



Mn-Zn

Ferrite Cores for Switching Power Supplies

EP series


REMINDERS FOR USING THESE PRODUCTS

Please be sure to read this manual thoroughly before using the products.

The products listed on this catalog are intended for use in general electronic equipment (AV equipment, telecommunications equipment, home appliances, amusement equipment, computer equipment, personal equipment, office equipment, measurement equipment, industrial robots) under a normal operation and use condition.

The products are not designed or warranted to meet the requirements of the applications listed below, whose performance and/or quality require a more stringent level of safety or reliability, or whose failure, malfunction or trouble could cause serious damage to society, person or property.

When using the products for specific purposes, please first make confirmations in areas such as safety, reliability, and quality.

Please understand that we are not in a position to be held responsible for any damage or the like caused by any use exceeding the range or conditions of this specification sheet or by any use in the specific applications.

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|---|--|
| (1) Aerospace/Aviation equipment | (8) Public information-processing equipment |
| (2) Transportation equipment (electric trains, ships, etc.) | (9) Military equipment |
| (3) Medical equipment | (10) Electric heating apparatus, burning equipment |
| (4) Power-generation control equipment | (11) Disaster prevention/crime prevention equipment |
| (5) Atomic energy-related equipment | (12) Safety equipment |
| (6) Seabed equipment | (13) Other applications that are not considered general-purpose applications |
| (7) Transportation control equipment | |

When using this product in general-purpose standard applications, you are kindly requested to take into consideration securing protection circuit/equipment or providing backup circuits, etc to ensure higher safety.

Ferrite Cores for Switching Power Supplies

Product compatible with RoHS directive
Halogen-free

Overview of the EP Series

FEATURES

- TDK's original shapes.
- The EP Core, apart from the area for attaching terminals, is entirely covers the coils, a construction which reduces leakage flux.

APPLICATION

Transformers and coils for Switched-mode power supplies (High Mounting Density, Low Profile)

PART NUMBER CONSTRUCTION

PC47	EP7	Z	-	1	2
Material	Size of EP core	AL-value (Z: without air gap)		Type	Number of lead slot
PC47	EP7			1 Without air gap	
	EP10			2 With air gap	
	EP13				
	EP17				
	EP20				

RANGE OF USE AND STORAGE TEMPERATURE

Temperature range	
Operating temperature (°C)	Storage temperature (°C)
-30 to +105	-30 to +85

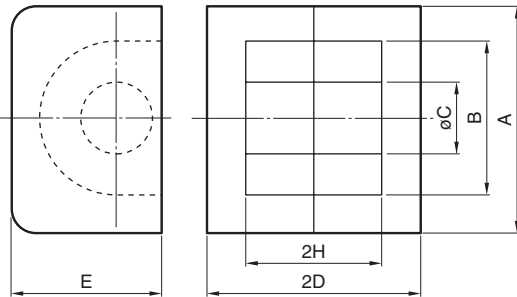
- RoHS Directive Compliant Product: See the following for more details related to RoHS Directive compliant products. <http://www.tdk.co.jp/rohs/>
- Halogen-free: Indicates that Cl content is less than 900ppm, Br content is less than 900ppm, and that the total Cl and Br content is less than 1500ppm.

• All specifications are subject to change without notice.

Mn-Zn EP Core



SHAPES AND DIMENSIONS



PC47	EP7	Z	-	1	2
Material	Size of EP core	AL-value (Z: without air gap)		Type	Number of lead slot
				1 Without air gap	
				2 With air gap	

Part No.	Dimensions (mm)					
	A	B	øC	2D	E	2H
PC47EP7-Z	9.2±0.2	7.4±0.2	3.3±0.1	7.4±0.1	6.35±0.15	5.2±0.2
PC47EP10-Z	11.5±0.3	9.4±0.2	3.3±0.15	10.2±0.2	7.65±0.2	7.4±0.2
PC47EP13-Z	12.5±0.3	10.0±0.3	4.35±0.15	12.85±0.15	8.8±0.2	9.2±0.2
PC47EP17-Z	18.0±0.4	12.0±0.4	5.68±0.18	16.8±0.2	11.0±0.25	11.3±0.3
PC47EP20-Z	24.0±0.5	16.5±0.4	8.75±0.25	21.4±0.2	14.95±0.35	14.3±0.3

Part No.	Effective parameter					Electrical characteristics		
	Core factor $C_1(\text{mm}^{-1})$	Effective cross-sectional area $A_e(\text{mm}^2)$	Effective magnetic path length $\ell_e(\text{mm})$	Effective core volume $V_e(\text{mm}^3)$	Weight (g)	AL-value (nH/N ²) 1kHz 0.5mA 100Ts Without air gap With air gap		Core loss (W) max. 100kHz 200mT 100°C
PC47EP7-Z	1.52	10.3	15.7	162	1.4	830 min.	63±3% 100±4%	0.058
PC47EP10-Z	1.70	11.3	19.2	217	2.8	800 min. 800±25%	63±3% 100±4%	0.071
PC47EP13-Z	1.24	19.5	24.2	472	5.1	1170 min. 1100±25%	100±3% 160±3%	0.155
PC47EP17-Z	0.84	33.9	28.5	966	12	1840 min.	100±5% 250±7%	0.306
PC47EP20-Z	0.508	78	39.8	3120	28	3200 min.	100±5% 250±7%	1.027

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