

Data Sheet

Customer:

Product: Automotive Grade Wire Wound Common Mode Filter–CFH..A series

Part No.: CFH122T201A

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VIKING TECH CORPORATION
光韻科技股份有限公司
No.70, Guangfu N. Rd.,
Hukou Township, Hsinchu County
303, Taiwan (R.O.C)

TEL:886-3-5972931
FAX:886-3-5972935•886-3-5973494
E-mail:sales@viking.com.tw

VIKING TECH CORPORATION KAOHSIUNG BRANCH
光韻科技股份有限公司高雄分公司
No.248-3, Sin-Sheng Rd., Cian-Jhen Dist., Kaohsiung,
806, Taiwan

TEL:886-7-8217999
FAX:886-7-8228229
E-mail:sales@viking.com.tw

WUXI TMTEC CO., LTD.
無錫泰銘電子有限公司
No.22 Xixia Road, Machinery & Industry Park,
National Hi-Tech Industrial Development Zone
of Wuxi, Wuxi, Jiangsu Province, China
Zip Code:214028
TEL:86-510-85203339
FAX:86-510-85203667•86-510-85203977
E-mail:china@viking.com.tw

Produced by (QC)	Checked (QC)	Approved by (QC)	Prepared by (Sales)	Accepted by (Customer)
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<i>Kris Chen</i>	<i>Ben Chang</i>	<i>Ben Chang</i>		

Automotive Grade Wire Wound Common Mode Filter

■ Features

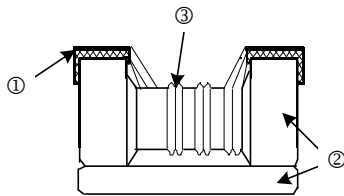


- High common mode impedance at high frequency effects excellent noise suppression performance
- Small sizes and low profile
- 100% Lead(Pb) & Halogen-Free and RoHS compliant
- AEC-Q200 Compliance

■ Applications

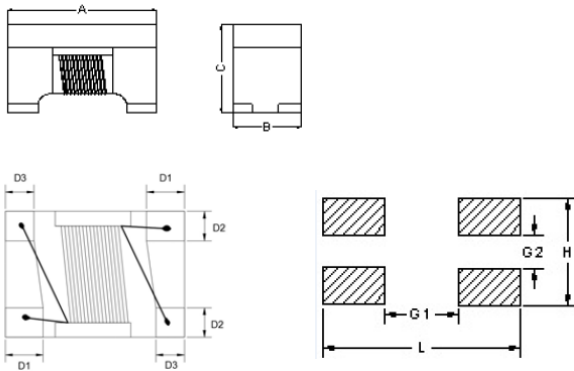
- DSI / BST / CAN-Bus / Flex-Ray / Ethernet

■ Construction



①	Terminal	②	Ferrite	③	Enameled Copper Wire
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■ Dimensions



Unit : mm

Type	Size (Inch)	A	B	C	D1	D2	D3	L	H	G1	G2
CFH12	1812	4.5±0.2	3.2±0.2	2.8±0.15	0.8±0.2	0.85±0.2	0.60±0.2	5.0	3.6	3.4	1.7

Automotive Grade Wire Wound Common Mode Filter

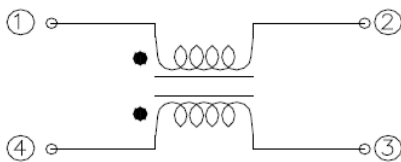
Part Numbering

CF	H	12	2	T	201	A
Product Type	Shielding Type H: Shielding	Dimensions 12: 1812	Inductance Tolerance 2: +60/-20uH	Packaging Code T: Taping Reel	Inductance 201: 200uH	Function Code A: Automotive Grade

Standard Electrical Specifications

Part No.	Inductance(uH) @100KHz, 0.1V	Inductance Tolerance	DCR (Ω) max.	IDC (mA) max.	Rated Voltage Vdc (V) typ.	Insulation Resistance (MΩ) min.
CFH122T201A	200	+60/-20uH	4.5	100	50	10

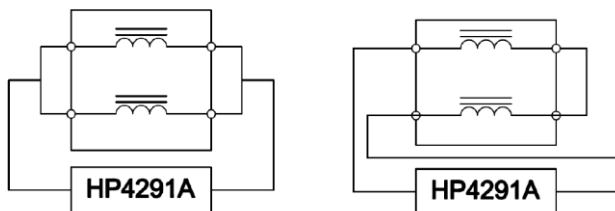
Schematic Diagram



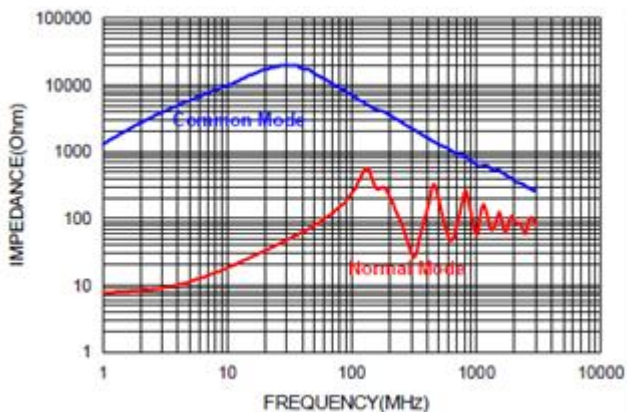
Measuring Circuits 2Line

Common mode

Differential mode



Characteristics (Impedance vs. Frequency)



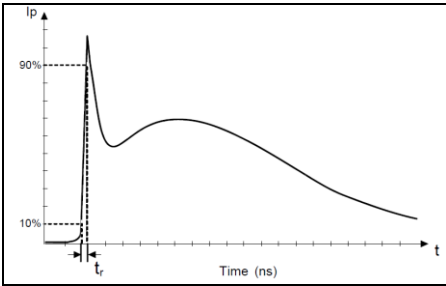
Automotive Grade Wire Wound Common Mode Filter

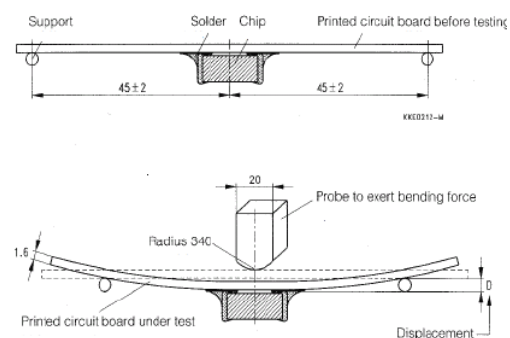
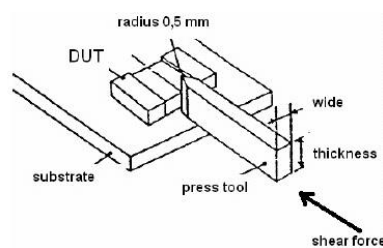
Environmental Characteristics

Electrical Performance Test

Items	Requirement	Test Methods
Inductance	Refer to standard electrical characteristic spec. Component should not be damaged	LCR Meter HP 4291A+16197A
DC Resistance DCR		Agilent-4338B
Insulation Resistance (I.R)		Agilent-4339
Temperature Rise Test	Rated current<1A ΔT 20°C max Rated current>1A ΔT 40°C max	Applied the allowed DC current Temperature measured by digital surface thermometer

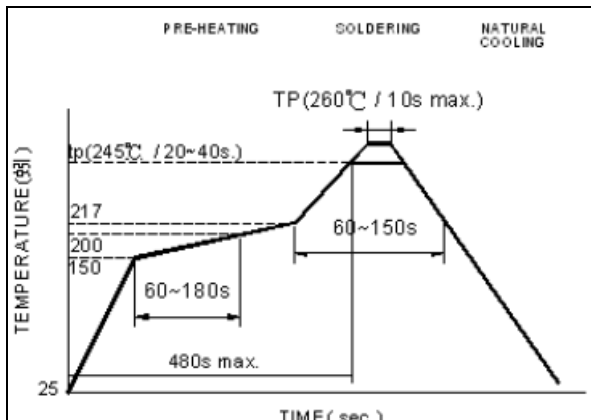
Mechanical Performance Test

Items	Requirement	Test Methods
High Temperature Exposure	Appearance: No damage Inductance: Within±10% of initial value RDC: Within±15% of initial value and Shall not exceed the specification value	at +125±2°C for 1000 hrs Measured at room temperature after placing for 24±2 hrs
Temperature Cycling		-40±2°C to +125±2°C, 1000 hrs Measured at room temperature after placing for 24±2 hrs
Moisture Resistance		1.Baked at50°C for 25hrs, measured at room temperature after placing for 4 hrs. 2.Raise temperature to 65±2°C 90-100%RH in 2.5hrs, and keep 3 hours, cool down to 25°C in 2.5hrs. 3.Raise temperature to 65±2°C 90-100%RH in 2.5hrs, and keep 3 hours, cool down to 25°C in 2.5hrs,keep at 25°C for 2hrs then keep at -10°C for 3hrs 4.Keep at 25°C 80-100%RH for 15min and vibrate at the frequency of 10 to55 Hz to 10 Hz, measure at room temperature after placing for 1~2 hrs.
Biased Humidity		1000 hrs 85±2°C/85±3%RH 100% rated current Measured at room temperature after placing for 24±2 hrs
Operational Life		at +125±2°C for 1000 hrs with 100% rated current Measured at room temperature after placing for 24±2 hrs
External Visual	Appearance : No damage	Inspect device construction, marking and workmanship. Electrical Test not required.
Physical Dimension	According to the product specification size measurement	According to the product specification size measurement
Resistance to Solvents	Appearance: No damage	Add aqueous wash chemical - OKEM clean or equivalent
Mechanical Shock	Appearance: No damage Inductance: Within±10% of initial value RDC: Within±15% of initial value and Shall not exceed the specification value	Wave form: sine shock Peak value is 100g's. Normal duration (D) is 6ms Velocity change(Vi) ft/sec: 12.3 shocks in each direction along 3 perpendicular axes.
Vibration		Oscillation Frequency: 10~2K~10Hz for 20 minute Equipment : Vibration checker Total Amplitude:1.52mm±10% Testing Time : 12 hours(20 minutes, 12 cycles each of 3 orientations)
Resistance to Soldering Heat		260±5°C for 10±1 seconds
Thermal shock		-40±2°C to +125±2°C, 300 cycles Measured at room temperature after placing for 24±2 hrs
ESD	Appearance: No damage	

Items	Requirement	Test Methods
Solderability	95% min. coverage	Steam Aging: 8 hours ± 15 min, Preheat: 150°C, 60sec. Solder: Sn96.5% Ag3% Cu0. 5%, Temperature: 245±5°C ° Flux for lead free: Rosin. 9.5%, Dip time: 4±1sec. Depth: completely cover the termination
Electrical Characterization	Refer Specification for Approval	Summary to show Min, Max, Mean and Standard deviation
Flammability	Electrical Test not required	V-0 or V-1 are acceptable
Board Flex	Appearance : No damage	Place the 100mm X 40mm board into a fixture similar to the one shown in below Figure with the component facing down. The apparatus shall consist of mechanical means to apply a force which will bend the board (D) x 2 mm minimum. The duration of the applied forces shall be 60 (+ 5) sec. The force is to be applied only once to the board 
Terminal Strength(SMD)	Appearance : No damage	With the component mounted on a PCB with the device to be tested, apply a 17.7 N (1.8 Kg) force to the side of a device being tested. This force shall be applied for 60 +1 seconds. Also the force shall be applied gradually as not to apply a shock to the component being tested 

■ Storage Temperature: 15~28°C; Humidity < 80%RH

The condition of reflow (recommendation):



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