



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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SPECIFICATION APPROVAL

SPEC. No. XL-0911-0008 (00)

MESSRS : DISTRIBUTION

DATE : 2017/7/4

CUSTOMER'S PRODUCT NAME :

PC44PQ20/16Z-12

TDK PRODUCT NAME :

PC44PQ20-16Z-12-NN

THIS SPECIFICATION IS :

- FULLY APPROVED
- DENIED
- APPROVED UNDER THE FOLLOWING CONDITIONS

SIGNATURE : Michael S. O'Neill

DATE : 5 JULY 17

NAME (PRINTED) : MICHAEL S. O'NEILL

TITLE : PURCHASING

MANUFACTURING. Magnetics Business Group

SALES DIV.

PREPARED BY

CHECKED BY

APPROVED BY

REVIEWED BY

AUTHORIZED BY



*[Handwritten signature]*

PRODUCT CLASSIFICATION CODE :



## Basic contents

## 1 ). Scope of Application

This specification shall be applied for the Ferrite cores to be delivered to Messrs. DISTRIBUTION

## 2 ). Name of product

The name of the product to be defined in this specification shall be defined as PC44PQ20-16Z-12-NN

## 3 ). Related Specifications

## 4 ). Description

Items	Attached drawings and tables	Page
Outer appearance structure and size		2
Electrical characteristics		2
Marking		2
Manufacturing site		2
Others		3

## Revision Records

Edition	Date	Revised by	Revision
00	2017/7/4	Lin Huoyang	First Issue

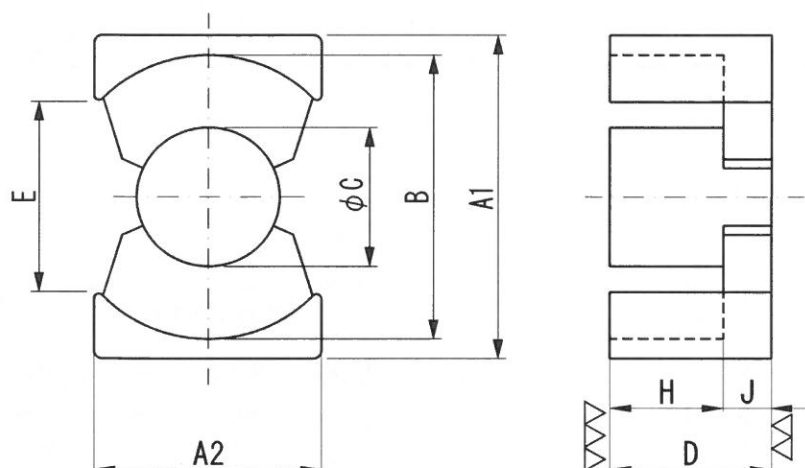
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## 1. Dimensions (Unit: mm)



Dimension(mm)	
A1	20.50 ± 0.40
A2	14.00 ± 0.40
B	18.00 ± 0.40
C	9.00 ± <sup>0</sup> <sub>0.40</sub>
D	8.20 ± <sup>0</sup> <sub>0.20</sub>
E	12.00 min
H	5.00 ± <sup>0.30</sup> <sub>0</sub>

## 2. Electrical characteristics

Item	Specification	Test conditions
Inductance (mH)	38.8 mH ± 25%	●EQUIP. : LCR METER (Agilent 4284A) OR EQUIVALENT
		●MEASUREMENT METHOD: See the below list
		●FREQ. : 1 kHz
		●LEVEL : 0.5 mA
		●COIL : φ0.30 2UEW 100Ts
Core loss	0.84 W MAX	●EQUIP. : B-H ANALYZER
		●FREQ. : 100 kHz
		●LEVEL : 200 mT
		●COIL : N1=N2=5Ts
		●MEASUREMENT METHOD: Z-core + Z-core.

## 3. Marking

Z-Core: "PQ2016 Date PC44 X Z" are marked on the backside of core.

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4. The core shall be supplied as pair.

5. Manufacturing site

China:TDK Xiamen Co., Ltd

#### Inspection Test Schedule

Magnetics Business Group of TDK CORPORATION

performs outgoing inspection tests on the inspection items in Table-1.

The inspection shall be performed according to ISO-2859-1

Inspection level I (n=10, c=0 for dimension and n=5, c=0 for core loss)

Table-1. AQL and Inspection items

	AQL	Inspection Items
A	0.4 %	Inductance and Crack
B	1.0 %	Dimensions
C	1.5 %	Chipping

Permissible limit of chips are prescribed as follows :

- (1) Depth of a permissible chip shall be 0.5 mm max. on mating faces and 0.7 mm max. on other faces. Chips on the corner should be judged by Table-2.
- (2) For the chips more than two on a core piece, the total area of chips shall be used as judgement.
- (3) Others.  
Not described above are based on IEC 60424 specification.

Table-2. Permissible limit of the area of chips.

	Class		
Mating face	2	(	2.0 mm <sup>2</sup> )
Except mating face	4	(	4.0 mm <sup>2</sup> )

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**CAUTION !****CAUTIONS**

- Please seriously consider the following points in order to minimize heat generation:

- Select the material & shape of ferrite cores by utilizing the published nominal and min./max. values of magnetic properties especially;

- AL-value
- Saturation Flux Density(maximum)
- Core Loss
- Temperature Coefficients
- Frequency Characteristics
- Curie Temperature

- Provide proper insulation of windings by selecting non-corrosive and non-interacting materials and take care to avoid overfill of coilformer and scrapes or abrasions of wire insulation during winding.
- Insulation is further enhanced by use of a case, bobbin, tape, cement or other appropriate insulating medium with a thermal expansion coefficient very similar to that of ferrite.
- Avoid excessive force or poor fit of test fixtures and tools to prevent cracking or chipping the ferrite core.
- Provide clearance between the case, bobbin, coil and core to prevent cracking of the core and insulation breakdown.
- Distribute the coil windings evenly, preferably with Bi-Filar Windings, to prevent hot spots in the windings which could cause combustion.
- Keep safety in mind to prevent transient currents and to position the transformer assembly so that any heat generated in normal usage will not damage other circuit components even if another circuit should fail.
- To prevent personal injury when handling ferrite cores during assembly follow these precautions;

- Ferrites, a ceramic material, are fragile and can chip and crack when mishandled.
- Avoid placing ferrite cores near strong magnetic fields.
- Prevent mechanical shocking of cores when using fixtures or tools.
- Prevent thermal shocking of cores when may cause cracks.
- Polished cores have sharp mating edges. Avoid touching these surfaces.
- Because of the considerable weight of ferrite cores, be extra careful when stacking or handling cartons of cores.
- Avoid reprocessing ferrite cores.
- Ferrite cores are not edible. Make sure to keep ferrite cores away from young children so that they do not attempt to eat the cores.