

SPECIFICATION FOR APPROVAL

CUSTOMER: _____

CUSTOMER P/N: _____

DRAWING NO : **C3X2300687**

QUANTITY : **0** **PCS.** **DATE :** **2023/05/25**

CHILISIN P/N : **AWPC00453226601M00**

Automotive Grade Inductor

Halogen Free
RoHS Compliant
REACH Compliant
Lead Free Solders
AEC-Q200

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Drawn by
Anna.Peng

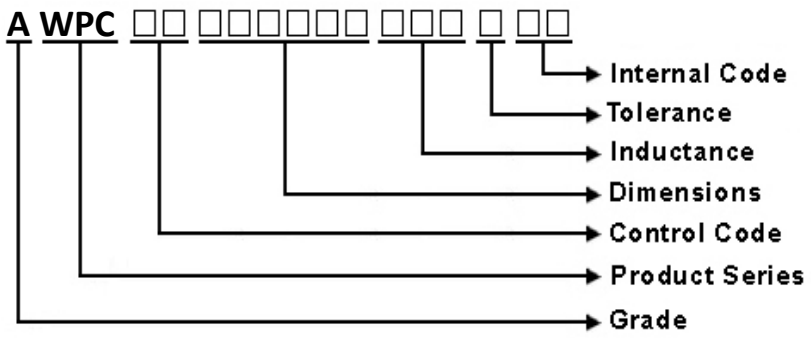
Checked by
peter.lin

Approved by
Jimmy.Kuo

AWPC00453226 SERIES SPECIFICATION AEC-Q200

1 SCOPE: This specification applies to AWPC Series FILTER

2 PART NUMBERING:



3 RATING:

Operating Temperature: - 55°C ~ 125°C
(Including self - temperature rise)

Storage Temperature: - 40°C ~ 125°C
(The storage temperature range is for after the assembly)

4 MARKING

No Marking

5 STANDARD TESTING CONDITION

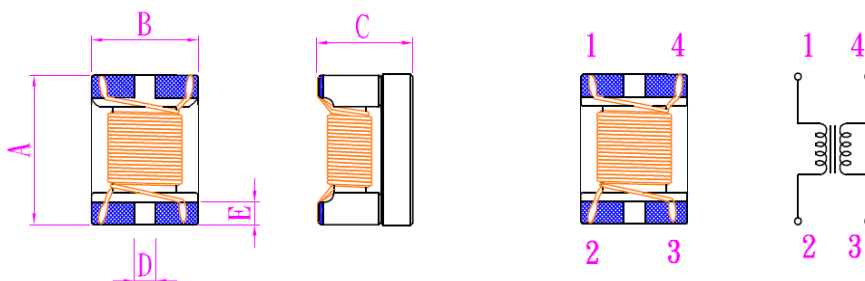
	Unless otherwise specified	In case of doubt
Temperature	Ordinary Temperature(15 to 35°C)	20 to 30°C
Humidity	Ordinary Humidity(25 to 85% RH)	50 to 80 %RH

AWPC00453226 SERIES SPECIFICATION

AEC-Q200

6 CONFIGURATION AND DIMENSIONS

NO Polarity Equivalent circuit



Dimensions in mm

TYPE	A	B	C	D	E
453226	4.5±0.2	3.2±0.2	2.6±0.25	0.7	0.75

7 ELECTRICAL CHARACTERISTICS:

Part No.	Z (Ω)	Test Freq. (MHz)	RDC(mΩ) Max	IDC (A)	Insulation Resistance (MΩ)Min.	Rated Voltage (Vdc)Max.	Tolerance (±%)
AWPC00453226600□00	60	100	30	3.0	10	50	20/25
AWPC00453226900□00	90	100	39	3.0	10	50	20/25
AWPC00453226231□00	230	100	47	2.8	10	50	20/25
AWPC00453226331□00	330	100	58	2.5	10	50	20/25
AWPC00453226421□00	420	100	60	2.2	10	50	20/25
AWPC00453226501□00	500	100	101	2.0	10	50	20/25
AWPC00453226601M00	600	100	82	2.0	10	50	20/25
AWPC00453226701□00	700	100	85	1.9	10	50	20/25
AWPC00453226801□00	800	100	89	1.8	10	50	20/25
AWPC00453226901□00	900	100	110	1.8	10	50	20/25
AWPC00453226102□00	1000	100	113	1.5	10	50	20/25
AWPC00453226142□00	1400	100	148	1.0	10	50	20/25
AWPC00453226202□00	2000	100	150	1.0	10	50	20/25

NOTE : tolerance M:±20% , Y :±25%

1. Operating temperature range – 55°C ~ 125°C (Including self - temperature rise)

2. Z Test Frequency : 100MHz, 0.1V

3. RDC: SINGLE WIRE TEST VALUE

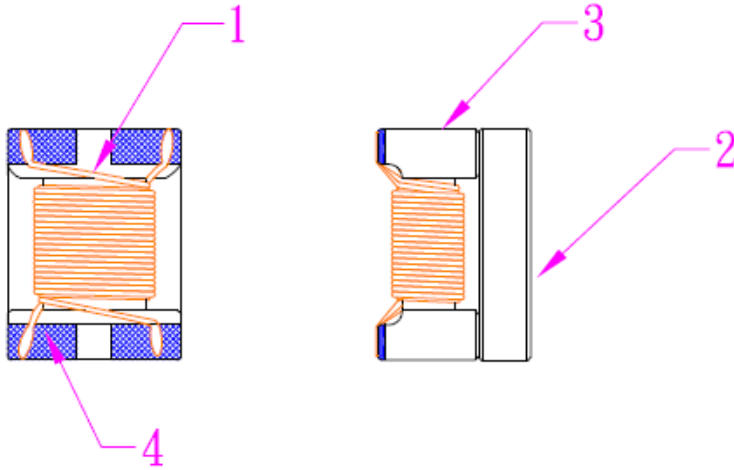
4. Irms for a 15°C temperature rise from 25°C ambient.

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8.1 CONSTRUCTION:



8.2 MATERIAL LIST:

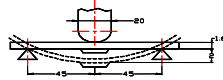
ITEM	PART	DESCRIPTION
1	WIRE	COPPER 180
2	COVER SHEET	FERRITE
3	CORE	FERRITE
4	TERMINAL	Ag/Cu/Ni/Sn

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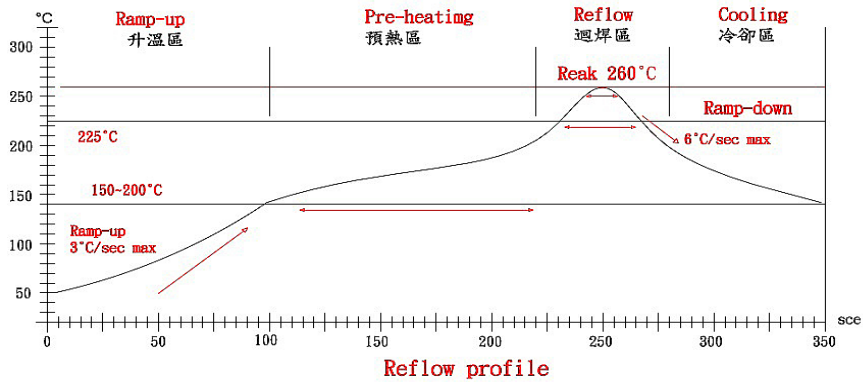
9 Reliability of Common Mode Choke

1-1.Mechanical Performance

No	Item	Specification	Test Method
1-1-1	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 
1-1-2	Terminal Strength	The chip must not damage the terminal electrode and the ferrite.	Appendix 1 Note(AEC-Q200-005):Force of 2Lbs for 60 seconds.
1-1-3	Solderability	The electrodes shall be at least 95% covered with new solder coating.	Pre-heating: 150°C, 1min Solder Composition: Sn/3.0Ag/0.5Cu Solder Temperature: 245±5°C Immersion Time: 4±1sec
1-1-4	Resistance to Soldering Heat	Appearance:No damage Inductance change shall be within ±20%.	Pre-heating: 150°C, 1min Solder Composition: Sn/Ag3.0/Cu0.5 Solder Temperature: 260±5°C Immersion Time: 10±1sec
1-1-5	Resistance to Solvents	There must be no change in appearance or obliteration of marking.	Inductors must withstand 6 minutes of alcohol or water.
1-1-6	Mechanical Shock	The forces applied on the right conditions must not damage the terminal electrode and the ferrite.	Pulse shape : Half-sine waveform Impact acceleration : 100 g Pulse duration : 6 ms Number of shocks : 18 shocks (3 shocks for each face) Orientation : Bottom, top, left, right, front and rear faces
1-1-7	Vibration	Appearance:No damage Inductance change shall be within ±20%.	Vibration waveform: Sine waveform Vibration frequency: 10Hz~2000Hz Vibration acceleration: 5g Sweep rate: 0.764386octave/minute Duration of test: 12 cycles each of 3 orientations 20 minutes for each cycle Vibration axes: X, Y & Z

1-2.Environmental Performance

No	Item	Specification	Test Method
1-2-1	High Temperature Exposure (Storage)	Appearance:No damage (for microscope of CASTOR MZ-45 20X)Inductance change shall be within ±20%.	Temperature: 125±3°C Time: 1000hrs Measured after exposure in the room condition for 24hrs
1-2-2	Low Temperature Exposure (Storage)		Temperature: -55±3°C Time: 1000hrs Measured after exposure in the room condition for 24hrs
1-2-3	Biased Humidity		Temperature: 85±2°C Relative Humidity: 85% Time: 1000hrs Measured after exposure in the room condition for 24hrs
1-2-4	Temperature Cycling		Total cycles: 1000 cycles Temperature Cycling Test Conditions : -55 to +125 °C Soak Mode Condition : 30 minutes Measured after exposure in the room condition for 24hrs
1-2-5	Operational Life		Temperature: 125±2°C Applend Current : Rated Current Time: 1000± 24 hrs Measured after exposure in the room condition for 24hrs
1-2-6	ESD		Test mode : Contact Discharge Discharge level : ±6KV, Discharge interval : 1 second Polarity of the output voltage : Positive and negative Number of discharge : Discharge +/- for 1 time for the 2 test points. Test Mode : Air Discharge Discharge level : ±12KV, ±16KV, ±25KV Discharge interval : < 5 seconds Polarity of the output voltage : Positive and negative Number of discharge : Discharge +/- for 1 time for the 1~2 test points.



Lead-Free(LF)標準溫度分析範圍

Refer to J-STD-020C

管制項目 Item	升溫區 Ramp-up	預熱區 Pre-heating	迴焊區 Reflow	Reak Temp	冷卻區 Cooling
溫度範圍 Temp. scope	R. T. -150°C	150°C -200°C	225°C -230°C	260±5°C	Reak Temp. -150°C
實際時間 Time result	—	60-180 sec	20-60 sec	5-10 sec	—

NOTE:

1. Re-flow possible times : within 2 times
2. Nitrogen adopted is recommended while in re-flow

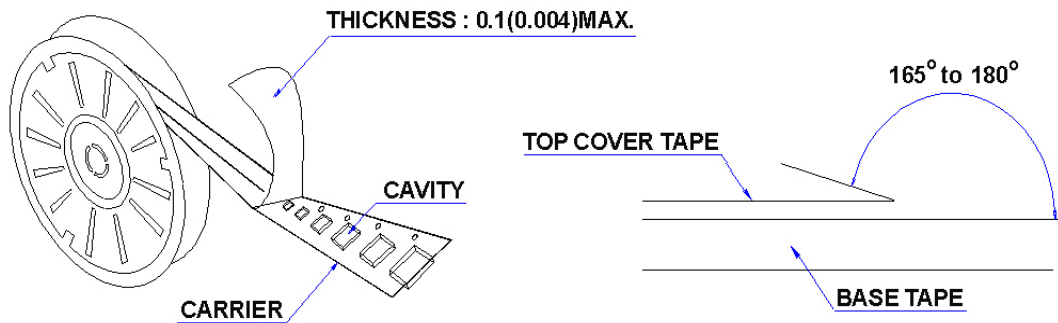
AWPC00453226 SERIES SPECIFICATION

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10 PACKAGING:

10.1 PACKAGING-COVER TAPE

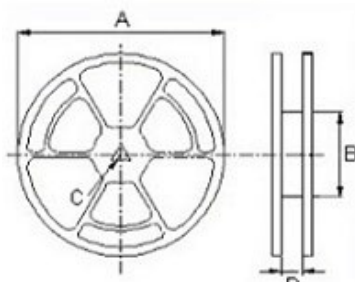
The force for tearing off cover tape is 10 to 130 grams in the arrow direction.



10.2 PACKAGING QUANTITY

TYPE	PCS/REEL
453226	2500

10.3 REEL DIMENSIONS



Dimensions in mm

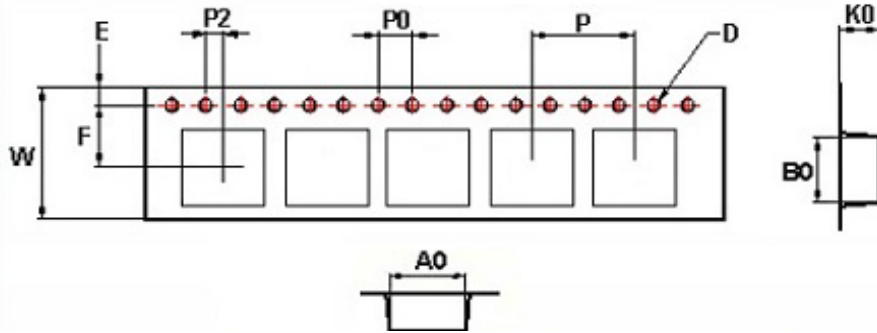
TYPE	A	B	C	D
453226	330	100	13	13.4

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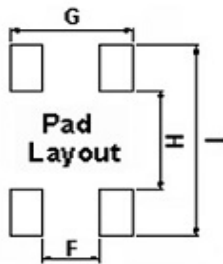
10 PACKAGING:

10.4 TAPE DIMENSIONS IN MM



TYPE	A0	B0	K0	D	E	F	W	P	P0	P2
453226	3.6	4.9	3.0	1.5	1.75	5.50	12	8	4	2

11 RECOMMENDED LAND PATTERN:



TYPE	F	G	H	I
453226	0.6	3.4	3	5.9

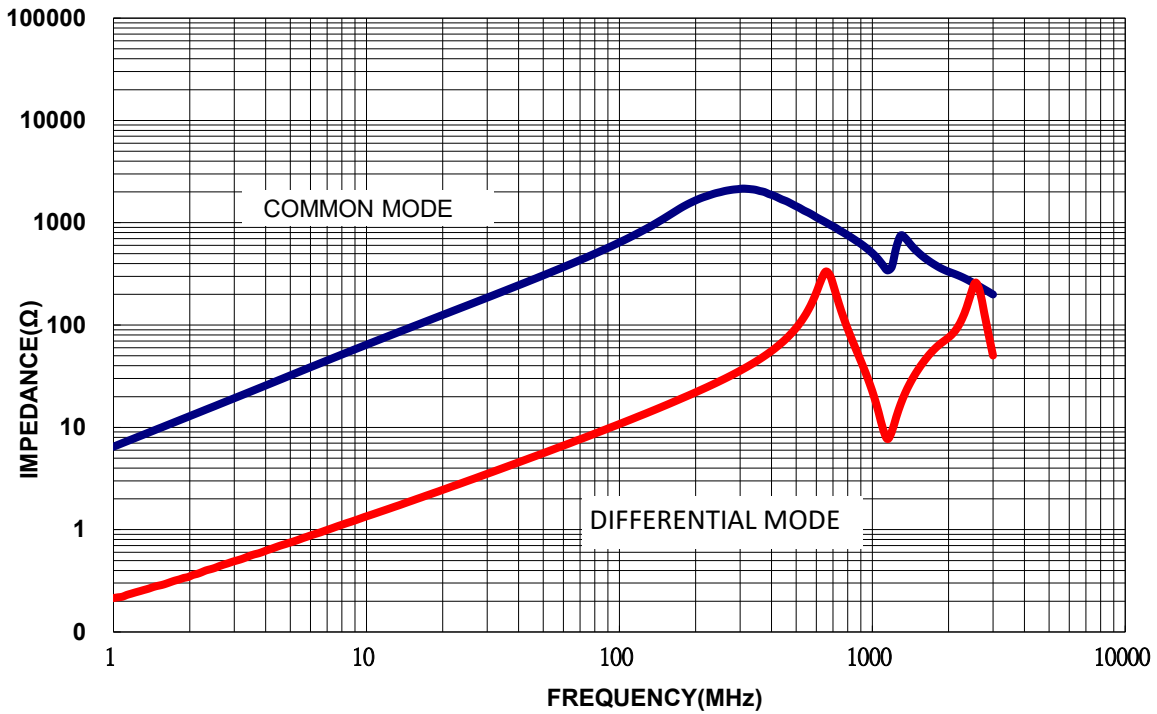
12 NOTE:

1. Please make sure that your product has been evaluated and confirmed against your specifications when our product is mounted to your product.
2. Do not knock nor drop.
3. All the items and parameters in this product specification have been prescribed on the premise that our product is used for the purpose, under the condition and in the environment agreed upon between you and us. You are requested not to use our product deviating from such agreement.
4. The storage period is less than 12 months. Be sure to follow the storage conditions (Temperature: 5 to 40°C, Humidity: 10 to 75% RH or less).
If the storage period elapses, the soldering of the terminal electrodes may deteriorate.
5. Do not use or store in locations where there are conditions such as gas corrosion (salt, acid, alkali, etc.).

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13 GRAPH: AWPC00453226601M00



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