Specification Sheet for Approved

Customer Name:	
Customer Part No.:	
Ceaiya Part No:	CCM3416F2-600T
Spec No:	Y-22050601

【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

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【Version of Changed Record】

Rev.	Effective Date	Changed Contents	Change Reasons	Approved By
A0	2022-05-05	New release	/	Li qing hui

1. Features

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

2) CCM3416F2 series reealizes small size and low profile. 3.4*1.6*2.0mm

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

2. Product Description and Identification (Part Number)

CCM	3416	F	2	-	600	T
①	②	③	④		⑤	⑥

① Series
② Dimension
③ Material Ferrite Core
④ Number of Lines 2=2 lines
⑤ Inductance 600=60uH
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:**

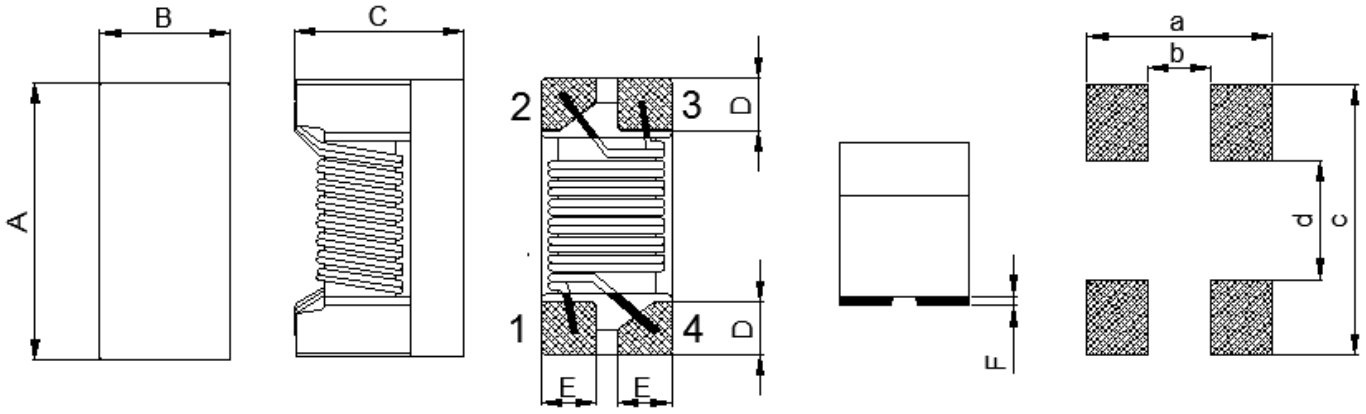


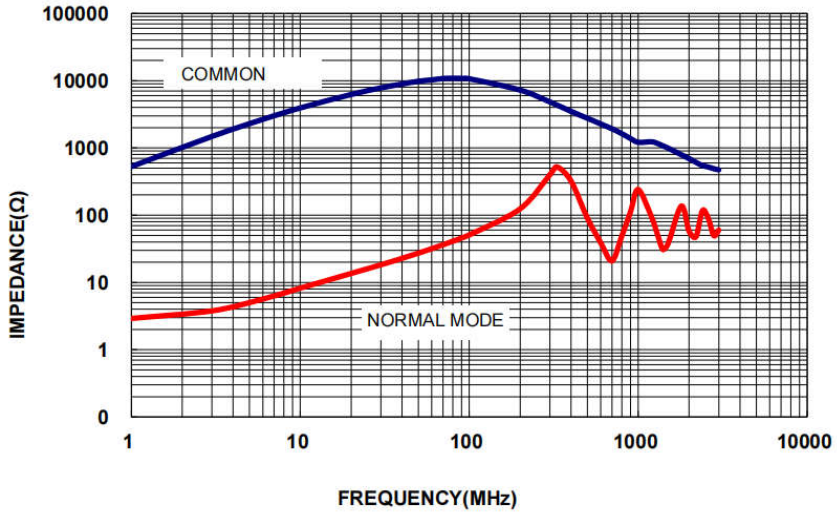
Fig4-1.

Table 4-1.

A	B	C	D	E	F	a	b	c	d
3.4±0.2	1.6±0.2	2.0±0.2	0.66±0.2	0.64±0.2	0.12 Ref	1.7 Ref	0.5 Ref	3.7 Ref	2.3 Ref

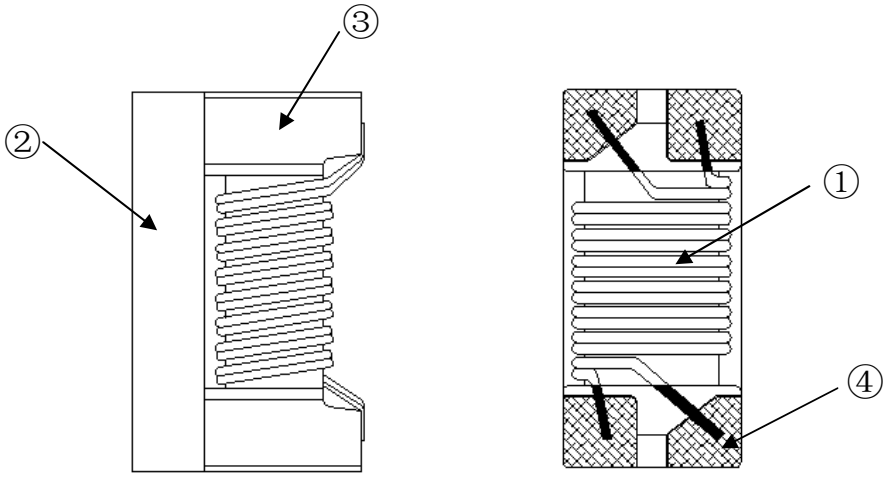
4. Electrical Characteristics

Part Number	Inductance(uH) [100KHz/0.1V] Min.	Capacitance (pF)Max	DC Resistance (Ω)Max.	Rated Current (mA)	Rated Volt. (Vdc)	Withstand Volt. (Vdc) Max.
CCM3416F2-600T	60	18	1.7	200	50	125



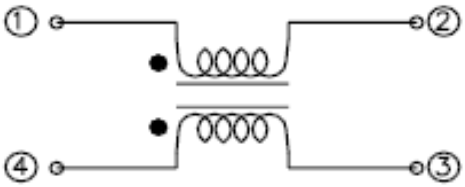
5. Structure

The structure of CCM3416F2 product.

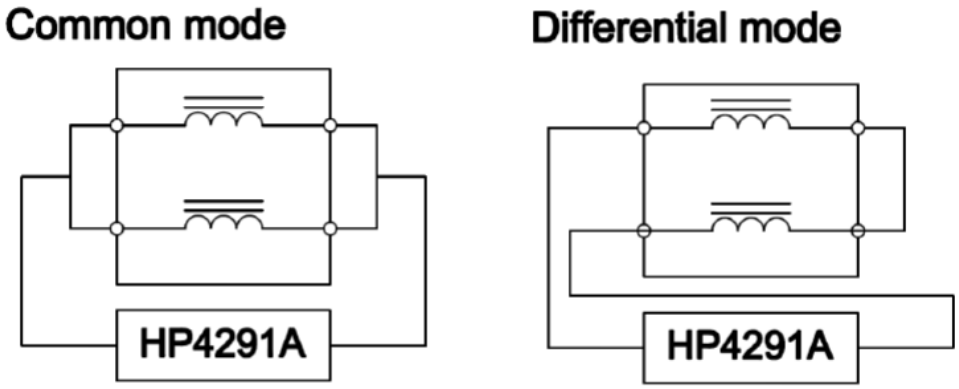


No	Part	Material
①	WIRE	Grade 180
②	Cover sheet	Ferrite
③	CORE	Ferrite
④	TERMINAL	Ag/Cu/Ni/Sn

6. Schematic Diagram

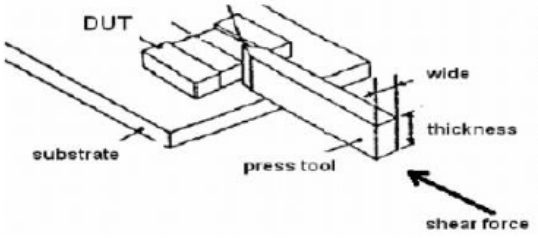


7. Measuring Circuits 2 line



8. Reliability and Test Coondition

Item	Performance	Test Condition
Operating temperature	-40˚C~+85˚C (Including self - temperature rise	
Storage temperature	-40˚C~+85˚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: 85±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="3">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℃ R.H.
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 2times.
(IPC/JEDECJ-STD-020D Classiification Reflow Profiles)
Step1: -40±2℃ 30±5min
Step2: 25±2℃ ≤0.5min
Step2: 85±2℃ 30±5min
Number of cycles: 500
Measured at room temperature after placing for 24±2℃hrs</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℃, 60sec.
Solder: Sn99%, Ag0.3%,Cu0.7%
Temperature: 245±5℃
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 (℃)</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.

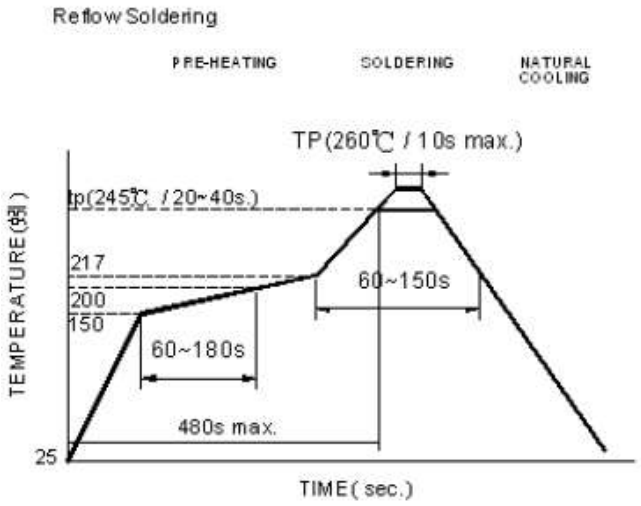
9-1.1 Solder re-flow:

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

9-1.2 Soldering Iron (Figure 2):

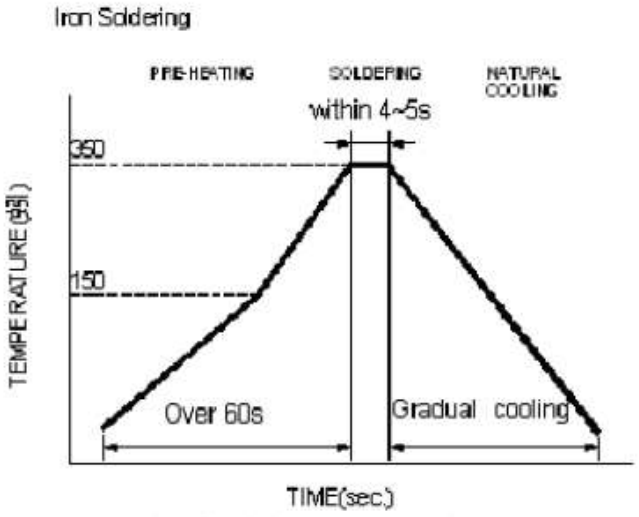
Products attachment with a soldering iron is discouraged due to the inherent process control limitations. In the event that a soldering iron must be employed the following precautions are recommended.

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

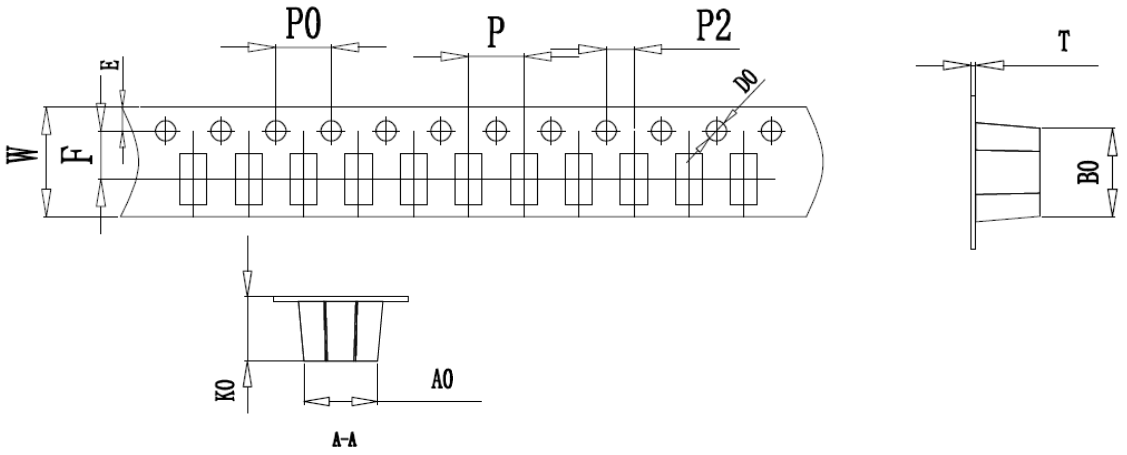


Iron Soldering times: 1 times max.

Fig.2

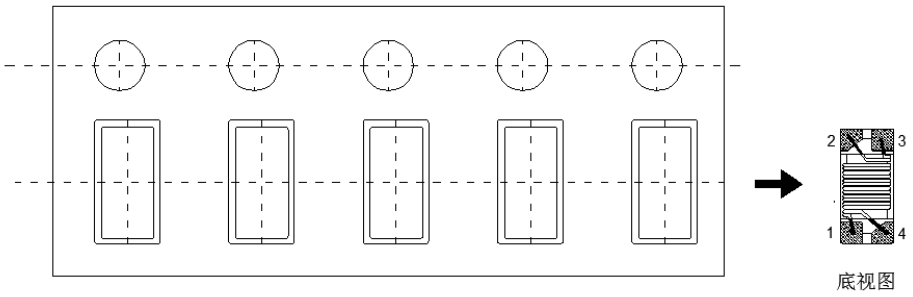
10.Packaging and Marking:

10-1.Carrier Tape Dimensions:



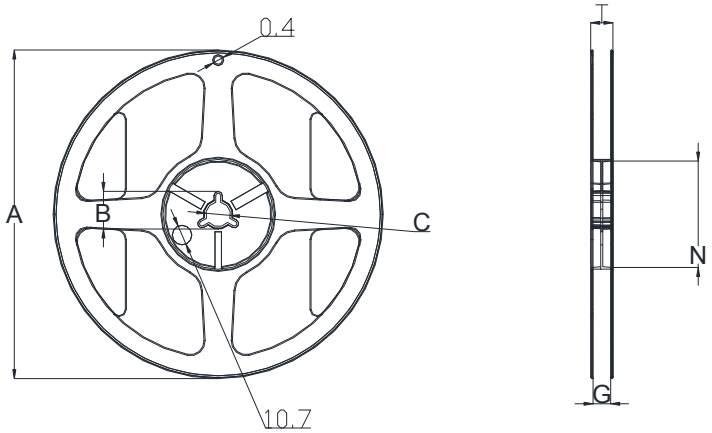
ITEM	W	A0	B0	K0	P	F	E	D0	P0	P2	T
DIM	8.00	1.95	3.7	2.4	4.00	3.5	1.75	1.50	4.00	2.00	0.25
TOLE	±0.3	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	+0.1	±0.1	±0.1	±0.05

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