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SPECIFICATION APPROVAL

SPEC. No. XL-0911-1720 (00)

MESSRS : TEE/LEPCOS ST. PETERS

DATE : 2013-7-25

CUSTOMER'S PRODUCT NAME :

PC47EF20-E24181

TDK PRODUCT NAME :

PC47EF20-E24181

THIS SPECIFICATION IS :

- FULLY APPROVED
- DENIED
- APPROVED UNDER THE FOLLOWING CONDITIONS

SIGNATURE : \_\_\_\_\_

DATE : \_\_\_\_\_

NAME (PRINTED) : \_\_\_\_\_

TITLE : \_\_\_\_\_

MANUFACTURING. Magnetics Business Group

SALES DIV.

PREPARED BY

CHECKED BY

APPROVED BY

REVIEWED BY

AUTHORIZED BY



PRODUCT CLASSIFICATION CODE :

## Basic contents

## 1 ). Scope of Application

This specification shall be applied for the Ferrite cores to be delivered to Messrs. TEE/LEPCOS ST. PETERS

## 2 ). Name of product

The name of the product to be defined in this specification shall be defined as PC47EF20-E24181

## 3 ). Related Specifications

## 4 ). Description

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

## Revision Records

Edition	Date	Revised by	Revision
00	2013-7-25	Wu CongQiang	First Issue

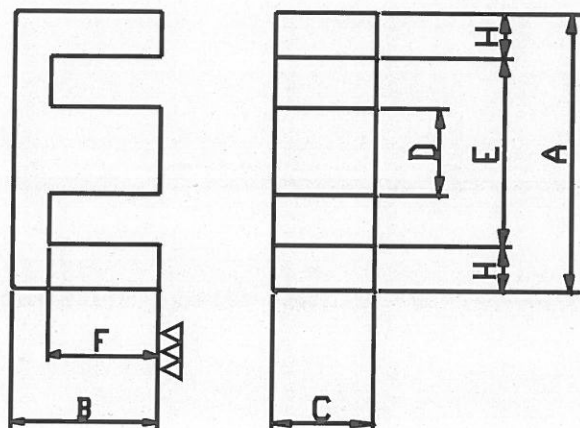
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## 1. Dimensions (Unit : mm)



A	20.00 ± 0.40
B	9.90 ± 0.20
C	5.65 ± 0.25
D	5.70 ± 0.20
E	14.10 min
F	7.20 ± 0.20
H	2.80 ref

## 2. Electrical characteristics

Item	Specification	Test conditions
Inductance	14.0mH±25%	●EQUIP.: LCR METER(Agilent 4284A) OR EQUIVALENT
		●MEASUREMENT METHOD: Z-core+Z-core
		●FREQ.: 1 kHz
		●LEVEL: 0.5 mA
		●TEMP: R. T
		●COIL: N=100Ts
Core loss	0.47·W max	●EQUIP.: B-H ANALYZER
		●FREQ.: 100kHz
		●LEVEL: 200mT
		●COIL: N1=5Ts N2=5Ts
		●TEMP: 100°C
		●MEASUREMENT METHOD: Z-core+Z-core

## 3. Marking

no marking

4. The core shall be supplied as pr.

5. Manufacturing site

China:TDK Xiamen Co., Ltd

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## Inspection Test Schedule

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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 0.5 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	1.5 mm <sup>2</sup>
Except mating face	3.0 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 overflow 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.