

Ferrite Cores

For Power Supply

EER Cores

EER Series

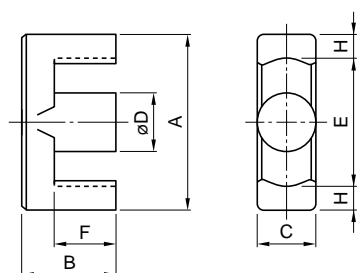
Use of magnetic field analysis and packaging evaluation technology has made clear the relationship between differential heating of core components and the flux density distribution. This knowledge has been used to optimize the design of the EER core. Core volume has been decreased by 13 to 20% without loss of the efficiency of the existing EER40, EER42, and EER49LS core shapes. This has resulted in an EER core series with a good cost-benefit ratio.

FEATURES

- These ferrite cores attain the same transformer output as previous products while reducing effective volume by 13 to 20%.
- TDK has optimized volume of the core design while supporting continued use of existing bobbins.

Newly designed core	Earlier designed core	Bobbin
EER38S	EER40	BEER-40-1112CP BEER-40-1116CPH
EER40S	EER42	BEER-42-1114CP BEER-42-1116CPH
EER47S	EER49LS	—

SHAPES AND DIMENSIONS



Part No.	Dimensions in mm						
	A	B	C	øD	E	F	H
PC40EER38S-Z	37.44±0.5	20.7±0.2	13.3±0.25	13.3±0.25	29min.	15.4±0.3	4
PC40EER40S-Z	40.2±0.5	21.4±0.2	15.5±0.25	15.5±0.25	29.4min.	15.4±0.3	5
PC40EER47S-Z	47.3±0.8	22.4±0.2	17.2±0.4	17.2±0.4	36.3min.	15.4±0.3	5

CHARACTERISTICS

Part No.	AL-value (nH/N ²)	Core loss (kW/m ³)	le (mm)	Ae (mm ²)	Ve (mm ³)	A min. (mm ²)
PC40EER38S-Z	3310±25%					
PC40EER38SA200	200±5%	5.2	93.9	124	11600	119
PC40EER38SA400	400±7%					
PC40EER40S-Z	4300±25%					
PC40EER40SA250	250±5%	7.6	95.9	173	16600	172
PC40EER40SA500	500±7%					
PC40EER47S-Z	5090±25%					
PC40EER47SA250	250±5%	9.1	102	206	21100	194
PC40EER47SA500	500±7%					

- Measuring conditions:
AL-value: 1kHz, 0.5mA, 100ts.
Core loss: 100kHz, 200mT, 100°C

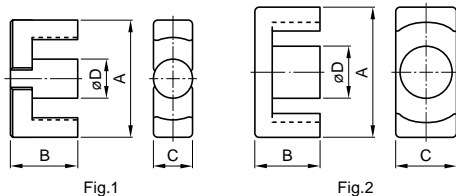
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CORE SHAPES AND DIMENSIONS/CHARACTERISTICS



Type	Fig.	Dimensions (mm)				Ae (mm ²)	le (mm)	Weight (g)
		A	B	C	øD			
EER25.5	1	25.5±0.5	9.3±0.2	7.5±0.2	7.5±0.15	44.8	48.2	11
EER28	2	28.55±0.55	14±0.2	11.4±0.25	9.9±0.25	82.1	64	28
EER28L	2	28.55±0.55	16.9±0.25	11.4±0.25	9.9±0.25	81.4	75.5	33
EER35	1	35±0.5	20.7±0.2	11.3±0.2	11.3±0.15	107	90.8	52
EER40	1	40±0.5	22.4±0.2	13.3±0.25	13.3±0.25	149	98	78
EER42	1	42±0.6	22.4±0.2	15.5±0.25	15.5±0.25	194	98.8	102
EER42/42/20	2	42.15±0.65	21.2±0.2	19.6±0.4	17.3±0.25	240	98.6	116
EER49	1	49±0.8	19±0.3	17.2±0.4	17.2±0.25	231	91.3	110

ELECTRICAL CHARACTERISTICS

WITHOUT AIR GAP

Part No.	AL-value (nH/N ²) [1kHz, 0.5mA, 100Ts]	Calculated output power* (W) [100kHz]
PC40EER25.5-Z	1920±25%	87
PC40EER28-Z	2870±25%	203
PC40EER28L-Z	2520±25%	228
PC40EER35-Z	2770±25%	325
PC40EER40-Z	3620±25%	421
PC40EER42-Z	4690±25%	433
PC40EER42/42/20-Z	5340±25%	509
PC40EER49-Z	6250±25%	

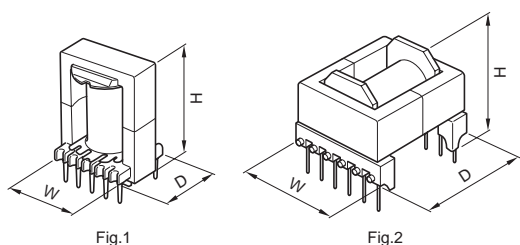
* The values were obtained with forward converter mode.

WITH AIR GAP

Part No.	AL-value (nH/N ²) [1kHz, 0.5mA, 100Ts]
PC40EER25.5AXXX*	100±5%, 200±7%
PC40EER28AXXX	200±5%, 400±7%
PC40EER28LAXXX	160±5%, 315±7%
PC40EER35AXXX	200±5%, 400±7%
PC40EER40AXXX	200±5%, 400±7%
PC40EER42AXXX	250±5%, 500±7%
PC40EER42/42/20AXXX	250±5%, 500±7%
PC40EER49AXXX	250±5%, 500±7%

* XXX: AL-value

BOBBINS



Part No.	Fig.	No. of pin terminal	Dimensions (mm)		
			W	D	H
BEER-25.5-118CP	1	8	26	20	21
BEER-28-1110CP	1	10	29	23	29
BEER-28L-1110CP	1	10	29	23	35
BEER-35-1112CP	1	12	36	29	44
BEER-40-1112CP	1	12	41	30	46
BEER-42-1114CP	1	14	43	30	47
BEER-42/42/20-1112CP	1	12	43	37	46
BEER-49-1118CP	1	18	50	37	43
BEER-28-1112CPH	2	12	31	33	26
BEER-28L-1112CPH	2	12	31	38	26
BEER-35-1116CPH	2	16	41	46	31
BEER-40-1116CPH	2	16	41	45	32
BEER-42-1116CPH	2	16	43	46	35

• Material: FR phenol, UL Grade: 94V-0, Pin material: Steel wire (Solder plated)