

Data Sheet

Customer:

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

Part No.: CFH122T201A

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Automotive Grade Wire Wound Common Mode Filter

■ Features

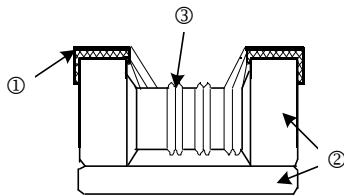


- High common mode impedance at high frequency effects excellent noise suppression performance
- Small sizes and low profile
- 100% Lead(Pb) & Halogen-Free and RoHS compliant
- AEC-Q200 Compliance

■ Applications

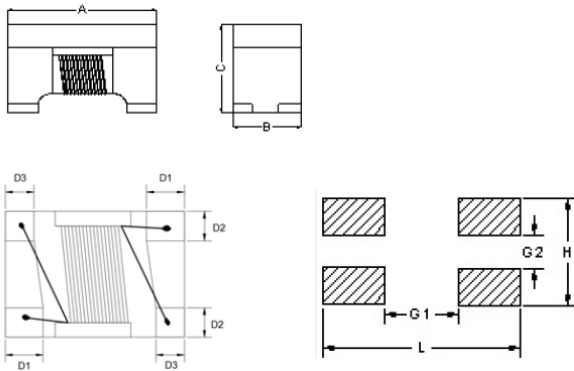
- DSI / BST / CAN-Bus / Flex-Ray / Ethernet

■ 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

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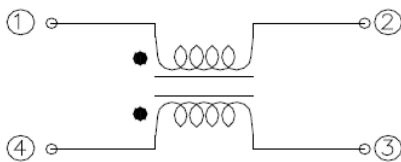
Part Numbering

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

Standard Electrical Specifications

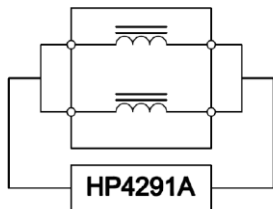
Part No.	Inductance(uH) @100KHz, 0.1V	Inductance Tolerance	DCR (Ω) max.	IDC (mA) max.	Rated Voltage Vdc (V) typ.	Insulation Resistance (MΩ) min.
CFH122T201A	200	+60/-20uH	4.5	100	50	10

Schematic Diagram

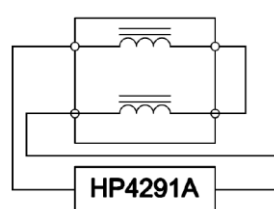


Measuring Circuits 2Line

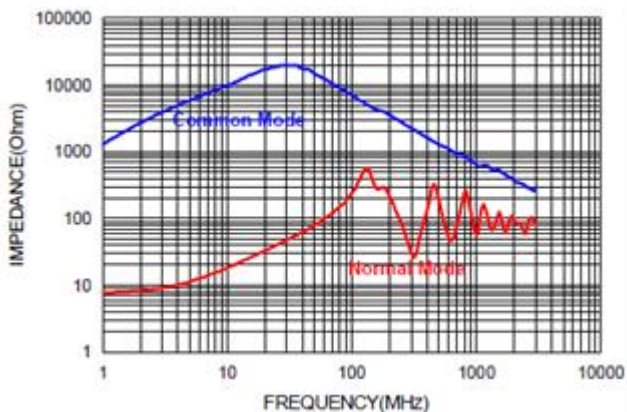
Common mode



Differential mode



Characteristics (Impedance vs. Frequency)



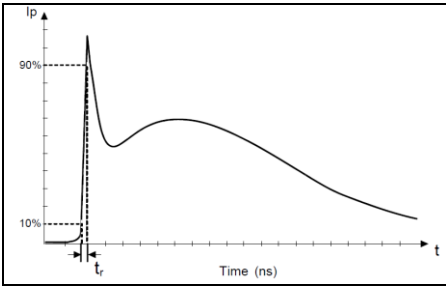
Automotive Grade Wire Wound Common Mode Filter

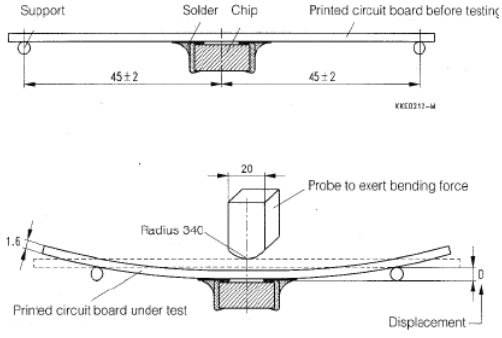
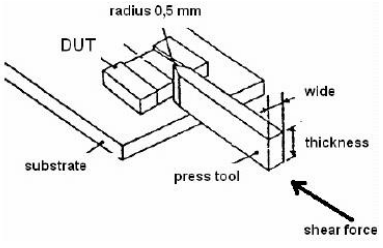
Environmental Characteristics

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

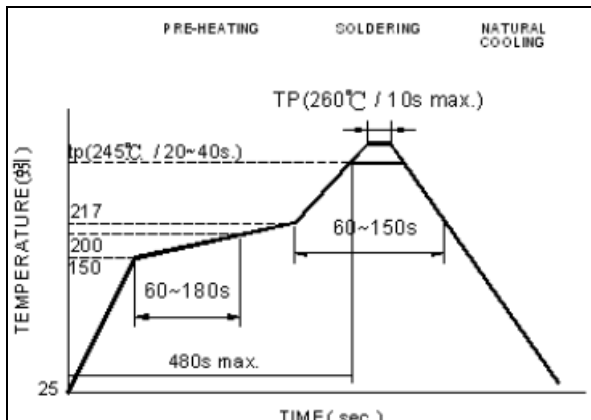
Mechanical Performance Test

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

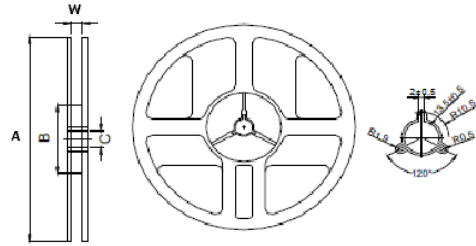
The condition of reflow (recommendation):



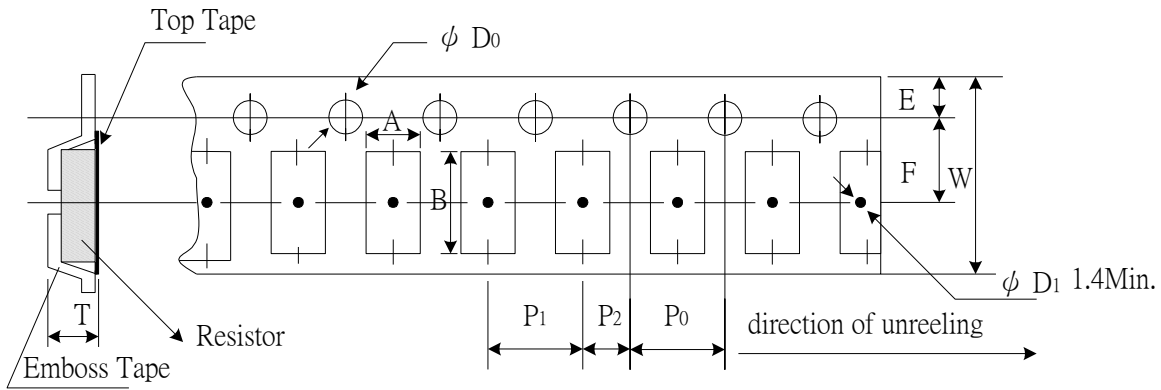
■Packaging

Packaging Quantity & Reel Specifications

Type	A	B	C	W	Quantity (EA)
CFH12	178±2.0	60±2.0	13.5±0.5	13.5±0.5	500



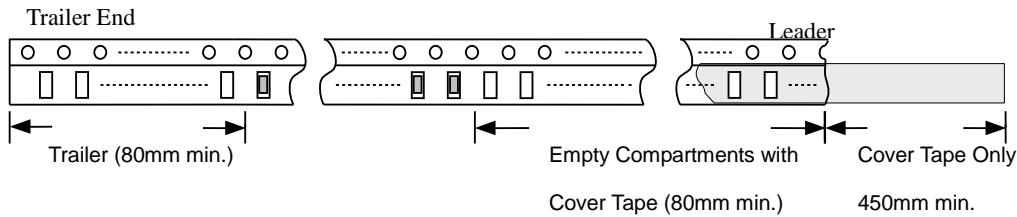
Embossed Plastic Tape Specifications



Unit: mm

Type	A	B	W	E	F	P0	P1	P2	ΦD_0	T
CFH12	3.60±0.10	4.90±0.10	12.0±0.10	1.75±0.10	5.5±0.05	4.00±0.10	8.00±0.10	2.00±0.05	1.50+0.10	3.26±0.10

Leader / Tape



Peel-off Force

The force for tearing off cover tape is 15~80g in the arrow direction at the following conditions:

Temperature: 5 ~ 35°C

Humidity: 45 ~ 85%

Atmospheric pressure: 860 ~ 1060hpa

Tearing speed: 300mm min

