



深圳市宏業興電子有限公司

Shenzhen HongyeX Electronics Co.,Ltd.

檔編號 Document number:

HYSP-PN000XX

版本編碼 Version number:

A2

## 產品規格書

### PRODUCT SPECIFICATION

客戶名稱

CUSTOMER

宏業產品系列

DCM321620F-600-2P-T 系列

PRODUCT SERIES

宏業規格型號

PRODUCT TYPE

客戶型號規格

CUSTOMER'S PRODUCT TYPE

研發	品質	業務	批准

深圳市宏業興電子有限公司 SHENZHEN HONGYEX ELECTRONICS CO.,LTD.

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公司地址: 廣東省深圳市福田區深南中路佳和大廈 A 座 23 層

Company address: 23/F,Block A,Jiahe building,Shenzhen City,Guangdong Province,China

工廠地址: 惠州市羅陽鎮鴻達工業區五號宏業興工業園

Factory address:Hongyexing Industrial Park, No.5, Hongda Industrial Zone,Luoyang Town,Huizhou City,Guangdong Province,China

備註 REMARK:

客戶回簽 CUSTOMER APPROVAL

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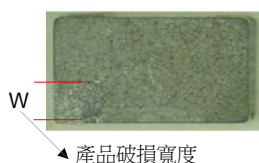
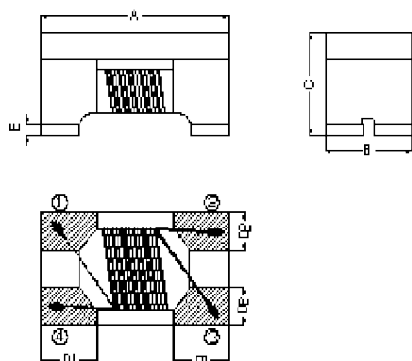
ECN HISTORY LIST					
REV	DATE	DESCRIPTION	APPROVED	CHECKED	DRAWN
1.0	17/06/04	新發行	陈俊豪	林志鴻	徐权
1.1	19/11/15	更新示意圖圖面	陈俊豪	林志鴻	徐权
備 註					

## 1.Features

1. High common mode impedance at high frequency cause excellent noise suppression performance.
2. DCM321620F-600-2P-T series realizes small size and low profile.  $3.2 \times 1.6 \times 2.0\text{MM}$
3. 100% Lead (Pb) & Halogen-Free and RoHS compliant.



## 2.Dimension



當破損面積 < 5%, 產品列入允收品範圍

PC board should be designed so that products are not sufficient under mechanical stress as warping the board.  
Products shall be positioned in the sideway direction against the mechanical stress to prevent failure.

Series	A(mm)	B(mm)	C(mm)	D1(mm)	D2(mm)	E(mm)	L(mm)	H(mm)	G1(mm)	G2(mm)
DCM321620F	3.4±0.2	1.6±0.2	2.0±0.2	0.64±0.1	0.66±0.1	0.12(TYP)	3.7	1.7	23	0.5

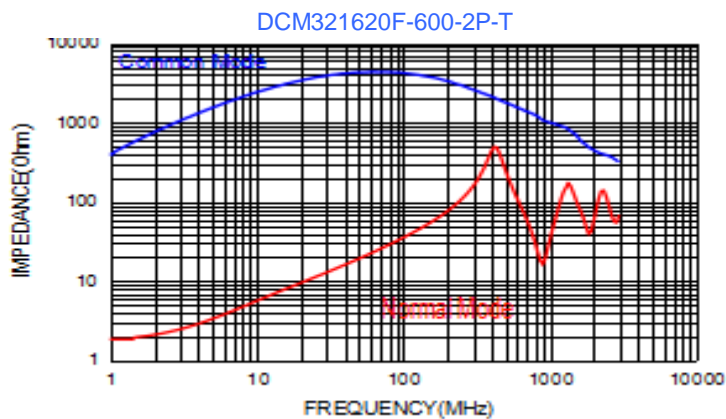
## 3.Part Numbering

DCM 321620 F -600 -2P- T  
A B C D E F

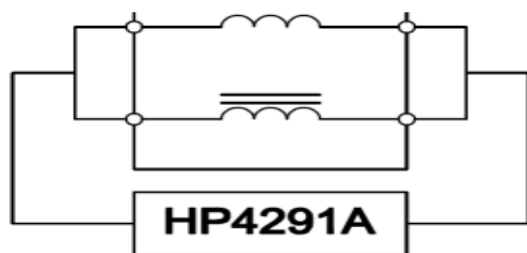
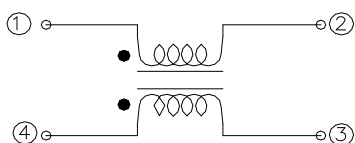
- A: Product SeriesCore
- B: Size Core
- C: Shielding Type
- D: Nominal Impedance  
Expressed in uH 以 uH 表示,  
Example: 例如: 600=60uH
- E: Number of line
- F: Taping style

## 4.Specification

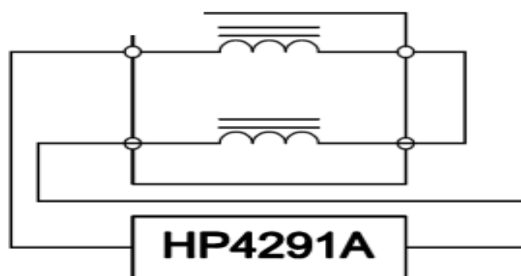
Part Number	Inductance(uH) [100kHz/0.1V] Min.	Capacitance (pF)Max	DC Resistance (Ω)Max.	Rated Current (mA)	Rated Volt. (Vdc)	Withstand Volt.(Vdc) max.	IR(Ω) min.
DCM321620F-600-2P-T	60	18	1.7	200	50	125	10M



### 5.Schematic Diagram

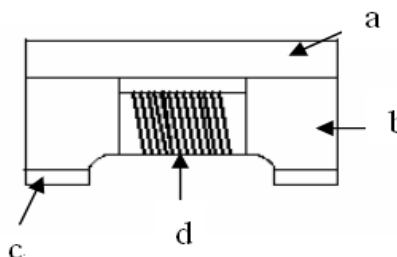


### al mode



### 6. Materials

No.	Description	Specification
a.	UpperPlate	Ferrite
b.	Core	FerriteCore
c.	Termination	Tin(PbFree)
d.	Wire	EnameledCopperWire



## 7. Reliability and Test Condition

Item	Performance	TestCondition
Operatingtemperature	-40~+85°C(Includingself-temperature rise)	
Storagetemperature	-40~+85°C(onboard)	
<b>Electrical Performance Test</b>		
Z(commonmode)	Refertostandardelectricalcharacteristics list.	Agilent-4291A+Agilent -16197A
DCR		Agilent-4338B
I.R.		Agilent4339
Temperature RiseTest	Rated Current <1A    ΔT20°C Max Rated Current ≥ 1A    ΔT40°C Max	1.pplied theallowed DC current. 2.Temperaturemeasuredbydigitalsurface thermometer
<b>ReliabilityTest</b>		
LifeTest	Appearance : No damage.Impedance : within±15%of initial value RDC : within±15% of initialvalue and shall not exceedthe specificationvalue	Preconditioning:RunthroughIReflowfor2times.(IPC/JEDEC J-STD-020DClassificationReflowProfiles) Temperature : 125±2°C Appliedcurrent : ratedcurrentDuration : 1000±12hrs Measuredat roomtemperature afterplacingfor24±2hrs
Load Humidity		Preconditioning:RunthroughIReflowfor2times.(IPC/JEDEC J-STD-020DClassificationReflowProfiles Humidity : 85±2%R.H, Temperature : 85°C±2°C Duration : 1000hrs Min.with 100%rated current Measuredat roomtemperature afterplacingfor24±2hrs
Moisture Resistance		Preconditioning:RunthroughIReflowfor2times.(IPC/JEDEC J- STD-020DClassificationReflow Profiles 1. Bakedat50°C for25hrs,measuredatroomtemperatureafter placingfor4hrs. 2. Raisetemperatureto65±2°C 90-100%RHin2.5hrs, and keep3 hours, cooldown to 25°Cin2.5hrs. 3. Raisetemperatureto65±2°C 90-100%RHin2.5hrs,and keep3 hours, cool down to 25°Cin 2.5hrs,keepat25°Cfor2 hrsthen keepat -10°Cfor3hrs 4.Keepat25°C 80-100%RHfor 15minand vibrateatthe frequencyof10to55Hzto 10Hz, measreat roomtemperature afterplacingfor1~2hrs.
Thermal shock		Preconditioning:RunthroughIReflowfor2times.(IPC/JEDEC J- STD-020DClassification ReflowProfiles Conditionfor1 cycle Step1 : -40±2°C30±5min Step2 : 25±2°C ≤0.5min Step3 : 125±2°C30±5min Number ofcycles : 500 Measuredat roomtemperature afterplacingfor24±2hrs
Vibration		Oscillation Frequency: 10 ~ 2K ~ 10Hzfor 20minutes Equipment : Vibrationchecker TotalAmplitude:1.52mm±10% TestingTime: 12 hours(20minutes, 12 cycleseach of3 orientations).



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Item	Performance	Test Condition														
Bending	Appearance : Nodamage. Inductance : within±10%ofinitialvalue RDC : within±15%ofinitialvalueandshall not exceed the specification value	Shallbe mounted ona FR4 substrate of the following dimensions: >=0805 inch(2012mm):40x100x1.2mm <0805inch(2012mm):40x100x0.8mm Bendingdepth: >=0805inch(2012mm):1.2mm <0805inch(2012mm):0.8mm durationof 10 sec.														
Shock		<table border="1"> <thead> <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> </thead> <tbody> <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> </tbody> </table>	Type	Peak value (g's)	Normal duration(D) (ms)	Wave form	Velocity change (Vi)ft/sec	SMD	50	11	Half-sine	11.3	Lead	50	11	Half-sine
Type	Peak value (g's)	Normal duration(D) (ms)	Wave form	Velocity change (Vi)ft/sec												
SMD	50	11	Half-sine	11.3												
Lead	50	11	Half-sine	11.3												
Solderability	More than 95%ofthe terminalelectrode should be covered with solder.	Preheat: 150°C,60sec.。 Solder: Sn96.5%Ag3%Cu0.5% Temperature: 245±5°C。 Fluxfor lead free: Rosin.9.5%。 Dip time: 4±1sec。 Depth: completely cover the termination														
Resistanceto SolderingHeat		Depth: completely cover the termination														
Terminal Strength	Appearance : Nodamage. Inductance : within±10%ofinitialvalue RDC : within±15%ofinitialvalueandshall not exceed the specification value	Preconditioning:RunthroughIReflowfor2times.(IPC/JEDEC J-STD-020DClassificationReflowProfiles WiththecomponentmountedonaPCBwiththedevice tobe tested, applyaforce(>0805:1kg,<=0805:0.5kg)tothesideofa device being tested. This force shall be applied for 60 +1 seconds. Also the force shallbe applied gradually as not to apply a shock tothe component being tested.														

## 8.Soldering and Mounting

### 8-1Soldering

Mildly activated rosin fluxes are preferred. HONGYEX terminations are suitable for all wave and reflow soldering systems. If handsoldering cannot be avoided, the preferred technique is the utilization of hot air soldering tools.

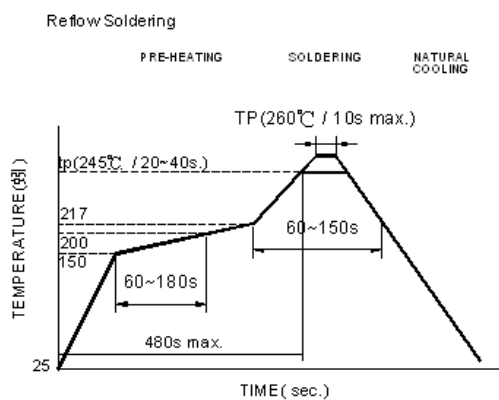
### 8-2LeadFreeSolderre-flow:

Recommended temperature profiles for re-flowsoldering in Figure 1.

### 8-3SolderingIron(Figure2):

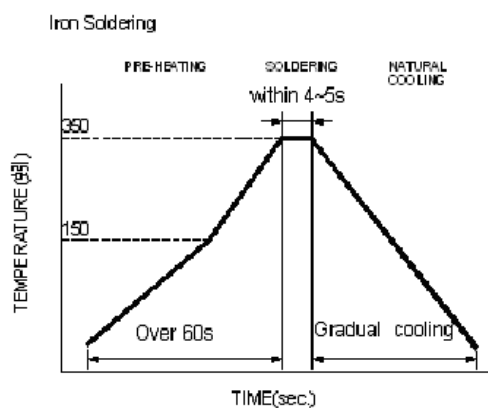
Products attachment with a soldering iron is discouraged due to the inherent process control limitations. In the event that a soldering iron must be employed the following precautions are recommended.

- 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 diameter (max)
- Limit soldering time to 4-5 sec.



Reflow times: 3 times max.

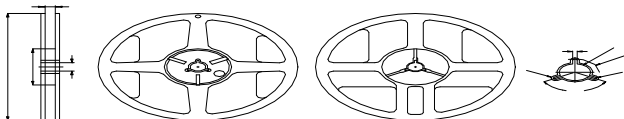
Fig.1



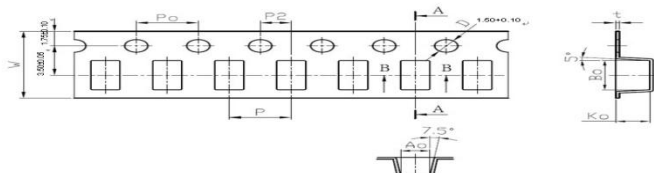
Iron Soldering times: 1 times max.

Fig.2

### 9.Pckaging Information



Type	A(mm)	B(mm)	C(mm)	D(mm)
7"x8mm	9.0±0.5	60±2	13.5±0.5	178±2

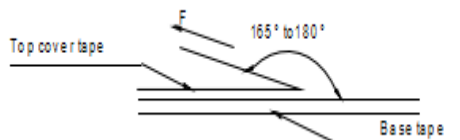


Series	P(mm)	P0(mm)	P2(mm)	B0(mm)	A0(mm)	K0(mm)	W(mm)	t(mm)
DCM321620F	4.00±0.10	4.00±0.10	2.00±0.05	3.50±0.10	1.88±0.10	2.20±0.10	8.00±0.10	0.26±0.05

#### 9.1Packaging Quantity

Chipsize	Chip/Reel	InnerBox	MiddleBox	Carton
DCM321620F	2000	10000	50000	100000

#### 9.2TearingOffForce



The force for tearing off cover tape is 15 to 80 grams in the arrow direction under the following conditions.

Room Temp. (°C)	Room Humidity (%)	Room atm (hPa)	Tearing Speed mm/min
5-35	45-85	860-1060	300

#### Application Notice

##### -Storage Conditions (component level)

To maintain the solderability of terminal electrodes:

1. HY products meet IPC/JEDEC J-STD-020D standard-MSL, level 1.
2. Temperature and humidity conditions: Less than 40°C and 60% RH.
3. Recommended products should be used within 12 months from the time of delivery.
4. 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.