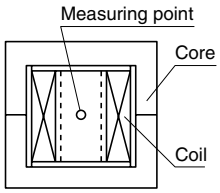


Note: NI limit shows the point where the exciting current is 20% and 40% away from its extended linear part.

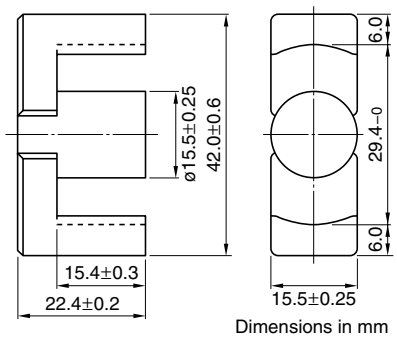
A_L-value vs. Air gap length for PC95EER40 core (Typical)



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



EER Series EER42 Cores(JIS FEER 42)



Dimensions in mm

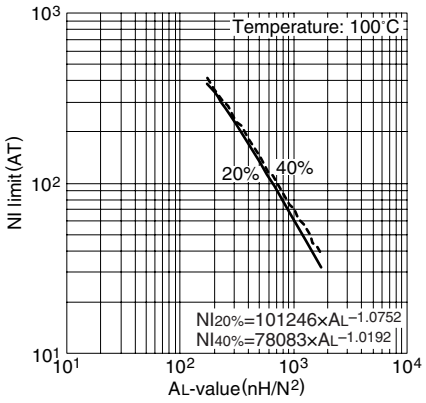
PARAMETER

Core factor	C_1	mm^{-1}	0.509
Effective magnetic path length	ℓe	mm	98.8
Effective cross-sectional area	Ae	mm^2	194
Effective core volume	Ve	mm^3	19200
Cross-sectional center pole area	Acp	mm^2	187
Minimum cross-sectional center pole area	Acp min.	mm^2	183
Cross-sectional winding area of core	Acw	mm^2	223
Weight (approx.)		g	102

Part No.	A_L-value (nH/N^2)	Core loss (W) at 100°C 100kHz, 200mT	Calculated output power (forward converter mode)
PC47EER42-Z	4690±25% (1kHz, 0.5mA)* 6670 min. (100kHz, 200mT)	6.47 max.	540W (100kHz)

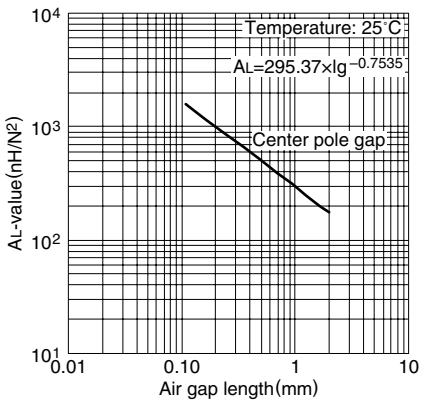
* Coil: ø0.35 2UEW 100Ts

NI limit vs. A_L-value for PC47EER42 gapped core (Typical)



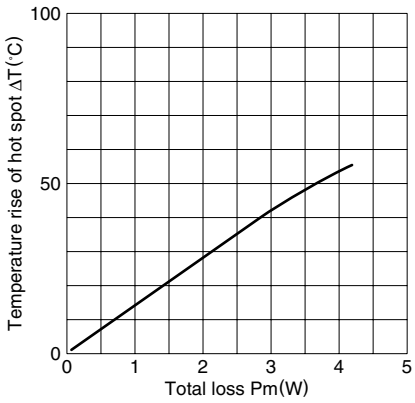
Note: NI limit shows the point where the exciting current is 20% and 40% away from its extended linear part.

A_L-value vs. Air gap length for PC47EER42 core (Typical)

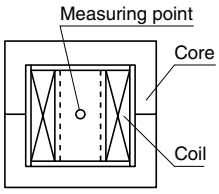


Measuring conditions
- Coil: ø0.35 2UEW 100Ts
- Frequency: 1kHz
- Level: 0.5mA

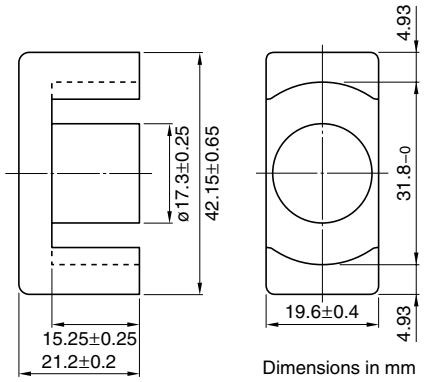
Temperature rise vs. Total loss for EER42 core (Typical) (Ambient temperature: 25°C)



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)



EER Series EER42/42/20 Cores



Dimensions in mm

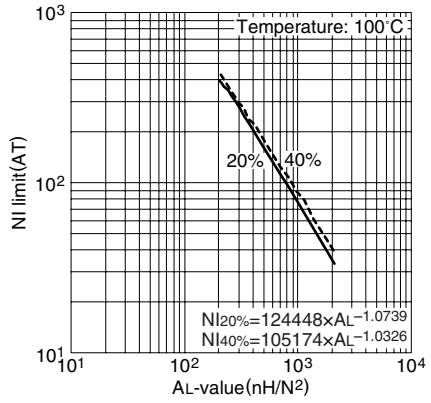
PARAMETER

Core factor	C1	mm−1	0.411
Effective magnetic path length	ℓe	mm	98.6
Effective cross-sectional area	Ae	mm²	240
Effective core volume	Ve	mm³	23700
Cross-sectional center pole area	Acp	mm²	235
Minimum cross-sectional center pole area	Acp min.	mm²	228
Cross-sectional winding area of core	Acw	mm²	229
Weight (approx.)		g	116

Part No.	AL-value (nH/N²)	Core loss (W) at 100°C 100kHz, 200mT	Calculated output power (forward converter mode)
PC47EER42/42/20-Z	5340±25% (1kHz, 0.5mA)* 8260 min. (100kHz, 200mT)	9.96 max.	647W (100kHz)

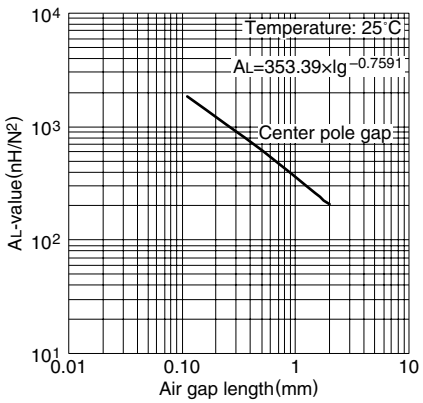
* Coil: ø0.35 2UEW 100Ts

NI limit vs. AL-value for PC47EER42/42/20 gapped core (Typical)



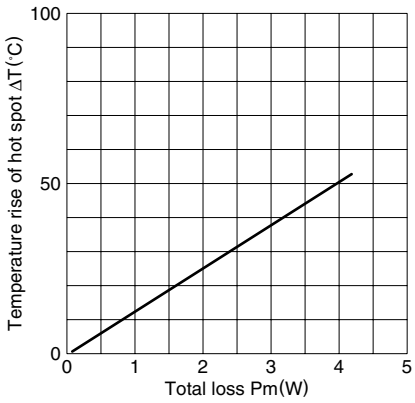
Note: NI limit shows the point where the exciting current is 20% and 40% away from its extended linear part.

AL-value vs. Air gap length for PC47EER42/42/20 core (Typical)



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

Temperature rise vs. Total loss for EER42/42/20core (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)