Specification Sheet for Approved

Customer Name:	
Customer Part No.:	
Ceaiya Part No:	CCM2012F2 Series
Spec No:	C2012

【For Customer Approval Only】

If you Approval, Please Stamp

【RoHS Compliant Parts】

Approved By	Checked By	Prepared By
李庆辉	刘志坚	劳水花

Shenzhen Ceaiya Electronics Co., Ltd.

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【Version of Changed Record】

Rev.	Effective Date	Changed Contents	Change Reasons	Approved By
A0	2023-06-30	New release	/	Li qing hui

1. Features

1) High common mode impedance at high frequency effects excellent noise suppression perfomance.

2) CCM2012F2 series reealizes small size and low profile. 2.0*1.2*1.2mm

3) 100% Leas (Pb) & Halogen-Free and RoHs compliant.

2. Product Description and Identification (Part Number)

CCM	2012	F	2	-	300	T
①	②	③	④		⑤	⑥

① Series
② Dimension
③ Material Ferrite Core
④ Number of Lines 2=2 lines
⑤ Impedance 300=30Ω
⑥ Taping and Reel

3. Shape and Dimensions (Unit:mm)

Dimensions and recommended PCB pattern for reflow soldering, please see Fig4-1 and Table4-1

Shape and Dimensions: **Recommended pad:**

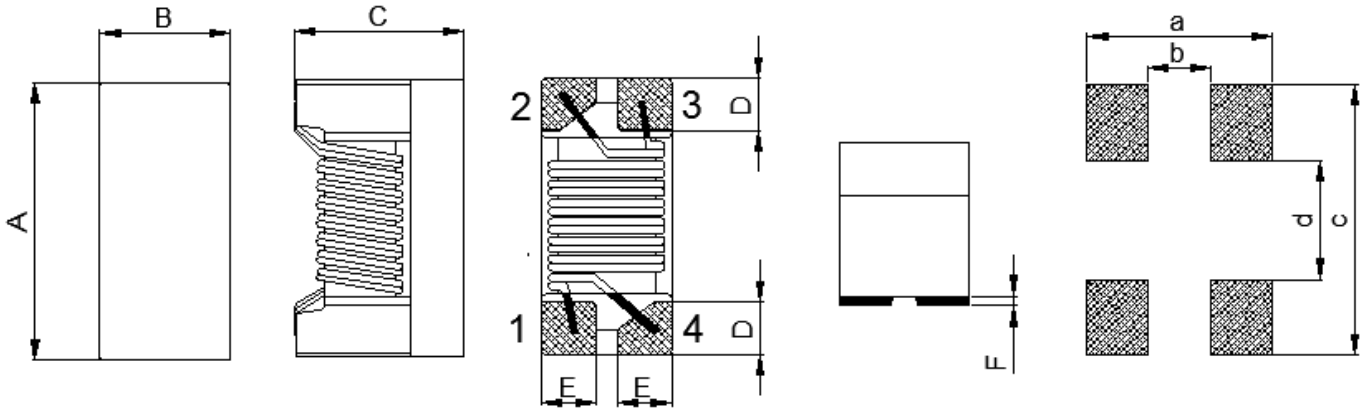


Fig4-1.

Table 4-1.

A	B	C	D	E	F	a	b	c	d
2.0±0.2	1.2±0.2	1.2±0.2	0.50±0.2	0.50±0.2	0.15 Ref	1.4 Ref	0.45 Ref	2.6 Ref	1.25 Ref

4. Electrical Characteristics

Part Number	Common mode Impedance (Ω)	Test Frequency (MHz)	DC Resistance (Ω)Max.	Rated Current (mA)	Rated Volt. (Vdc)	Withstand Volt. (Vdc) Max.	IR (Ω) Min.
CCM2012F2-300T	30±25%	100	0.150	450	50	125	10M
CCM2012F2-670T	67±25%	100	0.250	400	50	125	10M
CCM2012F2-750T	75±25%	100	0.200	360	50	125	10M
CCM2012F2-900T	90±25%	100	0.300	350	50	125	10M
CCM2012F2-121T	120±25%	100	0.300	350	50	125	10M
CCM2012F2-801T	800±25%	100	0.880	300	50	125	10M

a. Impedance:KeysightE4982A or equivalent.

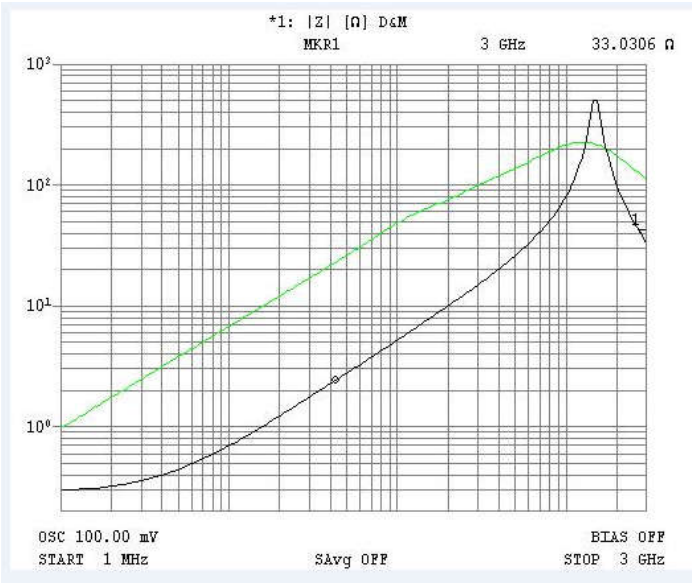
b. Inductance:UC1066B or equivalent.

c. DCR:Agilent 4338B or equivalent.

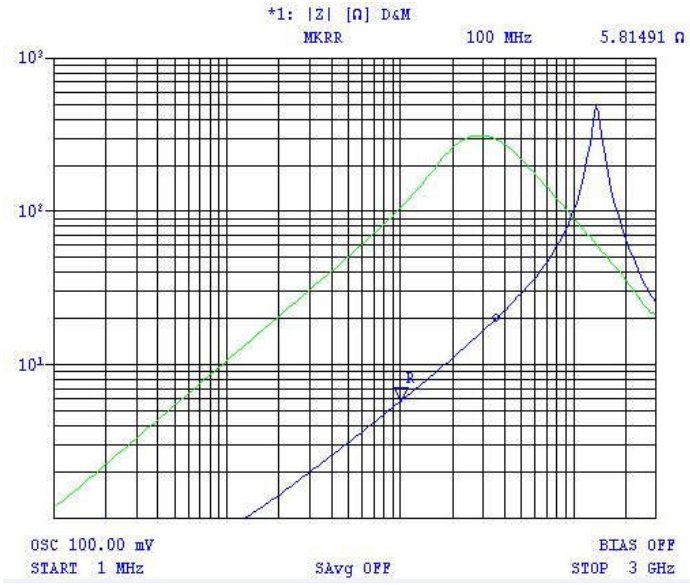
d. IR: UC2683 or equivalent.

e. Measuring curcuits 2line and Frequency vs impedance curve

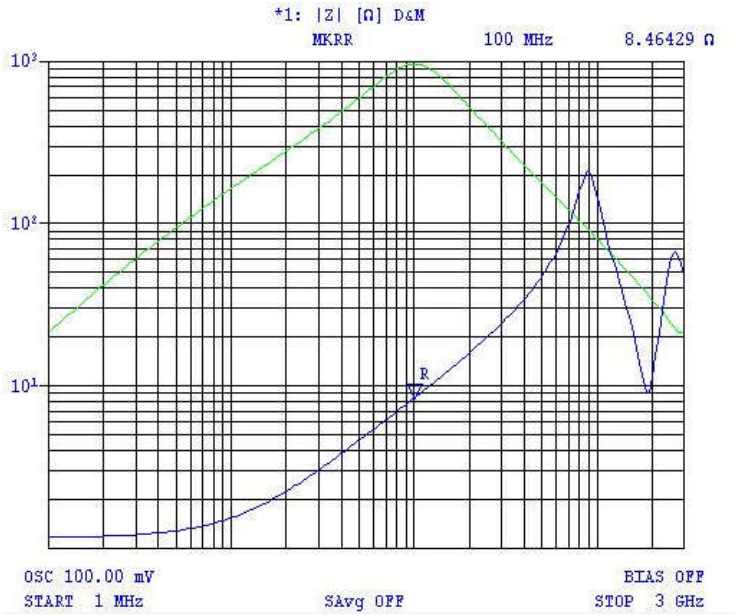
CCM2012F2-750T



CCM2012F2-900T

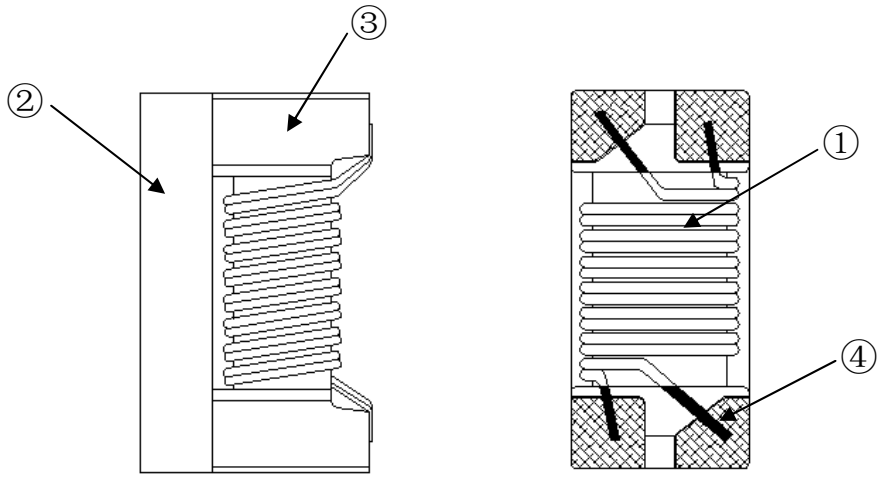


CCM2012F2-801T



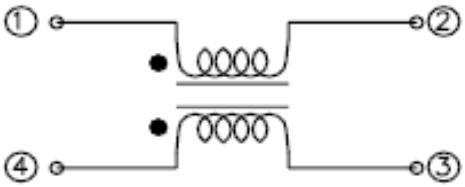
5. Structure

The structure of CCM2012F2 product.

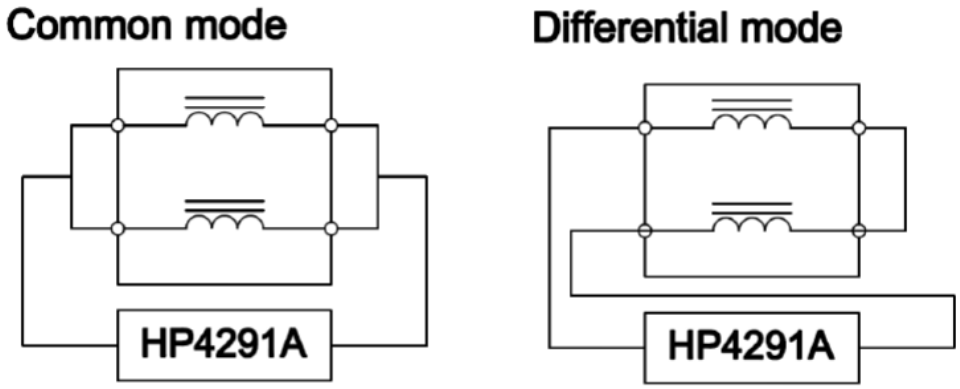


No	Part	Material
①	WIRE	Grade 180
②	Cover sheet	Ferrite
③	CORE	Ferrite
④	TERMINAL	Ag/Cu/Ni/Sn

6. Schematic Diagram

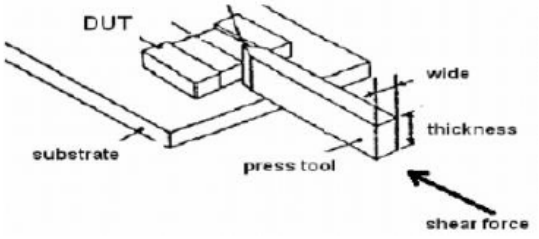


7. Measuring Circuits 2 line



8. Reliability and Test Coondition

Item	Performance	Test Condition
Operating temperature	-40˚C~+125˚C (Including self - temperature rise	
Storage temperature	-40˚C~+125˚C (on board)	
Electrical Performance Test		
L(common mode)	Refer to standard electrical characteristics list.	Agilent -4291A+ Agilent - 16197A
DCR		Agilent -4338B
I.R.		Agilent 4339
Temperature Rise Test	Rated Current < 1A △T 20˚C Max. Rated Current ≥ 1A △T 40˚C Max.	1. Applied the allowed DC current. 2.Temperature measured by digital surface thermometer.
Reliability Test		
Life Test	Appearance: No damage. Inductance: within ±10% of initial value RDC: within ±15% of initial value and shall not exceed the specification value	Preeconditioning: Run through IR reflow for 2 times. (IPC/JEDECJ-STD-020D Classiification Reflow Profiles) Temperature: 125±2˚C Applied current: rated current Duration: 1000±12hrs Measured at room temperature after placing for 24±2hrs

<table>
<tr><th>Item</th><th>Performance</th><th>Test Condition</th></tr>
<tr><td>Load Humidity</td><td rowspan="4">Appearance: No damage.
Inductance: within ±10% of initial value
RDC: within ±15% of initial value and shall not exceed the specification value</td><td>Preeconditioning: Run through IR reflow for 2 times.
(IPC/JEDECJ-STD-020D Classiification Reflow Profiles)
Humidity: 85±2˚C R.H.
Temperature: 85±2˚C
Duration: 1000hrs Min. with 100% rated current.
Measured at room temperature after placing for 24±2hrs</td></tr>
<tr><td>Thermal shock</td><td>Preconditioning: Run through IR reflow for 2 times.
(IPC/JEDECJ-STD-020D Classiification Reflow Profiles)
Step1: -40±2˚C 30±5min
Step2: 25±2˚C ≤0.5min
Step2: 125±2˚C 30±5min
Number of cycles: 500
Measured at room temperature after placing for 24±2˚Chrs</td></tr>
<tr><td>Vibration</td><td>Oscillation Frequency: 10~2K~10Hz for 20 minutes
Equipment: Vibration checker
Total Amplitude: 1.52mm ±10%
Testing Time: 12 hours (20 minutes, 12 cycles each of 3 oorientations).</td></tr>
<tr><td>Shock</td><td>Appearance: No damage.
Inductance: within ±10% of initial value
RDC: within ±15% of initial value and shall not exceed the specification value</td><td>
<table>
<tr><th>Type</th><th>Peak value (g's)</th><th>Normal Duration(D) (ms)</th><th>Wave form</th><th>Velocity Change (Vi) ft/sec</th></tr>
<tr><td>SMD</td><td>50</td><td>11</td><td>Half-sine</td><td>11.3</td></tr>
<tr><td>Lead</td><td>50</td><td>11</td><td>Half-sine</td><td>11.3</td></tr>
</table>
</td></tr>
<tr><td>Solder ability</td><td>More than 95% of the terminal electrode should be covered with solder</td><td>Preheat: 150˚C, 60sec.
Solder: Sn99%, Ag0.3%,Cu0.7%
Temperature: 245±5˚C
Flux for lead free: Rosin. 9.5%
Dip time: 4 ± 1sec.
Depth: completely cover the termination</td></tr>
<tr><td>Resistance to Sodering Heat</td><td rowspan="2">Appearance: No damage.
Inductance: within ±10% of initial value
RDC: within ±15% of initial value and shall not exceed the specification value</td><td>Depth: completely cover the termination
<table>
<tr><th>Temperature (˚C)</th><th>Time(s)</th><th>Temperature ramp/immersion and emersion rate</th><th>Number of heat cycles</th></tr>
<tr><td>260 ±5 (solder temp)</td><td>10±1</td><td>25mm/s ± 6mm/s</td><td>1</td></tr>
</table>
</td></tr>
<tr><td>Terminal Strength</td><td>Preconditioning: Run through IR reflow for 2 times.
(IPC/JEDECJ-STD-020D Classiification Reflow Profiles)
With the component mounted on a PCB with the device to be tested, apply a force(>0805: 1kg, <=0805:0.5kg) to the side of a device being tested. This force shall be applied for 60+1 a shock to the component being tested.
 
</td></tr>
</table>

9. Soldering and Mounting

9-1 Soldering

Mildly activated rosin fluxes are preferred. terminations are suitable for all wave and re-flow soldering systms.

If hand soldering cannot be avoided, the preferred technique is the utilization of hot aiir soldering tools.

9-1.1 Solder re-flow:

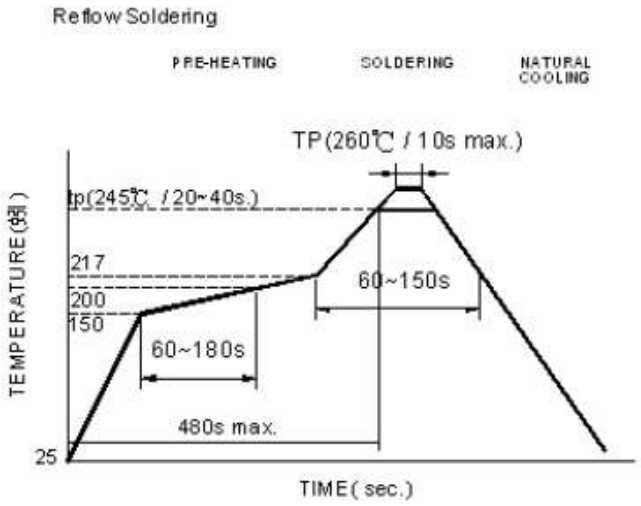
Reecommended temperature profiles for re-flow soldering in Figure 1.

9-1.2 Soldering Iron (Figure 2):

Products attachment with a soldering iron is discouraged due to the inherent process control limitations.

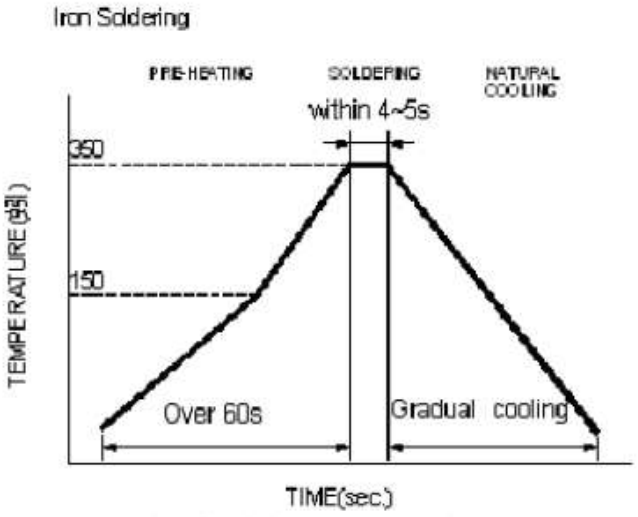
In the event that a soldering iron must be employed the following precautions are recommended.

Preheat circuit and products to 150˚C	Never contact the ceramic with the iron tip	Use a 20 watt soldering iron with tip diameter of 1.0mm
355˚C tip temperature (max)	1.0mm tip diiameter (max)	Limit soldering time to 4~5 sec.



Reflow times: 3 times max.

Fig.1

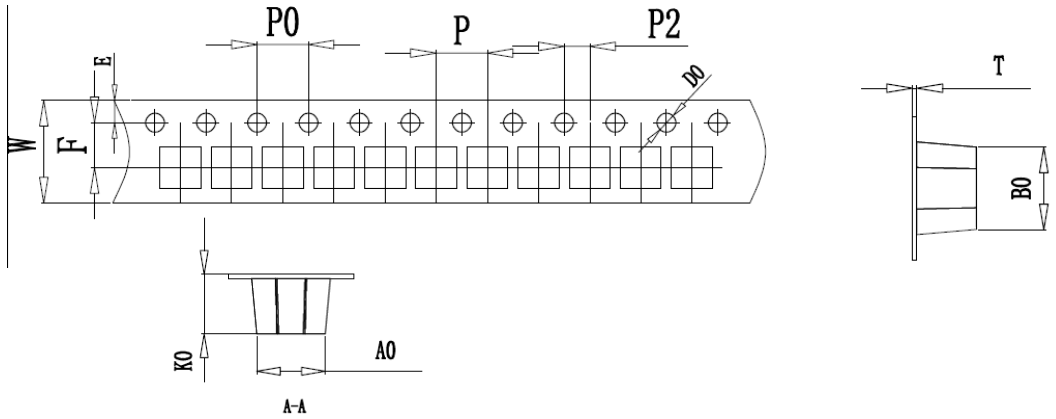


Iron Soldering times: 1 times max.

Fig.2

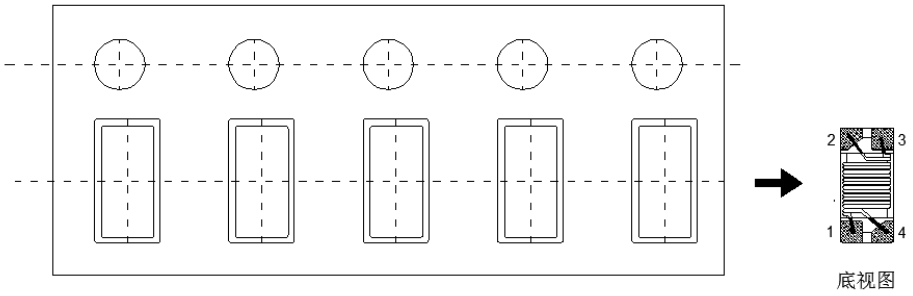
10.Packaging and Marking:

10-1.Carrier Tape Dimensions:



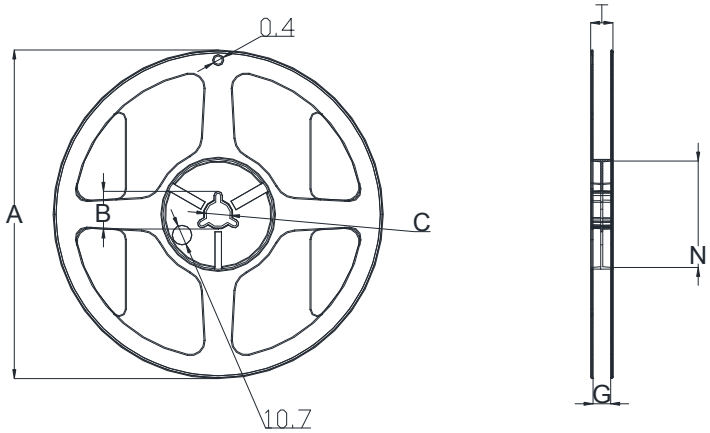
ITEM	W	A0	B0	K0	P	F	E	D0	P0	P2	T
DIM	8.00	1.45	2.4	1.5	4.00	3.5	1.75	1.50	4.00	2.00	0.25
TOLE	±0.3	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	+0.1	±0.1	±0.1	±0.05

10-2.Taping Dimensions:



10-3.Reel Dimensions:

Carrier Tape Reel



Type	A	B	C	G	N	T
8mm	178	20.7±0.8	13±0.4	9	60	10.8

10-4. Packaging Quantity:

2KPCS/ Reel

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