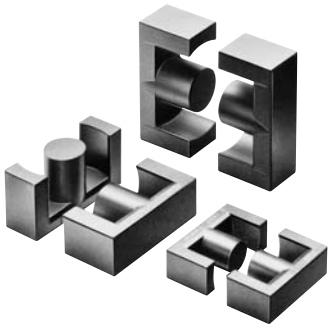
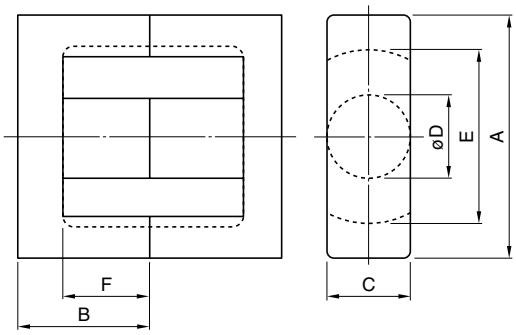
ETD CORES



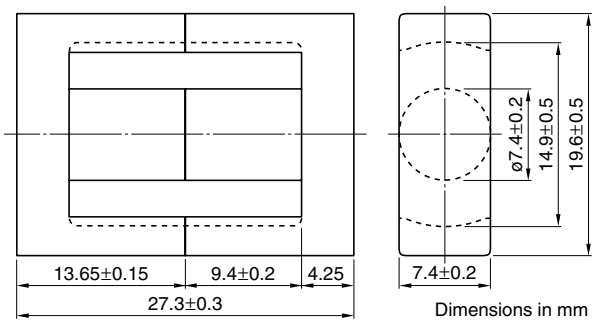


Part No.	JIS	Dimensions in mm					
		A	B	C	øD	E	F
PC47ETD19-Z		19.6±0.5	13.65±0.15	7.4±0.2	7.4±0.2	14.9±0.5	9.4±0.2
PC47ETD24-Z		24.4±0.6	14.45±0.15	8.5±0.4	8.5±0.2	18.6±0.6	10.1±0.2
PC47ETD29-Z		29.8±0.8	15.80±0.15	9.5±0.3	9.5±0.3	22.7±0.7	11.0±0.3
PC47ETD34-Z	JIS FEER 34.2	34.2±0.8	17.3±0.2	10.88±0.38	10.8±0.3	26.3±0.7	12.1±0.3
PC47ETD39-Z	JIS FEER 39.1	39.1±0.9	19.8±0.2	12.58±0.38	12.5±0.3	30.1±0.8	14.6±0.4
PC47ETD44-Z	JIS FEER 44	44.0±1.0	22.3±0.2	14.9±0.5	14.8±0.4	33.3±0.8	16.5±0.4
PC47ETD49-Z	JIS FEER 48.7	48.7±1.1	24.7±0.2	16.4±0.5	16.3±0.4	37.0±0.9	18.1±0.4

Part No.	Effective parameter				Electrical characteristics			
	C_1 (mm^{-1})	Ae (mm^2)	ℓe (mm)	Ve (mm^3)	A_L-value (nH/N^2)*		Core loss (W) max.	Weight (g)
					Without air gap	With air gap	100kHz, 200mT, 100°C	
PC47ETD19-Z	1.32	41.3	54.6	2260	1720±25%	80±5% 160±7%	1.01	14
PC47ETD24-Z	1.100	56.3	61.9	3480	2125±25%	100±5% 200±7%	1.51	20
PC47ETD29-Z	0.959	73.6	70.6	5200	2500±25%	200±5% 400±10%	1.75	28
PC47ETD34-Z	0.810	97.1	78.6	7630	2780±25%	200±5% 400±7%	2.52	40
PC47ETD39-Z	0.737	125	92.1	11500	3150±25%	200±5% 400±7%	3.96	60
PC47ETD44-Z	0.589	175	103	18000	4000±25%	250±5% 400±7%	6.20	94
PC47ETD49-Z	0.535	213	114	24300	4440±25%	250±5% 400±7%	10.25	124

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

ETD Series ETD19 Cores



Dimensions in mm

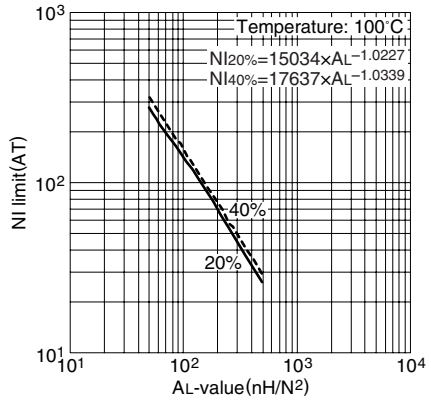
PARAMETER

Core factor	C_1	mm^{-1}	1.32
Effective magnetic path length	ℓe	mm	54.6
Effective cross-sectional area	Ae	mm^2	41.3
Effective core volume	Ve	mm^3	2260
Cross-sectional center pole area	Acp	mm^2	43
Minimum cross-sectional center pole area	Acp min.	mm^2	40.7
Cross-sectional winding area of core	Acw	mm^2	70.5
Weight (approx.)		g	13.3

Part No.	A_L-value (nH/N^2)	Core loss (W) at 100°C 100kHz, 200mT	Calculated output power (forward converter mode)
PC47ETD19-Z	1720±25% (1kHz, 0.5mA)* 2380 min. (100kHz, 200mT)	1.01 max.	114W (100kHz)

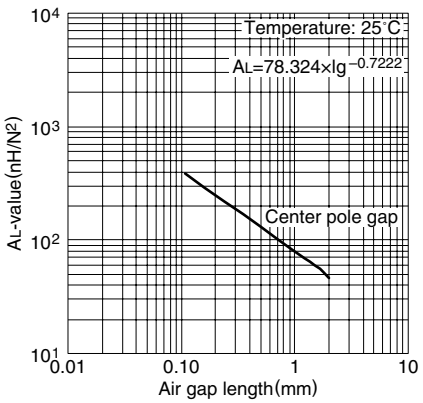
* Coil: ø0.35 2UEW 100Ts

NI limit vs. A_L-value for PC47ETD19 gapped core (Typical)



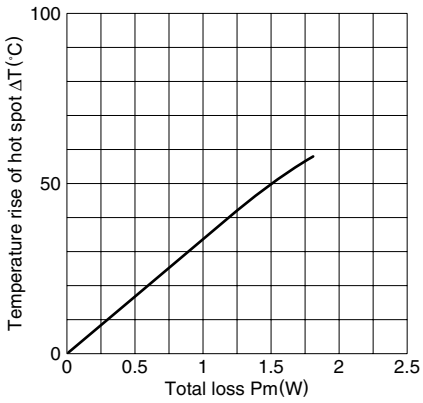
Note: NI limit shows the point where the exciting current is 20% and 40% away from its extended linear part.

A_L-value vs. Air gap length for PC47ETD19 core (Typical)

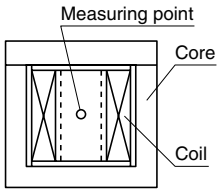


Measuring conditions
- Coil: ø0.35 2UEW 100Ts
- Frequency: 1kHz
- Level: 0.5mA

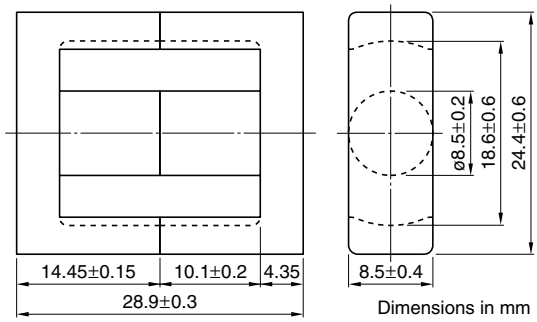
Temperature rise vs. Total loss for ETD19 core (Typical) (Ambient temperature: 25°C)



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)



ETD Series ETD24 Cores



Dimensions in mm

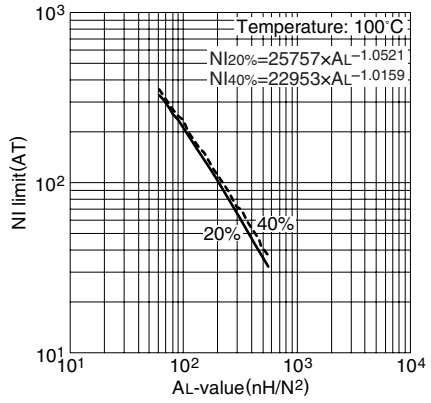
PARAMETER

Core factor	C_1	mm^{-1}	1.10
Effective magnetic path length	ℓe	mm	61.9
Effective cross-sectional area	Ae	mm^2	56.3
Effective core volume	Ve	mm^3	3480
Cross-sectional center pole area	Acp	mm^2	56.7
Minimum cross-sectional center pole area	Acp min.	mm^2	54.1
Cross-sectional winding area of core	Acw	mm^2	102
Weight (approx.)		g	19.5

Part No.	A_L-value (nH/N^2)	Core loss (W) at 100°C 100kHz, 200mT	Calculated output power (forward converter mode)
PC47ETD24-Z	2125±25% (1kHz, 0.5mA)* 2860 min. (100kHz, 200mT)	1.51 max.	131W (100kHz)

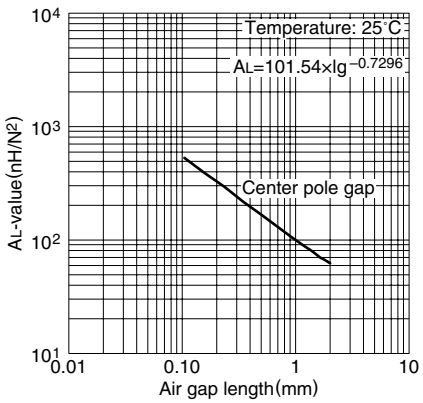
* Coil: ø0.35 2UEW 100Ts

NI limit vs. A_L-value for PC47ETD24 gapped core (Typical)



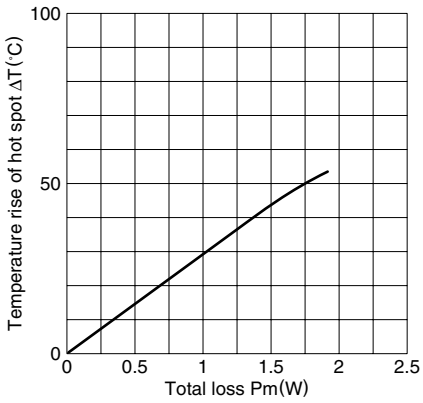
Note: NI limit shows the point where the exciting current is 20% and 40% away from its extended linear part.

A_L-value vs. Air gap length for PC47ETD24 core (Typical)

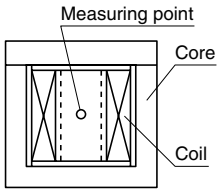


Measuring conditions
- Coil: ø0.35 2UEW 100Ts
- Frequency: 1kHz
- Level: 0.5mA

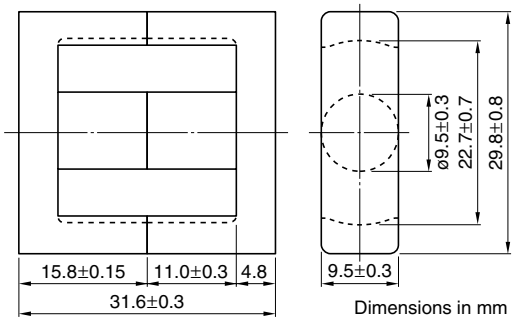
Temperature rise vs. Total loss for ETD24 core (Typical) (Ambient temperature: 25°C)



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)



ETD Series ETD29 Cores



Dimensions in mm

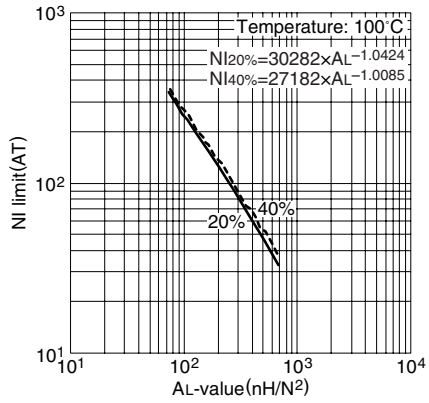
PARAMETER

Core factor	C1	mm^{-1}	0.959
Effective magnetic path length	ℓe	mm	70.6
Effective cross-sectional area	Ae	mm^2	73.6
Effective core volume	Ve	mm^3	5200
Cross-sectional center pole area	Acp	mm^2	70.9
Minimum cross-sectional center pole area	Acp min.	mm^2	66.5
Cross-sectional winding area of core	Acw	mm^2	145.2
Weight (approx.)		g	28

Part No.	AL-value (nH/N2)	Core loss (W) at 100°C 100kHz, 200mT	Calculated output power (forward converter mode)
PC47ETD29-Z	2500±25% (1kHz, 0.5mA)* 3540 min. (100kHz, 200mT)	1.75 max.	242W (100kHz)

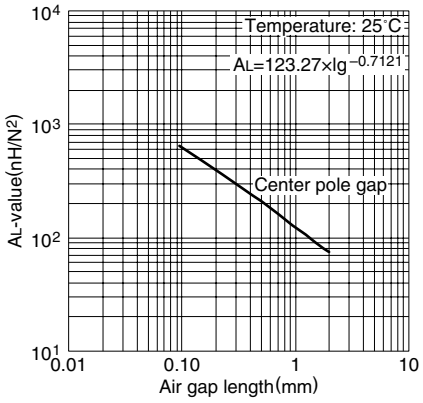
* Coil: ø0.35 2UEW 100Ts

NI limit vs. AL-value for PC47ETD29 gapped core (Typical)



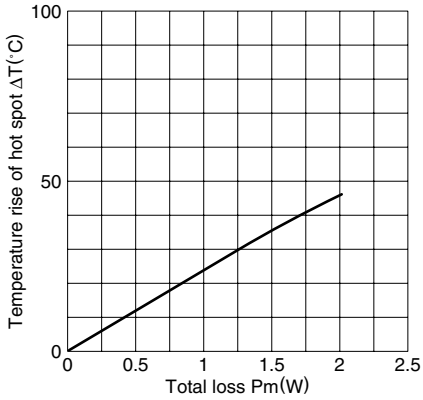
Note: NI limit shows the point where the exciting current is 20% and 40% away from its extended linear part.

AL-value vs. Air gap length for PC47ETD29 core (Typical)

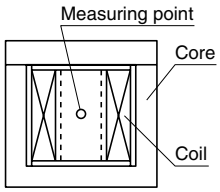


Measuring conditions
- Coil: ø0.35 2UEW 100Ts
- Frequency: 1kHz
- Level: 0.5mA

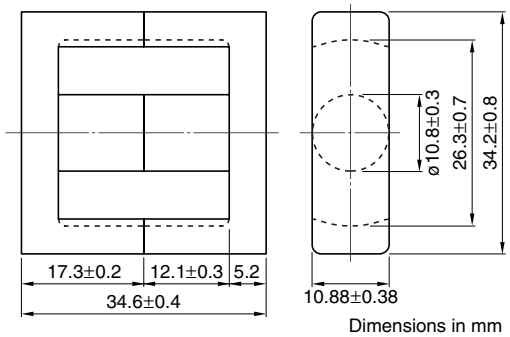
Temperature rise vs. Total loss for ETD29 core (Typical) (Ambient temperature: 25°C)



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)



ETD Series ETD34 Cores



Dimensions in mm

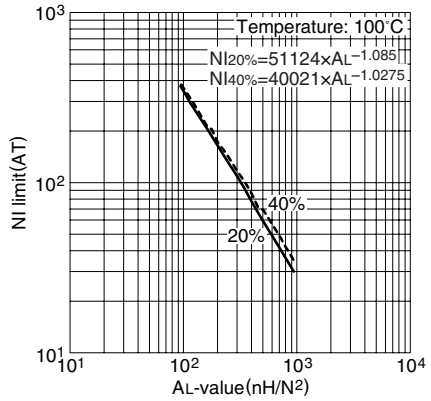
PARAMETER

Core factor	C_1	mm^{-1}	0.810
Effective magnetic path length	ℓe	mm	78.6
Effective cross-sectional area	Ae	mm^2	97.1
Effective core volume	Ve	mm^3	7630
Cross-sectional center pole area	Acp	mm^2	91.6
Minimum cross-sectional center pole area	Acp min.	mm^2	86.6
Cross-sectional winding area of core	Acw	mm^2	188
Weight (approx.)		g	40

Part No.	A_L-value (nH/N^2)	Core loss (W) at 100°C 100kHz, 200mT	Calculated output power (forward converter mode)
PC47ETD34-Z	2780±25% (1kHz, 0.5mA)* 4190 min. (100kHz, 200mT)	2.52 max.	321W (100kHz)

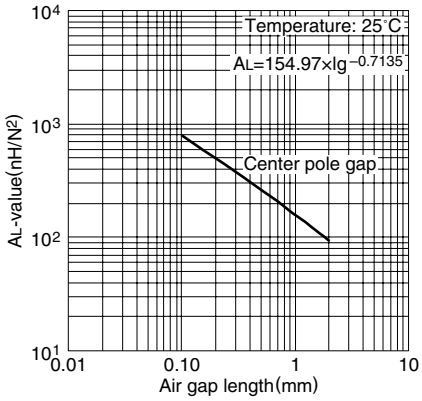
* Coil: ø0.35 2UEW 100Ts

NI limit vs. A_L-value for PC47ETD34 gapped core (Typical)



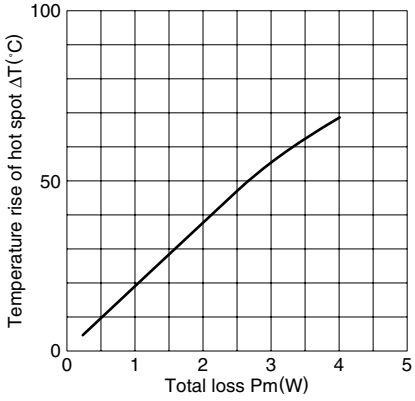
Note: NI limit shows the point where the exciting current is 20% and 40% away from its extended linear part.

A_L-value vs. Air gap length for PC47ETD34 core (Typical)

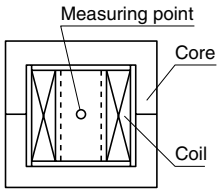


Measuring conditions
- Coil: ø0.35 2UEW 100Ts
- Frequency: 1kHz
- Level: 0.5mA

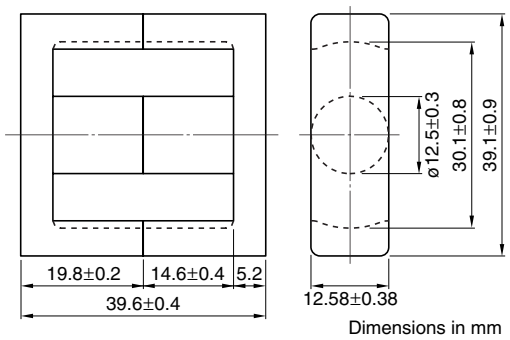
Temperature rise vs. Total loss for ETD34 core (Typical) (Ambient temperature: 25°C)



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)



ETD Series ETD39 Cores



Dimensions in mm

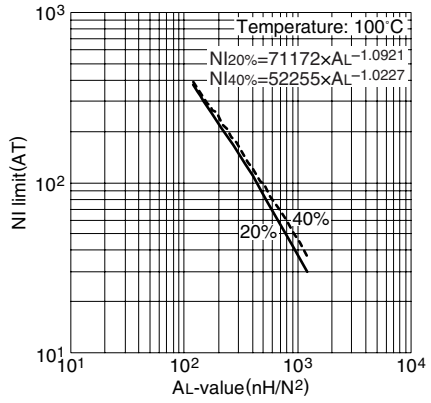
PARAMETER

Core factor	C_1	mm^{-1}	0.737
Effective magnetic path length	ℓe	mm	92.1
Effective cross-sectional area	Ae	mm^2	125
Effective core volume	Ve	mm^3	11500
Cross-sectional center pole area	Acp	mm^2	123
Minimum cross-sectional center pole area	Acp min.	mm^2	117
Cross-sectional winding area of core	Acw	mm^2	257
Weight (approx.)		g	60

Part No.	A_L-value (nH/N^2)	Core loss (W) at 100°C 100kHz, 200mT	Calculated output power (forward converter mode)
PC47ETD39-Z	3150±25% (1kHz, 0.5mA)* 4600 min. (100kHz, 200mT)	3.96 max.	450W (100kHz)

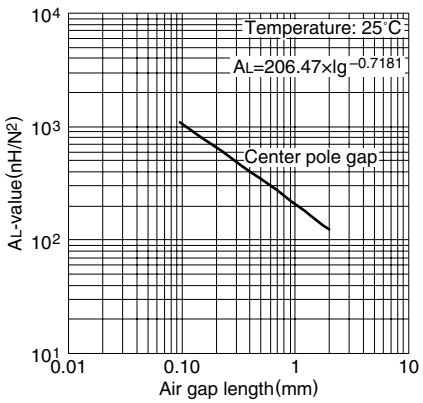
* Coil: ø0.35 2UEW 100Ts

NI limit vs. A_L-value for PC47ETD39 gapped core (Typical)



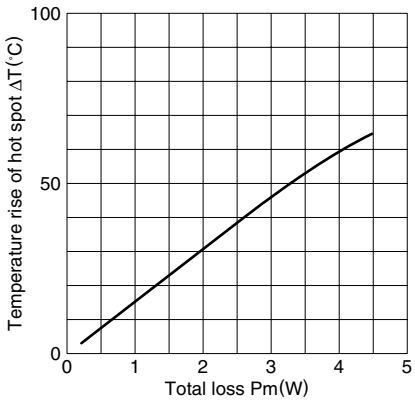
Note: NI limit shows the point where the exciting current is 20% and 40% away from its extended linear part.

A_L-value vs. Air gap length for PC47ETD39 core (Typical)

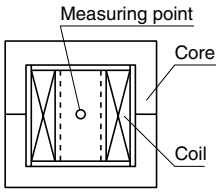


Measuring conditions
- Coil: ø0.35 2UEW 100Ts
- Frequency: 1kHz
- Level: 0.5mA

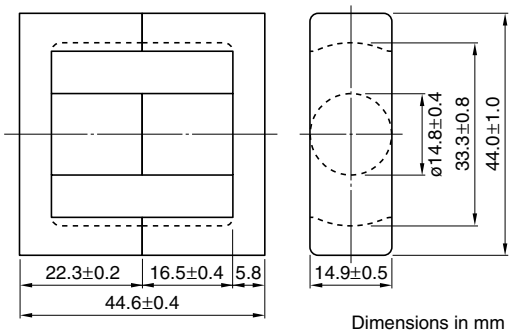
Temperature rise vs. Total loss for ETD39 core (Typical) (Ambient temperature: 25°C)



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)



ETD Series ETD44 Cores



Dimensions in mm

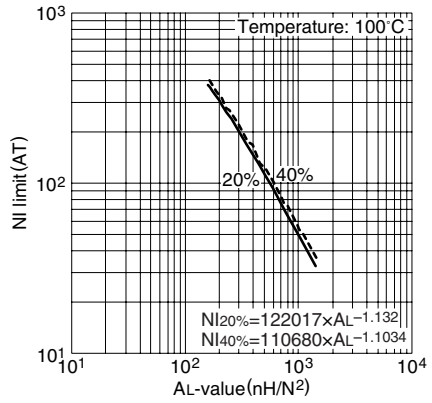
PARAMETER

Core factor	C1	mm^{-1}	0.589
Effective magnetic path length	ℓe	mm	103
Effective cross-sectional area	Ae	mm^2	175
Effective core volume	Ve	mm^3	18000
Cross-sectional center pole area	Acp	mm^2	172
Minimum cross-sectional center pole area	Acp min.	mm^2	163
Cross-sectional winding area of core	Acw	mm^2	305
Weight (approx.)		g	94

Part No.	AL-value (nH/N2)	Core loss (W) at 100°C 100kHz, 200mT	Calculated output power (forward converter mode)
PC47ETD44-Z	4000±25% (1kHz, 0.5mA)* 5760 min. (100kHz, 200mT)	6.2 max.	581W (100kHz)

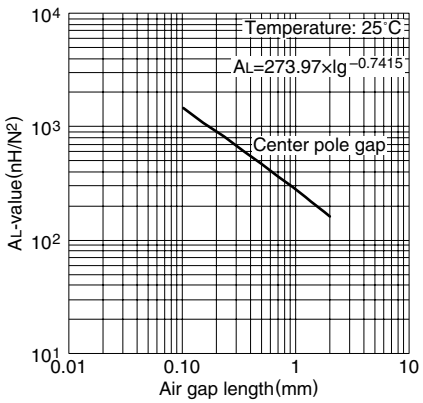
* Coil: ø0.35 2UEW 100Ts

NI limit vs. AL-value for PC47ETD44 gapped core (Typical)



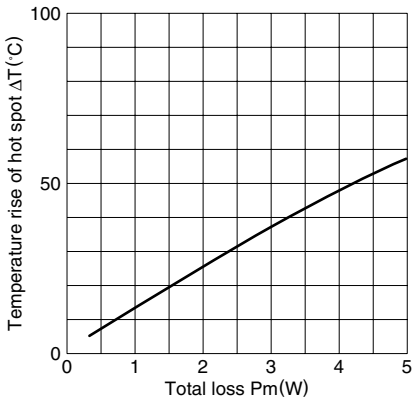
Note: NI limit shows the point where the exciting current is 20% and 40% away from its extended linear part.

AL-value vs. Air gap length for PC47ETD44 core (Typical)

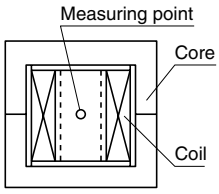


Measuring conditions
- Coil: ø0.35 2UEW 100Ts
- Frequency: 1kHz
- Level: 0.5mA

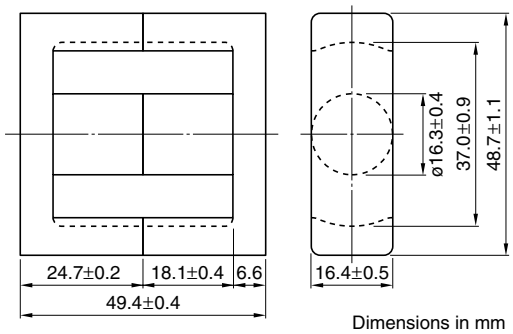
Temperature rise vs. Total loss for ETD44 core (Typical) (Ambient temperature: 25°C)



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)



ETD Series ETD49 Cores



Dimensions in mm

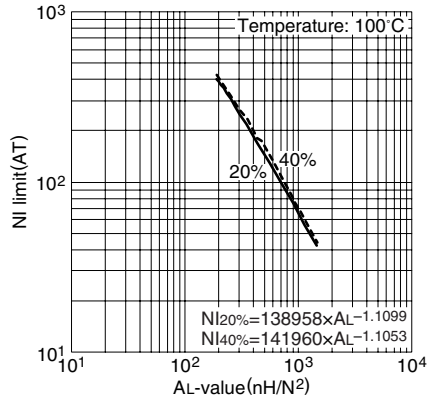
PARAMETER

Core factor	C1	mm^{-1}	0.535
Effective magnetic path length	ℓe	mm	114
Effective cross-sectional area	Ae	mm^2	213
Effective core volume	Ve	mm^3	24300
Cross-sectional center pole area	Acp	mm^2	209
Minimum cross-sectional center pole area	Acp min.	mm^2	199
Cross-sectional winding area of core	Acw	mm^2	375
Weight (approx.)		g	124

Part No.	AL-value (nH/N2)	Core loss (W) at 100°C 100kHz, 200mT	Calculated output power (forward converter mode)
PC47ETD49-Z	4440±25% (1kHz, 0.5mA)* 6340 min. (100kHz, 200mT)	10.25 max.	692W (100kHz)

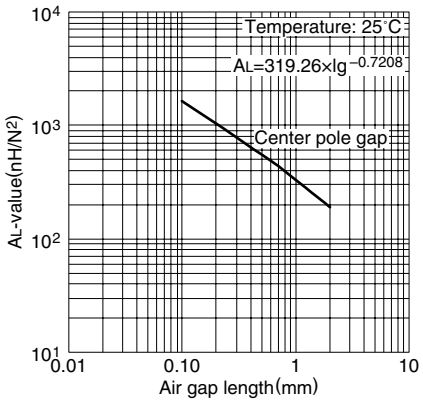
* Coil: ø0.35 2UEW 100Ts

NI limit vs. AL-value for PC47ETD49 gapped core (Typical)



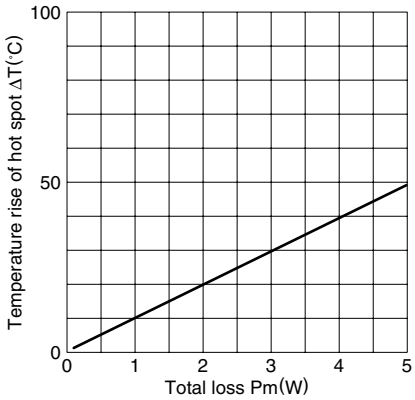
Note: NI limit shows the point where the exciting current is 20% and 40% away from its extended linear part.

AL-value vs. Air gap length for PC47ETD49 core (Typical)



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

Temperature rise vs. Total loss for ETD49 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)