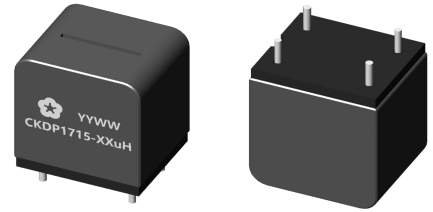




DIGITAL AMPLIFIER INDUCTOR 数字功率电感

● FEATURES 特性

1. Assemblage design, sturdy structure.
组立式设计，结构坚固。
2. Magnetic shielded structure with low magnetic flux.
磁屏蔽结构，磁漏小。
3. leakage low DC resistance, support high-currents.
低直流电阻，提供大电流。



● APPLICATIONS 用途

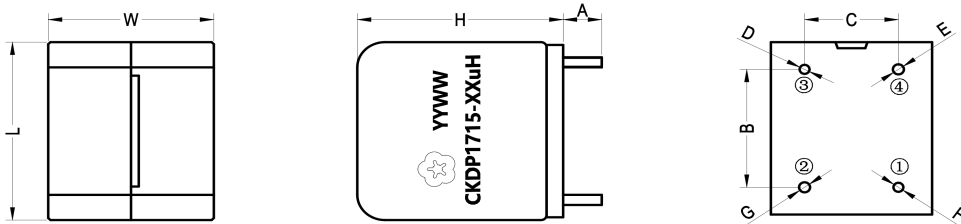
1. Support high-output of AV amplifiers and car amplifiers and so on.
支持AV功放和车载功放等应用。
2. Best suited as LPF inductor for Digital Amplifier(Class-D Amp).
最适合用作数字放大器（D类放大器）的低通滤波器电感。

● PART NUMBERING SYSTEM 品名系统

CKDP
(1)
1715
(2)
-
10uH
(3)
/M
(4)

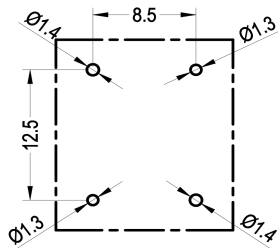
(1) Type 型号 (2) External Dimensions 外形尺寸 (3) Inductance 电感值
(4) Inductance Tolerance 电感值公差 (M:±20%)

● SHAPES AND DIMENSIONS 外形尺寸 (Unit:mm)

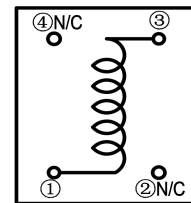


| TYPE(型号) | L | W | H | A | B |
|----------|----------|---------|---------|---------|----------|
| | 17.5±0.5 | 15±0.5 | 19.3Max | 3.5±0.5 | 12.5±0.5 |
| CKDP1715 | C | D | E | F | G |
| | 8.5±0.5 | 0.9±0.1 | 1.0±0.1 | 0.9±0.1 | 1.0±0.1 |

● REFERENCE HOLE PATTERN 参考焊盘尺寸 (Unit:mm)

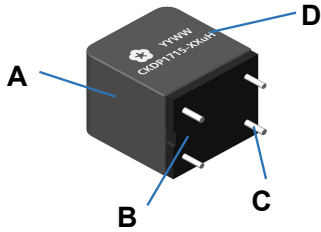


● SCHEMATIC 原理图





● STRUCTURE AND MATERIAL 结构与材料



| Part | Components(组件) | Material(材料) |
|------|----------------|-----------------------------------|
| A | Core | Ferrite |
| B | Base | Phenolic Molding Compound |
| C | Wire | Polyurethane enameled copper wire |
| D | Marking | Ink |

● TEMPERATURE RATING 额定温度

1. Operating temperature range (individual chip without packing): -40°C to $+125^{\circ}\text{C}$
工作温度范围: -40°C ~ $+125^{\circ}\text{C}$
2. Storage temperature range (packaging conditions): -10°C ~ $+40^{\circ}\text{C}$ and RH 70% (Max.)
储存温度范围(包装条件): -10°C ~ $+40^{\circ}\text{C}$, 相对湿度70%(最大值)

● TEST AND MEASUREMENT PROCEDURES 测试项目与测试条件

1. Inductance 电感值(L)

Test equipment: HP4284A meter or equivalent

测试设备: HP4284A仪表或同等仪表

Inductance tested at 100kHz,0.1V

在100kHz, 0.1V下测试电感值

2. DC Resistance 直流电阻(DCR)

Test equipment: Keysight 34420A or equivalent

测试设备: Keysight 34420A或同等设备

3. Saturation Current 饱和电流(Isat)

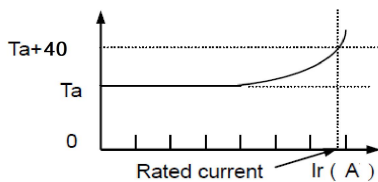
Test equipment: WK3260B LCRmeter/WK3265B or equivalent.

测试设备: WK3260B LCRmeter/WK3265B或同等设备。

4. Temperature rise current 温升电流(Irms)

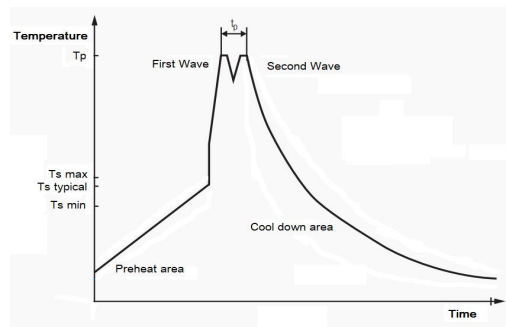
Irms is direct electric current as chip surface temperature rose just 40 against chip initial surface temperature (T_a)

电感加载直流电, 电感表面温度相比于电感初始表面温度升高40度



● Reflow Soldering 回流焊

| Profile Feature | | Pb-Free Assembly | Sn-Pb Assembly |
|---------------------------------------|------------|--|--|
| Preheat Temperature Min | Ts min | 100 °C | 100 °C |
| Preheat Temperature Typical | Ts typica | 120 °C | 120 °C |
| Preheat Temperature Max | Ts max | 130 °C | 130 °C |
| Preheat Time ts from Ts min to Ts max | ts | 70 seconds | 70 seconds |
| Ramp-up Rate | ΔT | 150 °C max. | 150 °C max. |
| Peak Temperature | Tp | 250 °C - 260 °C | 235 °C - 260 °C |
| Time of actual peak temperature | tp | max. 10 seconds max. 5 seconds each wave | max. 10 seconds max. 5 seconds each wave |
| Ramp-down Rate, Min | | ~ 2 K/ second | ~ 2 K/ second |
| Ramp-down Rate, Typical | | ~ 3.5 K/ second | ~ 3.5 K/ second |
| Ramp-down Rate, Max | | ~ 5 K/ second | ~ 5 K/ second |
| Time 25 °C to 25 °C | | 4 minutes | 4 minutes |





● SPECIFICATION TABLE:

CKDP1715 Series

| PART NUMBER 品名 | Inductance 电感值 | DC Resistance 直流电阻 | | Saturation Current (Isat)饱和电流 | Rated Current (Irms)温升电流 |
|-------------------|-------------------|-----------------------|-----|----------------------------------|-----------------------------|
| Units | μH | mΩ | | A | A |
| Tol | ±20% | Typ | Max | Typ | Typ |
| CKDP1715-10uH/M | 10 | 10 | 12 | 26 | 9.1 |
| CKDP1715-12uH/M | 12 | 10 | 12 | 25 | 9.1 |
| CKDP1715-15uH/M | 15 | 10 | 12 | 18 | 9.1 |
| CKDP1715-18uH/M | 18 | 10 | 12 | 16 | 9.1 |
| CKDP1715-22uH/M | 22 | 10 | 12 | 13 | 9.1 |
| CKDP1715-33uH/M | 33 | 10 | 12 | 8 | 9.1 |
| CKDP1715-56uH/M | 56 | 10 | 12 | 6 | 9.1 |

Note:

※1: All test data is reference to 25°C ambient.

※2: Test Condition: 1kHz, 1Vrms

※3: Isat : DC current (A) that will cause L0 to drop approximately 25% Typ.

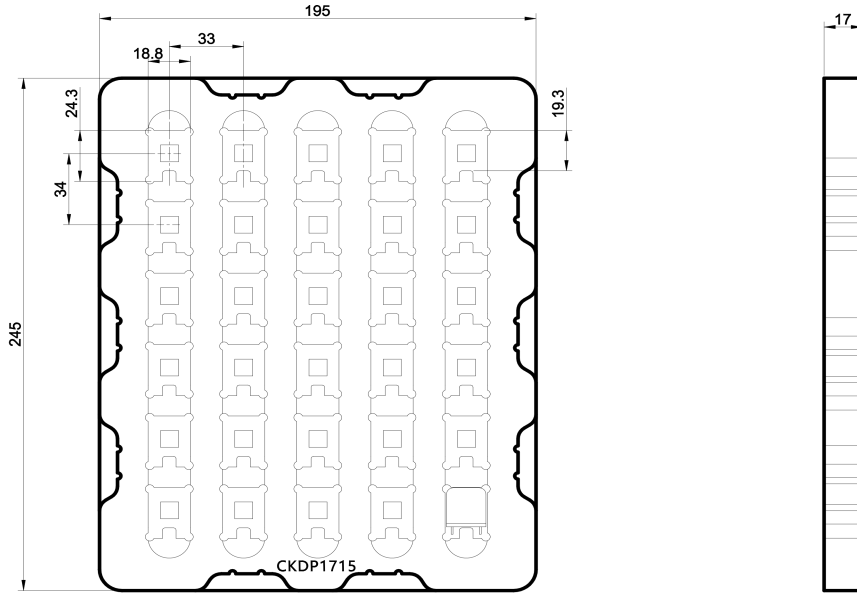
※4: Irms: DC current (A) that will cause an approximate ΔT of 40°C

※5: The part temperature (ambient + temp. rise) should not exceed 125 °C under worst case operating conditions. Circuit design, component placement, PCB trace size and thickness, airflow and other cooling provisions all affect the part temperature. Part temperature should be verified in the end application.



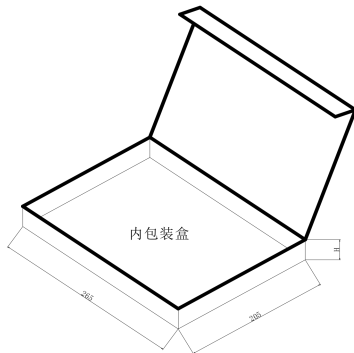
● **PACKAGING SPECIFICATION 包装规格**

1. Plastic Tray Dimensions (mm)

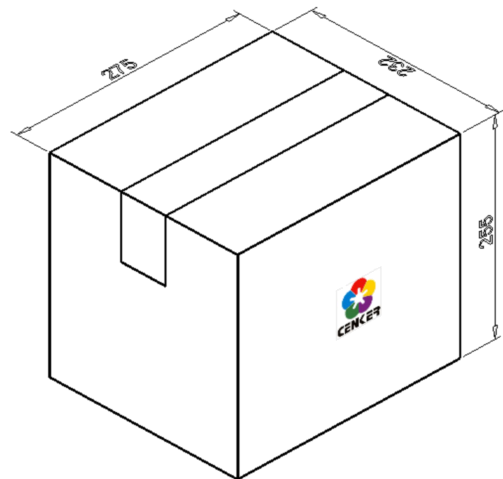


数量: 30pcs/盒

1. Plastic Tray Dimensions (mm)



数量: 30pcs*1盒=30pcs /内盒



数量: 30pcs*9内盒=270pcs /外箱