PRODUCT SPECIFICATION

SPEC. NO: T-0602-171A

新弘智

DATE: Aug.7,2018

CUSTOMER'S PRODUCT NAME:

EMTEK PRODUCT NAME:

CMF4532LC-Series AEC-Q200

THIS SPECIFICATION IS:

☐ FULLY ACCEPTED

☐ DENIED

☐ ACCEPTED UNDER THE FOLLOWING CONDITIONS

RoHS COMPLIANT

SIGNATURE: DATE:

NAME(PRINT):

TITLE:

EMTEK CO., LTD.

FACTORY:
39,Chingao Rd.,(305)Hsinpu,
Hsinchu Hsien,Taiwan,R.O.C
TEL: 03-5894-433
FAX: 03-5894-523

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1. Scope

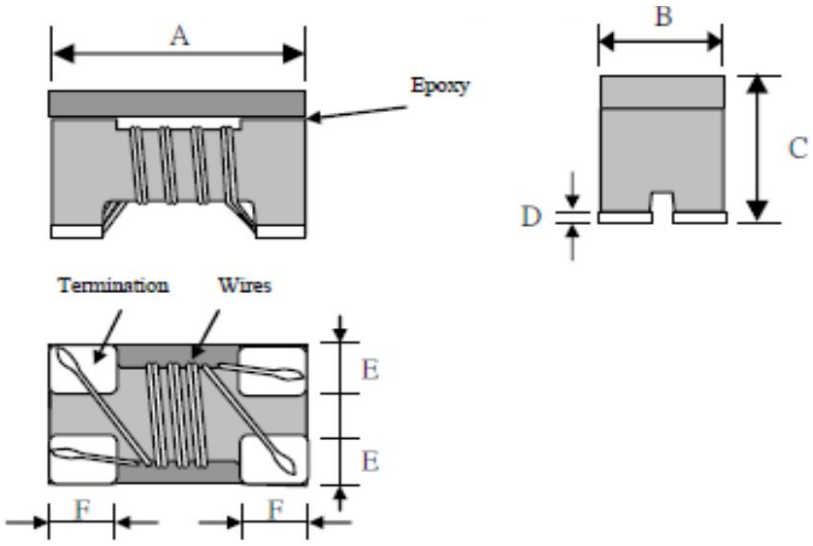
This specification applies ferrite Chip common mode filters CMF4532LC-Series to be delivered to user.

2. Product Identification

CMF 4532 LC - 101 - 2P - T
(1) (2) (3) (4) (5) (6)

(1) Product name
(2) Shapes and dimensions
(3) Automotive
(4) Inductance【 at 100KHz】
101:100Ω
(5) Number of Line
2P:2-Line
(6) For Customer Design

3. Shapes and Dimensions [Dimensions in mm]



A：4.5±0.2 mm
B：3.2±0.2 mm
C：2.7±0.2 mm
D：0.25±0.1 mm
E ：1.2 Typ. mm
F ：1.0 Typ. mm

Drawn by	Checked by	Approved by
Jun.15.2017	Jun.15.2017	Jun.15.2017

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4. Electrical Characterisitics

4-1 Electrical Spec.

Our Product Part Number	Z(Ω) Common Mode Impedance at 10MHz		L(uH) Common Mode Inductance at 100KHz	DCR(Ω) Max.	Idc(mA) Max.	Rated Voltage Vdc (V)Typ.	Withstand Voltage Vdc(V)	Insulation Resistance IR (MΩ)Min.
CMF4532LC-110-2P-T	min.	300	(+50%/-30%)	0.6	250	50	125	10
	typ.	600	11					
CMF4532LC-220-2P-T	min.	500	(+50%/-30%)	1.0	200	50	125	10
	typ.	1200	22					
CMF4532LC-510-2P-T	min.	1000	(+50%/-30%)	1.0	200	50	125	10
	typ.	2800	51					
CMF4532LC-101-2P-T	min.	2000	(+50%/-30%)	2.0	150	50	125	10
	typ.	5800	100					
CMF4532LC-201-2P-T	min.		(+50%/-30%)	4.5	100	50	125	10
	typ.		200					

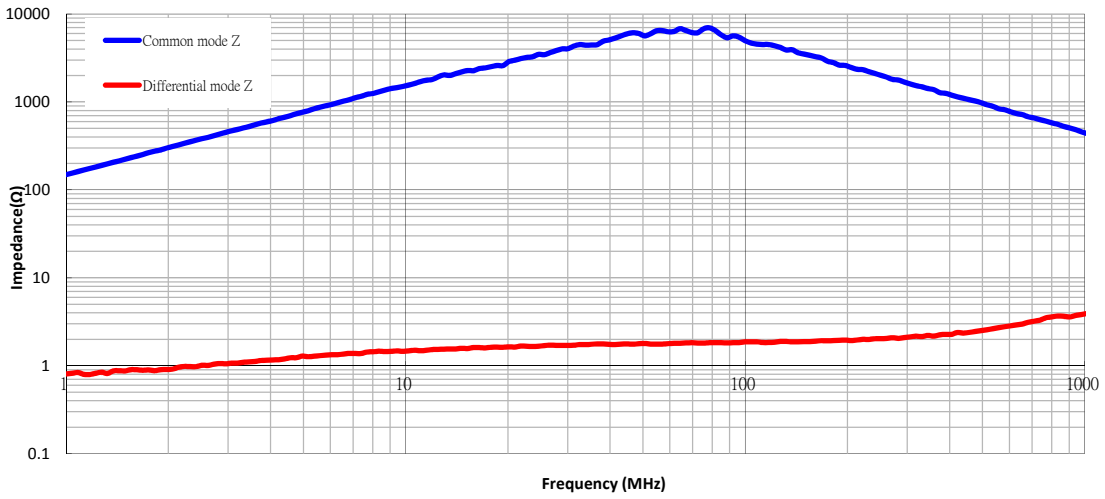
Operating temperature：-40 to 125℃

Storage temp. and humidity：-40 to +85℃，70%RH max

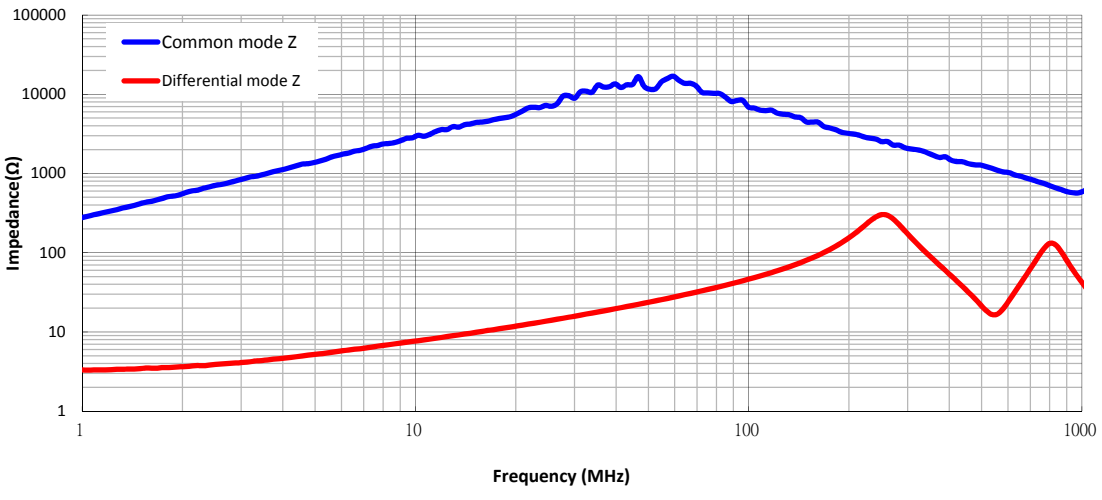
4-2Characteristics(Reference)

4-2-1 Z v.s. Freq.

CMF4532LC-220-2P-T



CMF4532LC-510-2P-T



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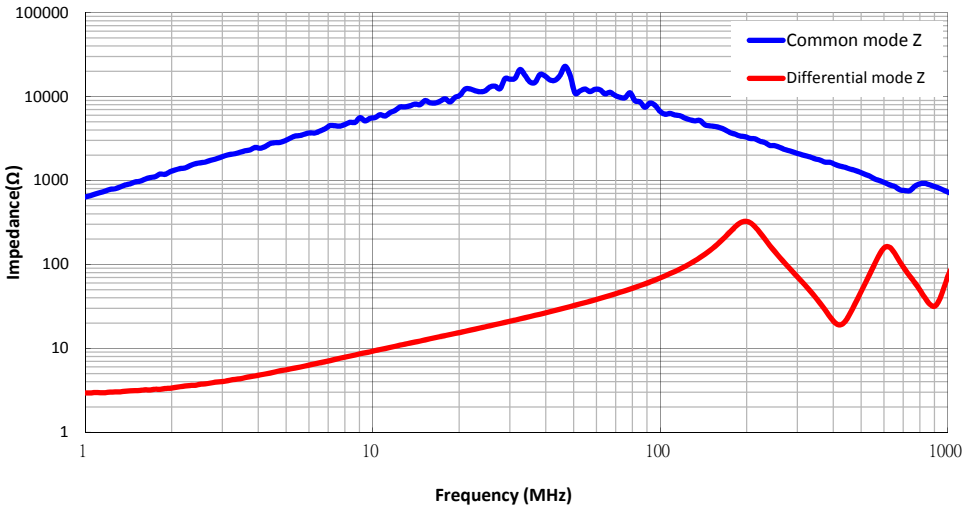
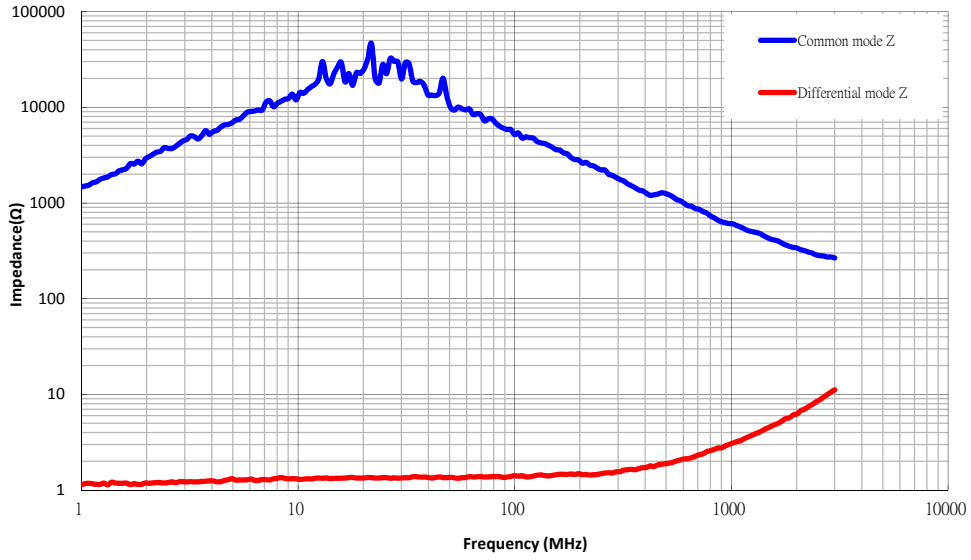
4-2Characteristics(Reference)

4-2-1 Z v.s. Freq.

CMF4532LC-101-2P-T



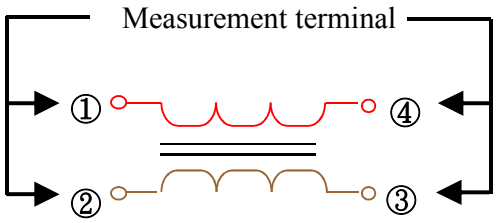
CMF4532LC-201-2P-T



4-3 Test Equipment

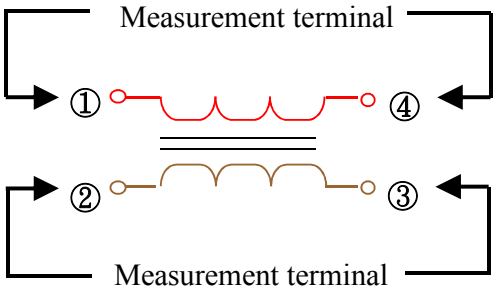
4-3-1 Inductance

Measured by using Agilent HP4284A Precision LCR Meter.



4-3-2 DC Resistance

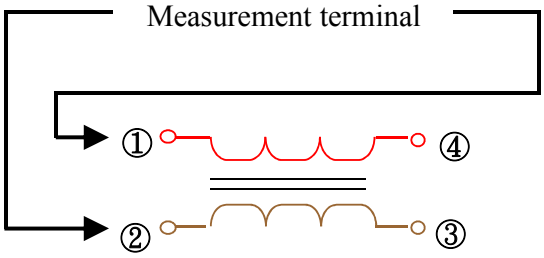
Measured by using Chroma 16502 mill ohm meter.



4-3-3 Insulation Resistance

Measured by using Chroma 19073

Measurement voltage : 50v ,Measurement time：60 sec.



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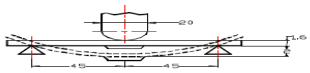
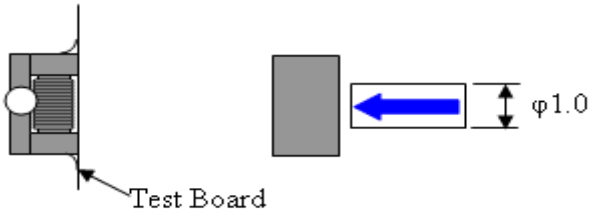
5.Reliability Test

Operating temperature : -40 to +125℃		Storage temp and humidity : 20~25℃ ,60%RH max.
Item	Specifications	Test conditions
Board Flex	The forces applied on the right conditions must not damage the terminal electrode and the ferrite.	Test device shall be soldered on the substrate Substrate Dimension: 100x40x1.6mm Deflection: 2.0mm Keeping Time: 60 sec 
Terminal strength	The chip must not damage the terminal electrode and the ferrite.	Appendix 1 Note(AEC-Q200-006):Force of 1.8 kg for 60 seconds. 
Solderability	The electrodes shall be at least 95% covered with new solder coating.	Pre-heating: 150 ℃, 1min Solder Composition: Sn/3.0Ag/0.5Cu Solder Temperature: 255±5 ℃ Immersion Time: 4±1sec
Resistance to Soldering Heat	Appearance:No damage Inductance change shall be within ±20%.	Pre-heating: 150℃ , 1min Solder Composition: Sn/Ag3.0/Cu0.5 Solder Temperature: 255±5℃ Immersion Time: 10±1sec
Resistance to Solvents	There must be no change in appearance or obliteration of marking.	lnductors must withstand 6 minutes of alcohol or water.
Mechanical Shock	The forces applied on the right conditions must not damage the terminal electrode and the ferrite.	Pulse shape:Half-sine waveform lmpact acceleration:100g Pulse duration : 6ms Number of shocks: 18 shocks (3 shocks for each face) Orientation:Bottom,top,left,right,front and rear faces

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Item	Specifications	Test conditions
Vibration	Appearance:No damage Inductance change shall be within ±20%.	Vibration waveform: Sine waveform Vibration frequency: 10Hz~2000Hz Vibration acceleration: 5g Sweep rate: 0.764386otcave/minute Duration of test: 12 cycles each of 3 orientations 20 minutes for each cycle Vibration axes: X, Y & Z
High Temperature Exposure (Storage)	Appearance:No damage (for microscope of MEIJI WF10X/22) Inductance change shall be within ±30%.	Temperature: 125±3℃ Time:1000hrs Measured after exposure in the room condition for 24hrs
Biased Humidity		Temperature: 85±2℃ Relative Humidity: 85% Time: 1000hrs Measured after exposure in the room condition for 24hrs
Operational Life		Temperature : 125±2℃ Appliend Current : Rated Current Time :1000±24 hrs Measured after exposure in the room condition for 24 hrs
Temperature Cycling		Total cycles: 1000 cycles Temperature Cycling Test Conditions : -40 to +125℃ Soak Mode Condition : 30 minutes Measured after exposure in the room condition for 24hrs

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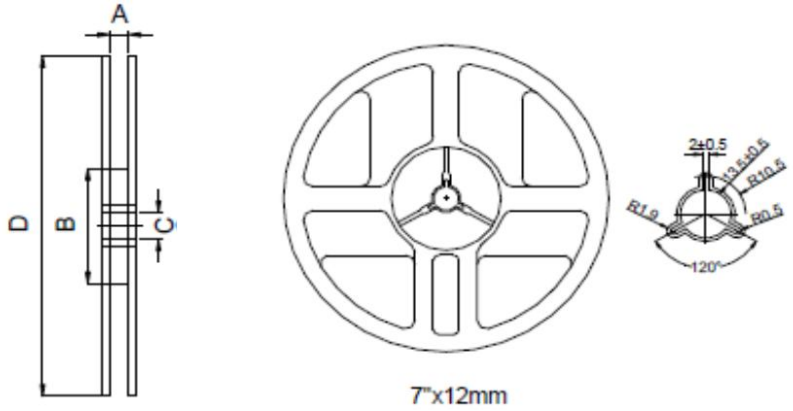
6. Reel Dimension & Tape Dimension

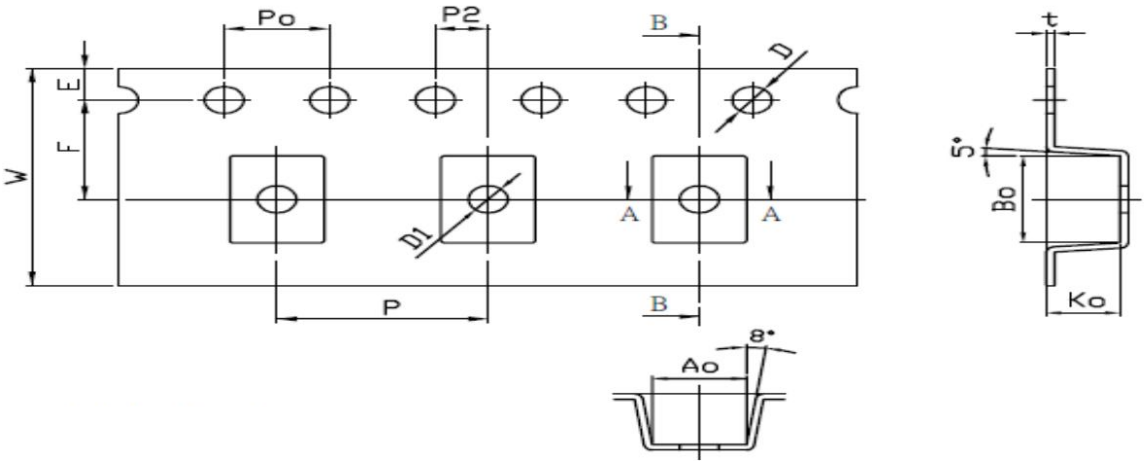
6-1 Reel Dimensions



Unit: mm

A	B	C	D
13.2±0.5	60±2	13±0.5	180±2

6-2 Tape Dimensions



Symbol	W	P	E	F	P2	D	D1	Po	10Po
Dimension	12.00	8.00	1.75	5.50	2.00	1.50	1.50	4.00	40.00
SPEC.	±0.1	±0.1	±0.1	±0.05	±0.05	+0.10 -0.00	±0.1	±0.1	±0.2

Symbol	Ao	Bo	Ko	t
Dimension	3.57	4.80	2.80	0.30
SPEC.	±0.1	±0.1	±0.1	±0.05

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6-3 Packaging Quantity

500pcs/reel

7. Equivalent Circuit & Recommened Footprint