

# Wire Wound Common Mode Choke for USB3.0

ACM-21U



RoHS/RoHS II compliant



2.0 x 1.2 x 1.2mm

## FEATURES:

- Small size and low profile
- Virtually no effect on high speed signals due to suppressed differential mode impedance
- Elimination of common mode noise in high speed, differential mode signal transmission lines such as USB3.0

## APPLICATIONS:

- High speed differential signal lines in USB3.0

## STANDARD SPECIFICATIONS

Abracon P/N:	ACM-21U
Operating Temperature & Humidity:	-40°C to +105°C
Storage Temperature & Humidity:	-10°C to +40°C, Humidity < 70%RH (In tape and reel)

Part Number	Impedance @100MHz	DCR	I <sub>R</sub>	Rated Voltage	Insulation Resistance
Units	Ω ± 25%	Ω (max.)	mA	Vdc	MΩ (min.)
ACM-21U-900	90	0.40	280	20	10

### Test Conditions

**Impedance (Common mode and differential mode):** LCR Meter Agilent 4287A/E4991A

**DCR:** Agilent 4338B/34420

**I<sub>R</sub>:** Electric power, Electrical current meter, Thermometer

**Definition of Rated Current (I<sub>R</sub>):** The direct electric current as chip surface temperature rise just 20°C against chip initial surface temperature.

**Insertion Loss:** Network Analyzer Agilent E5071C

**Insulation Resistance:** High resistance meter Agilent 4339B

## PART IDENTIFICATION:

ACM-21U-  -



### Impedance Code

Please refer to the table above

### Packaging

Blank: bulk  
T: Tape and Reel (2k pcs/reel)

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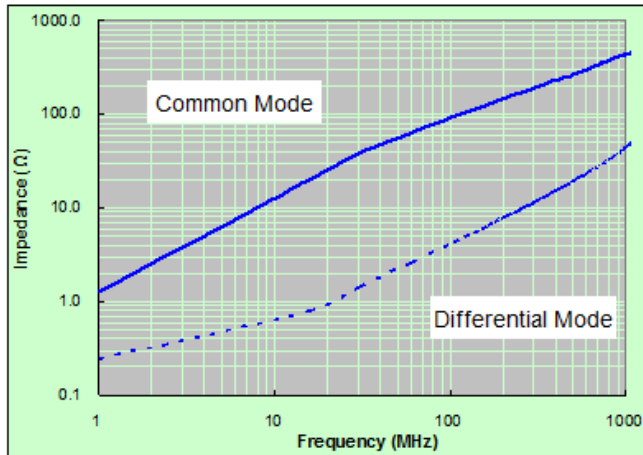
RoHS/RoHS II compliant



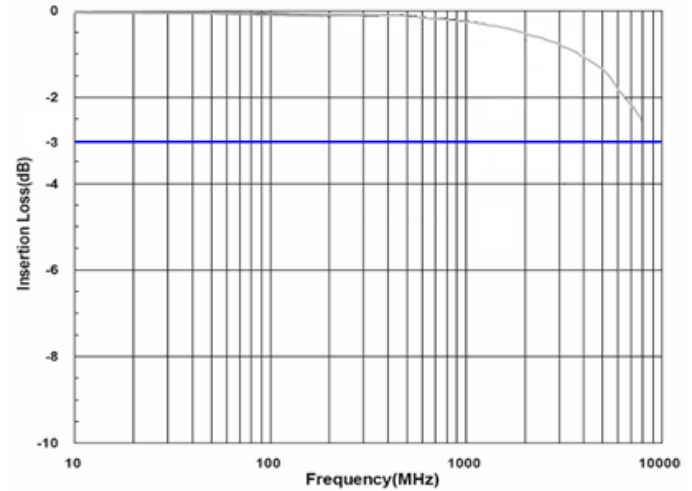
2.0 x 1.2 x 1.2mm

## ELECTRICAL CHARACTERISTIC CURVE:

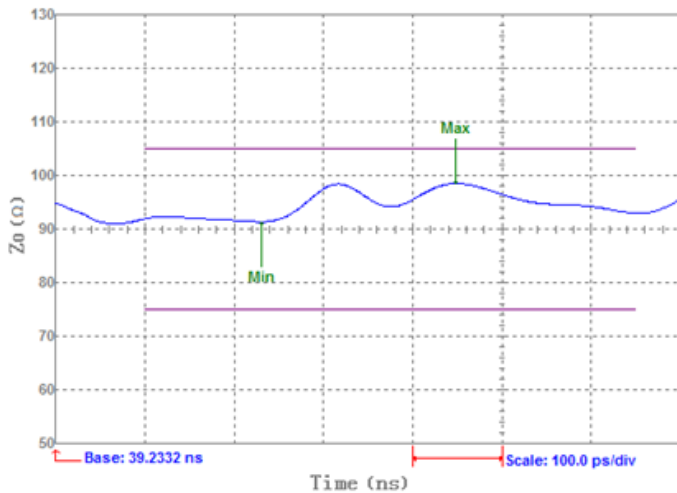
### Impedance vs. Frequency



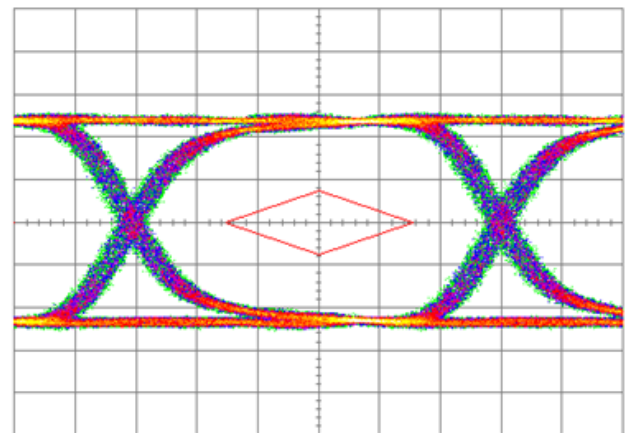
### Insertion Loss



### Characteristic Impedance



### Eye Diagram in USB3.0



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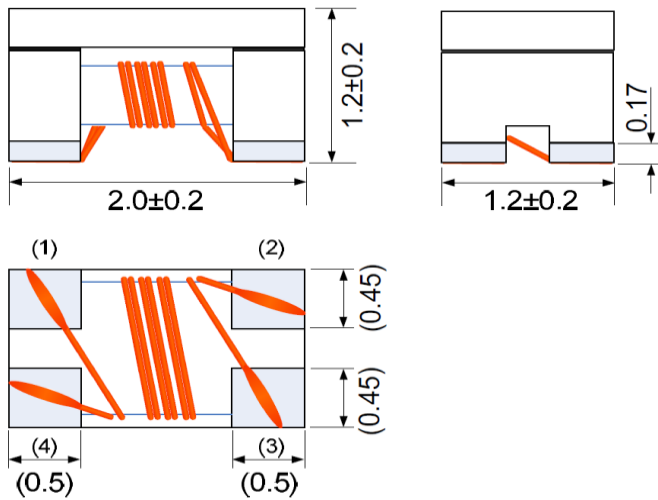
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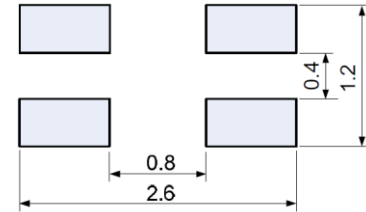


2.0 x 1.2 x 1.2mm

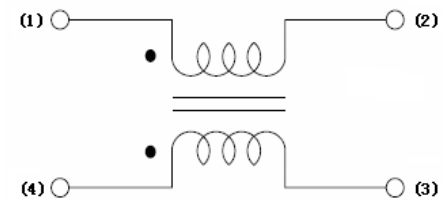
## OUTLINE DIMENSIONS:



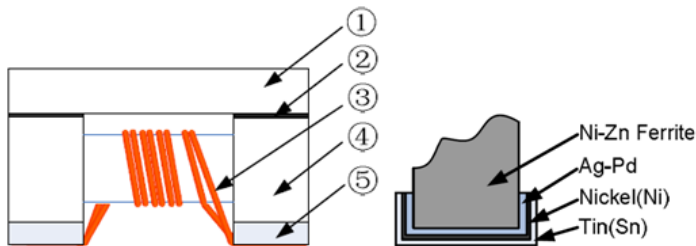
## Recommended Land Pattern



## Schematic

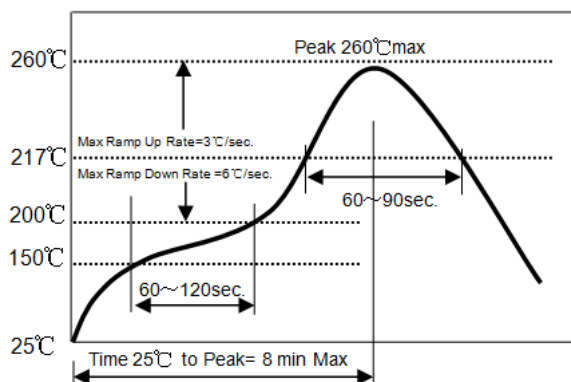


## Materials



No.	Part Name	Material Name
①	Lid	Ni-Zn Ferrite
②	Epoxy	Epoxy resin
③	Wire	Polyurethane system enameled copper wire
④	Core	Ni-Zn Ferrite
⑤	Electrode structure	(Ag-Pd)+Ni+Sn plating

## REFLOW PROFILE:



- △ Preheat condition:  $150\sim 200\text{ C}/60\sim 120\text{sec}$ .
- △ Allowed time above  $217^{\circ}\text{C}$ : 60~90sec.
- △ Max temp:  $260^{\circ}\text{C}$
- △ Max time at max temp: 10sec.
- △ Solder paste: Sn/3.0Ag/0.5Cu
- △ Allowed Reflow time: 2 times max.

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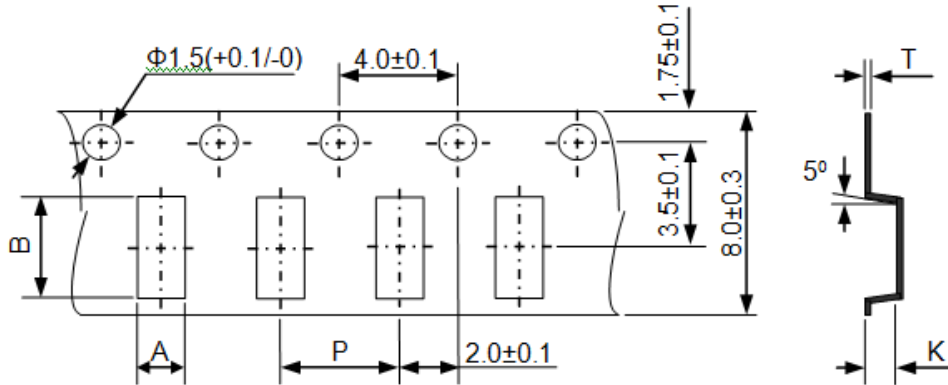


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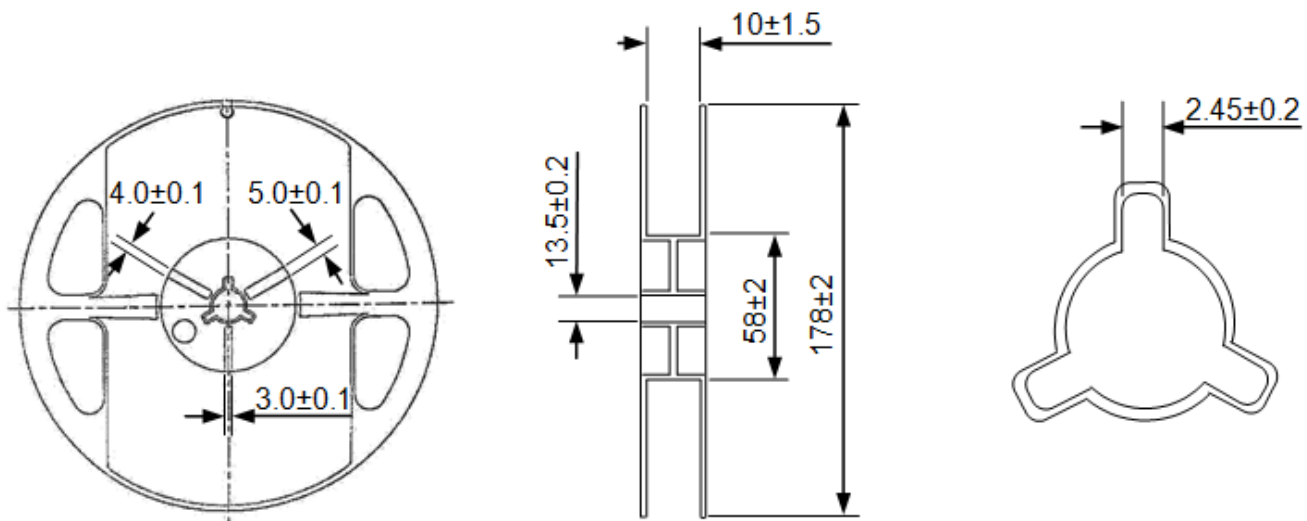


2.0 x 1.2 x 1.2mm

▷ TAPE & REEL: 2000pcs/reel



A	B	P	K	T
1.55±0.2	2.25±0.2	4.0±0.1	1.45±0.1	0.2±0.1



Dimension: mm

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