



CUSTOMER : STD
PRODUCTS : Wire Wound Common Mode Chokes
PART NO : MCCW Series
CUST P/ NO :
DATE : 2025.04.16
SALES DEP :
E-MAIL :

VERSION : REV.A
CHANGE PROJECT : -
BEFORE : -
AFTER : -
CHANGE DATE : -
CUSTOMER SIGNATURE : -

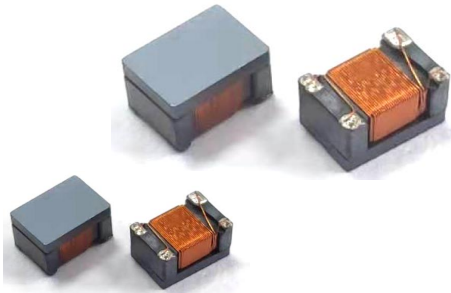
APPROVAL BY :	CHECK BY :	DRAWN BY :
Honey Wei	Leo Wang	May Gao



CHANGE HISTORY

[illegible]

MCCW Series



- Wire Wound Common Mode Chokes
- Operating Temperature up to $-40^{\circ}\text{C} \sim +85^{\circ}\text{C}$
- High Current up to 3A
- Environmental Lead free
- Environmental RoHS2.0 compliant
- Environmental halogen free
- Storage Temperature : -40°C to $+85^{\circ}\text{C}$.
- Packaging 7"/13"Reel, Plastic tape:8/12 mm wide

FEATURES

- The COMS series is effective for common mode noise suppression in digital equipment.
- Low leakage flux due to monolithic structure enables high-density mounting.

Applications

- High speed interfaces of tablet, notebook, desktop computers and peripheral equipments.
- Differential interfaces of Blu-ray DVD recorder, DSC, DVC, LCD Television.
- USB interfaces of mobile phone, smart phone.
- Various differential circuits.

PRODUCT IDENTIFICATION

MC CW 2012 Z 090 D 040
① ② ③ ④ ⑤ ⑥ ⑦

- ① Brand & Product classification
- ② Product Series NO.(CW : Common Mode Chokes)
- ③ External Dimensions.(2012 : L:2.0 × W:1.2 × H:1.2) [mm]
- ④ Separator code.
- ⑤ Nominal Impedance

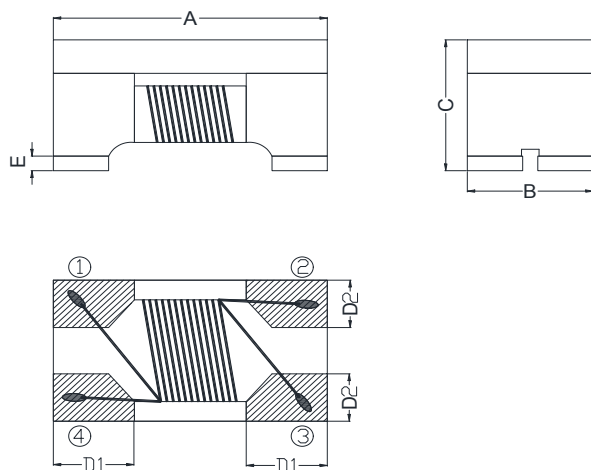
Example	Nominal Value
090	90Ω
120	120Ω
260	260Ω
600	600Ω
1000	1000Ω

- ⑥ Material Code.(D: D Type material.)
- ⑦ Rated Current.

Example	Nominal Value
040	400mA
1A1	1100mA
2A	2000mA

Mechanical & Dimensions

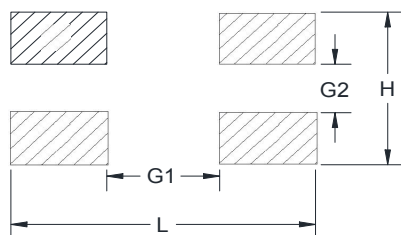
(Unit: mm)



Code	Dimensions
A	2.0 ± 0.2
B	1.2 ± 0.2
C	1.2 ± 0.2
D1	0.55 Typ
D2	0.45 Typ
E	0.15 ± 0.1

Recommend Land Pattern Dimensions

(Unit: mm)



Code	Dimensions
L	2.60 Ref
H	1.25 Ref
G1	1.10 Ref
G2	0.45 Ref

Electrical Characteristics

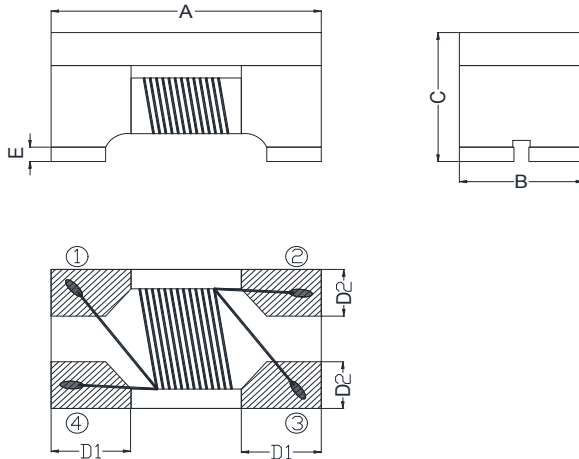
Part Number	Impedance ¹ (Ω)	DCR ² (Ω) Max	Rated Current ³ (mA)Max		
MCCW2012Z067D040	67 ± 25%	0.25	400		
MCCW2012Z090D040	90 ± 25%	0.30	400		
MCCW2012Z120D037	120 ± 25%	0.30	370		
MCCW2012Z160D033	160 ± 25%	0.35	330		
MCCW2012Z180D033	180 ± 25%	0.35	330		
MCCW2012Z200D030	200 ± 25%	0.40	300		
MCCW2012Z220D030	220 ± 25%	0.40	300		
MCCW2012Z260D030	260 ± 25%	0.40	300		
MCCW2012Z360D028	360 ± 25%	0.45	280		
MCCW2012Z600D022	600 ± 25%	0.60	220		
MCCW2012Z800D030	800 ± 25%	0.88	300		
MCCW2012Z1000D015	1000 ± 25%	1.30	150		

Note:

1. Test Frequency is measured at 100 MHz .
2. The nominal DCR is measured at 20°C ambient temperature.
3. The Rated Current is Operating Current.
4. Insulation Resistanc is 10 MΩ min. Withstand Volt is 125 V max.
5. Rated voltage 50V.

Mechanical & Dimensions

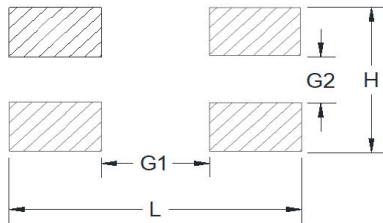
(Unit: mm)



Code	Dimensions
A	3.2 ± 0.2
B	1.6 ± 0.2
C	1.9 ± 0.2
D1	0.7 Typ
D2	0.6 Typ
E	0.2 ± 0.1

Recommend Land Pattern Dimensions

(Unit: mm)



Code	Dimensions
L	3.70 Ref
H	1.60 Ref
G1	1.90 Ref
G2	0.40 Ref

Electrical Characteristics

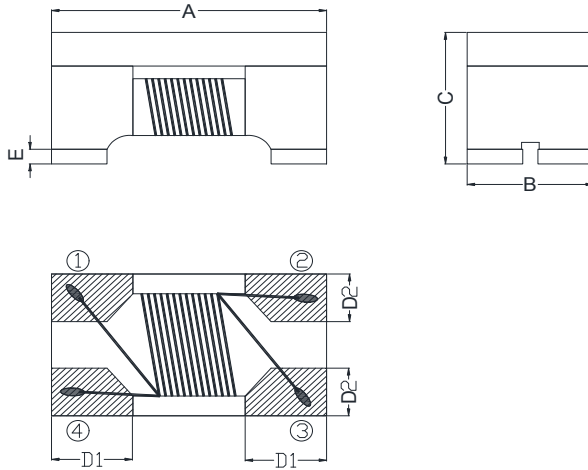
Part Number	Impedance ¹ (Ω)	DCR ² (Ω) Max	Rated Current ³ (mA)Max		
MCCW3216Z090D037	90 ± 25%	0.3	370		
MCCW3216Z160D034	160 ± 25%	0.4	340		
MCCW3216Z260D031	260 ± 25%	0.5	310		
MCCW3216Z370D030	370 ± 25%	0.5	300		
MCCW3216Z600D026	600 ± 25%	0.8	260		
MCCW3216Z800D024	800 ± 25%	0.9	240		
MCCW3216Z1000D023	1000 ± 25%	1.0	230		
MCCW3216Z1400D022	1400 ± 25%	1.0	220		
MCCW3216Z2000D020	2000 ± 25%	1.2	200		
MCCW3216Z2200D020	2200 ± 25%	1.2	200		

Note:

- 1.Test Frequency is measured at 100 MHz.
- 2.The nominal DCR is measured at 20°C ambient temperature.
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- 4.Insulation Resistanc is 10 MΩ min.Withstand Volt is 125 V max.
- 5.Rated voltage 50V.

Mechanical & Dimensions

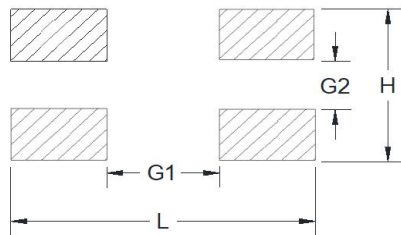
(Unit: mm)



Code	Dimensions
A	4.5 ± 0.2
B	3.2 ± 0.2
C	2.8 ± 0.2
D1	1.0 Typ
D2	1.2 Typ
E	0.5 Typ

Recommend Land Pattern Dimensions

(Unit: mm)



Code	Dimensions
L	4.80 Ref
H	3.80 Ref
G1	2.50 Ref
G2	0.70 Ref

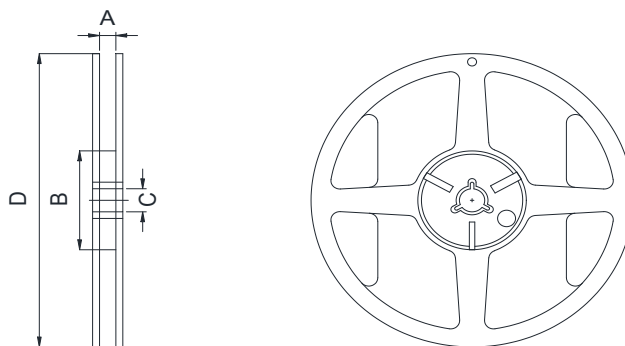
Electrical Characteristics

Part Number	Impedance ¹ (Ω)	DCR ² (Ω) Max	Rated Current ³ (mA)Max		
MCCW4532Z080D3A	80 ± 25%	0.05	3000		
MCCW4532Z090D3A	90 ± 25%	0.09	3000		
MCCW4532Z120D3A	120 ± 25%	0.05	3000		
MCCW4532Z200D1A5	200 ± 25%	0.10	1500		
MCCW4532Z330D1A1	330 ± 25%	0.11	1100		
MCCW4532Z600D1A	600 ± 25%	0.12	1000		
MCCW4532Z700D1A	700 ± 25%	0.12	1000		
MCCW4532Z800D080	800 ± 25%	0.16	900		
MCCW4532Z1000D080	1000 ± 25%	0.18	800		

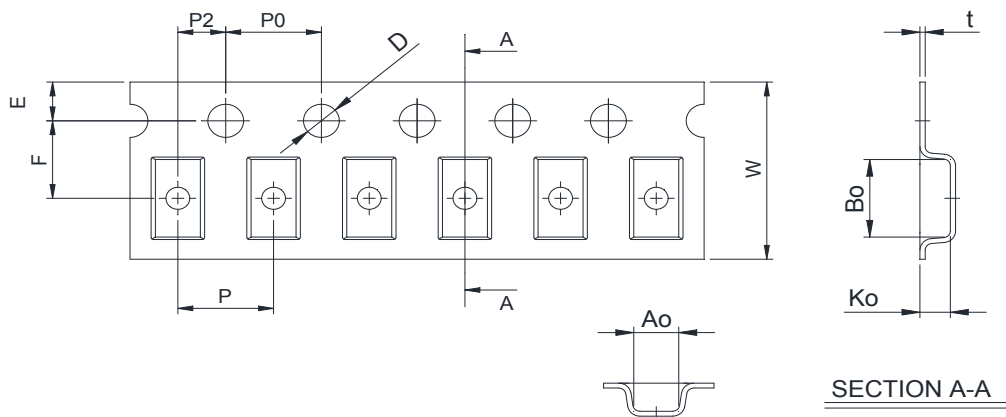
Note:

1. Test Frequency is measured at 100 MHz.
2. The nominal DCR is measured at 20°C ambient temperature.
3. The Rated Current is Operating Current.
4. Insulation Resistanc is 10 MΩ min. Withstand Volt is 125 V max.
5. Rated voltage 50V.

Reel Dimension:

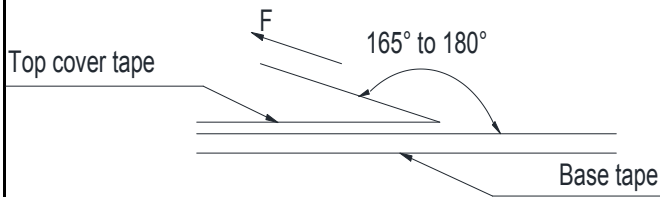
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Tape Dimension

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Packaging

Tearing Off Force:



The force tearing off cobe tape is 10 to 130 g.f			
in the arrow direction under the following conditions			
Room Temp (°C)	Room Humidity (%)	Room atrn (hPa)	Teaming Speed (mm/min)
5~35	45~85	860~1060	300

※Storage Conditions

1. Temperature and humidity conditions:
-40°C ~ +85°C and 70% RH.
2. Recommended products should be used within 6 months form the time of delivery.
3. The packaging material should be kept where no chlorine or sulfur exists in the air.

※Transportation

1. Products should be handled with care to avoid damage or contamination from perspiration and skin oils.
2. The use of tweezers or vacuum pick up is strongly recommended for individual components.
3. Bulk handling should ensure that abrasion and mechanical shock are minimized.

Recommended Soldering Conditions

Figure 1. Re-flow Soldering

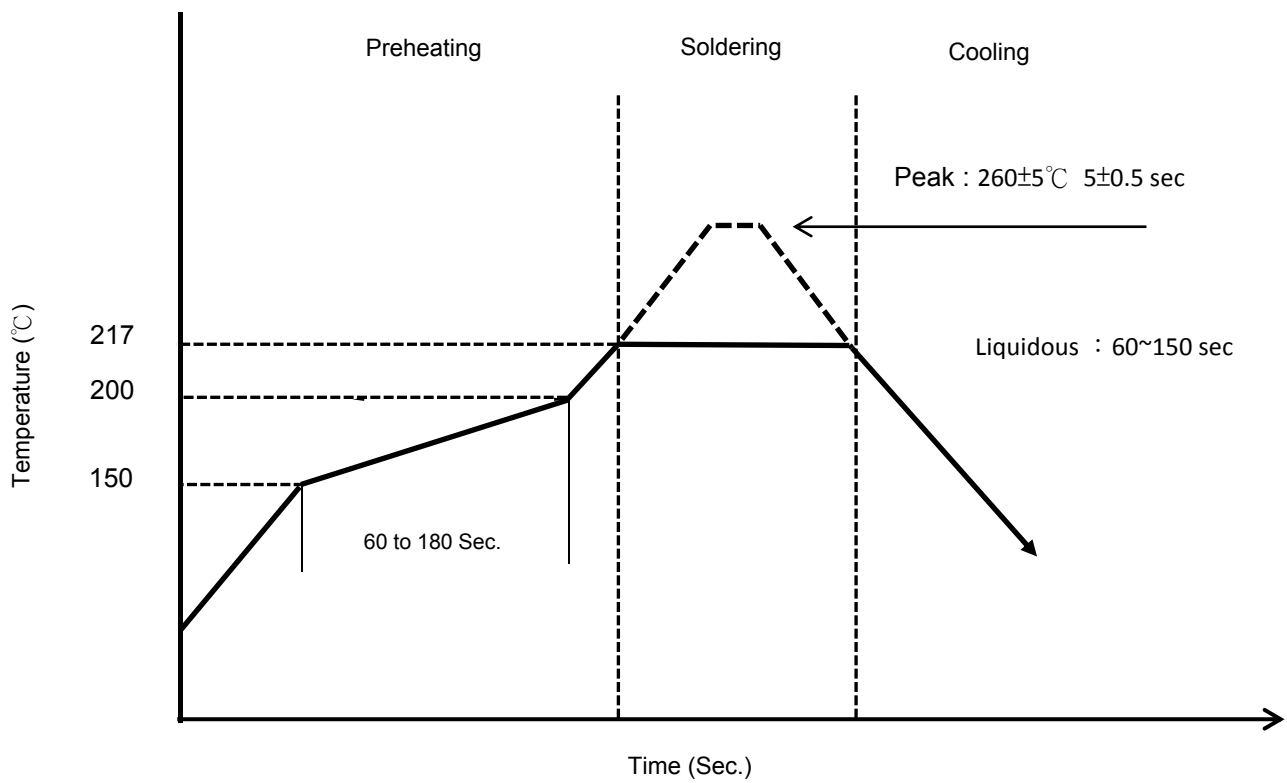
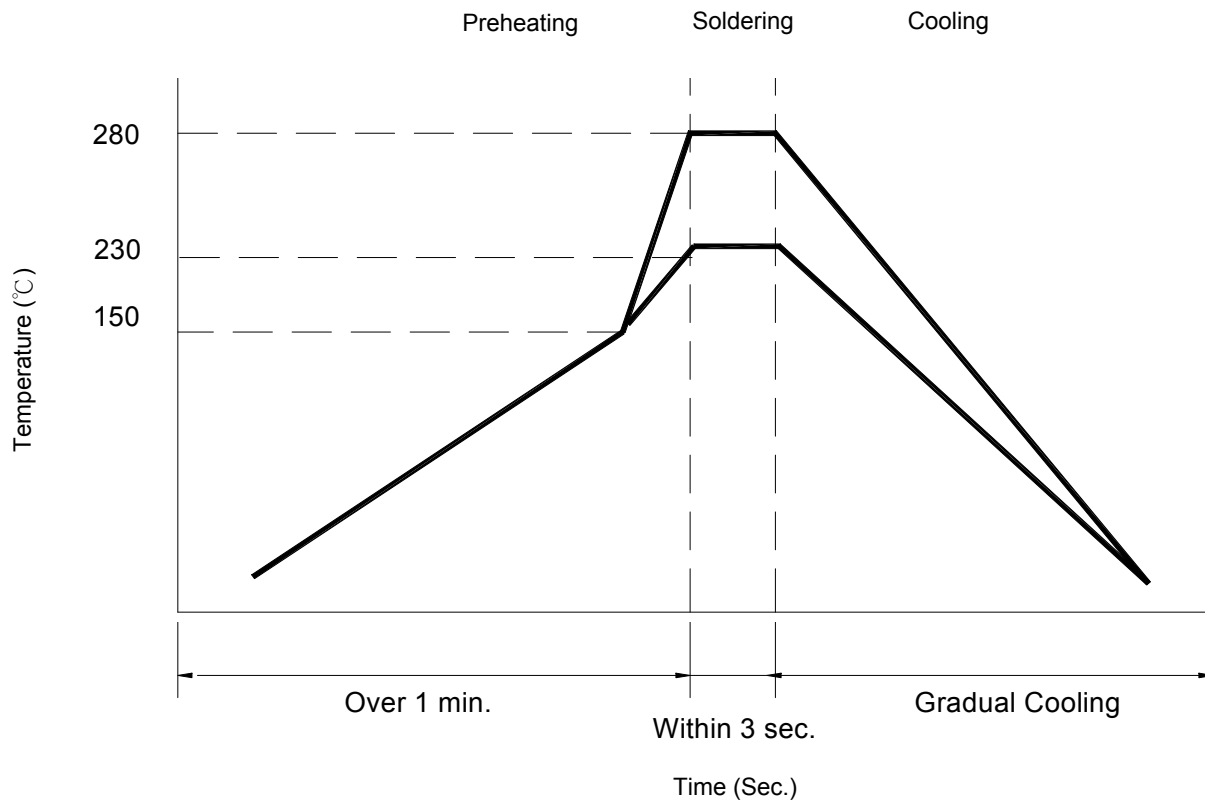
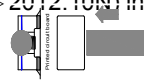


Figure 2. Hand Soldering



Reliability and Testing Conditions

Item	Specification	Conditions															
Operating temperature range	-40℃ ~+85℃ (Including self-temperature rise)																
Storage temperature and humidity range	-40℃ ~+85℃ , 70% RH Max																
Solderability	More than 95% of the terminal electrode should be covered with solder.	- Preheat: 150 ℃ , 60 sec - Solder: Sn96.5%-Ag3%-Cu0.5% - Temperature: 245±5℃ - Flux for lead free: Rosin 9.5% - Dip time: 4±1 sec - Depth: completely cover the termination															
Resistance to Soldering Heat	Electrical Characteristics (Impedance or Inductance) within ±30% of initial value. No disconnection or short circuit. The appearance shall not break.	- Solder technique simulation: SMD - Temperature (°C): 260 ± 5 (solder temp) - Time (s): 10 ± 1 - Temperature ramp / immersion and emersion rate: 25 mm/s ± 6 mm/s - Number of heat cycles: 1															
Resistance to High Temperature	Electrical Characteristics (Impedance or Inductance) within ±30% of initial value. No disconnection or short circuit. The appearance shall not break.	After 500 hours in 85±2℃ and 2 hour drying under normal condition.															
Resistance to Low Temperature	Electrical Characteristics (Impedance or Inductance) within ±30% of initial value. No disconnection or short circuit. The appearance shall not break.	After 500 hours in -40±2℃ and 2 hour drying under normal condition.															
Resistance to Humidity	Electrical Characteristics (Impedance or Inductance) within ±30% of initial value. No disconnection or short circuit. The appearance shall not break.	After 500 hours in 60±2℃ and 90% to 95% RH, and 2 hour drying under normal condition.															
Thermal shock	Electrical Characteristics (Impedance or Inductance) within ±30% of initial value. No disconnection or short circuit. The appearance shall not break.	After 30 cycles of following condition. <table border="1"> <thead> <tr> <th>Step</th><th>Temperature (℃)</th><th>Times (min.)</th></tr> </thead> <tbody> <tr> <td>1</td><td>-40±2℃</td><td>30</td></tr> <tr> <td>2</td><td>Room Temperature</td><td>Within 3</td></tr> <tr> <td>3</td><td>85±5℃</td><td>30</td></tr> <tr> <td>4</td><td>Room Temperature</td><td>Within 3</td></tr> </tbody> </table>	Step	Temperature (℃)	Times (min.)	1	-40±2℃	30	2	Room Temperature	Within 3	3	85±5℃	30	4	Room Temperature	Within 3
Step	Temperature (℃)	Times (min.)															
1	-40±2℃	30															
2	Room Temperature	Within 3															
3	85±5℃	30															
4	Room Temperature	Within 3															
Vibration Test	Electrical Characteristics (Impedance or Inductance) within ±30% of initial value and no mechanical damaged.	After vibration for 1hour, In each of three orientations at sweep vibration (10~55~10Hz) with 1.52mm P-P Amplitudes.															
Terminal strength	The terminal electrode and the ferrite must be no damage	Solder a chip to test substrate, and then laterally apply a force(< 1005:2N , ≤2012:5N , > 2012:10N) in the arrow direction, Duration :5.0s 															
Drop Test	Electrical Characteristics (Impedance or Inductance) within ±30% of initial value and appearance shall not break.	Drop 3 times on a concrete floor from a height of 75cm by inimum packing															