SMD Common Mode Filter / PCML3225AC Series (AEC-Q200)

.Features:

1. High impedance at high frequency effects excellentnoise suppression performance.
2. The choke coils structure enables noise suppression without degrading the signal.
3. High relability with Reliability test complied to AEC-Q200
4. Operating temperature:- 55℃ ~ 150℃

.Applications:

1. The SCMF Series is SMD common mode filter specifically designed to eliminate common mode noise in USB 2.0, IEEE1394, and LVDS applications.

.Product Identification

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1 2 3 4

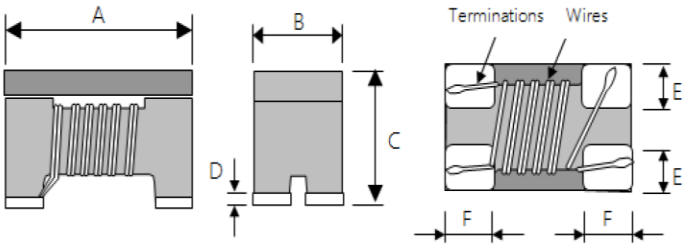
Series name	Dimensions (WxLxH)		Internal code
PCML	3225	3.2x2.5x2.5 mm	A=Automobile

Inductance	
510	51uH

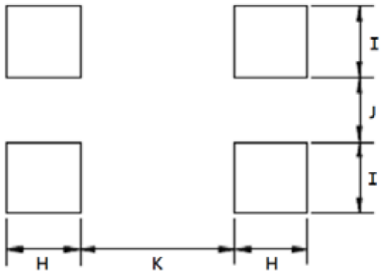
.Environmental Data

1. Operating Temperature : - 55℃ ~ 150℃
2. Storage Temperature : - 55℃ ~ 150℃ ，70% RH max

.Shape and Dimension



.Shapes and Dimensions



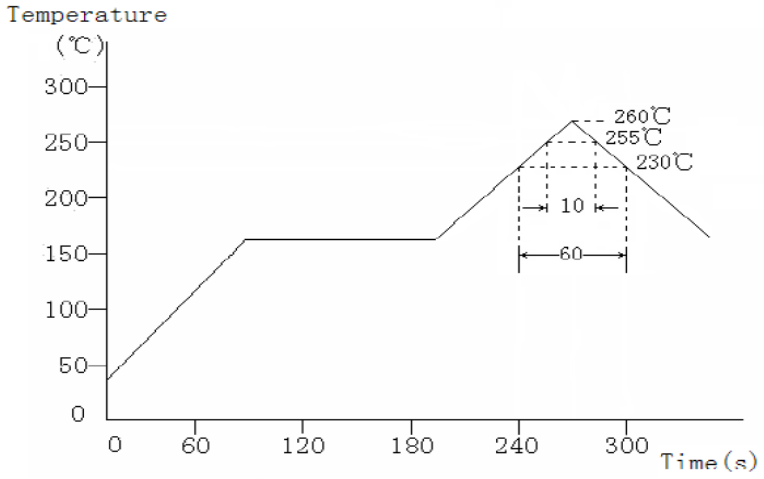
Dimensions(inch / mm)

Part No.	A	B	C	E	F	H	I	J	K
PCML3225AC Series	3.2	2.5	2.2	0.8	0.65	0.9	0.9	0.75	1.9
	±0.2	±0.2	±0.2	Typ.	Typ.	Ref.	Ref.	Ref.	Ref.

.Electrical Characteristics

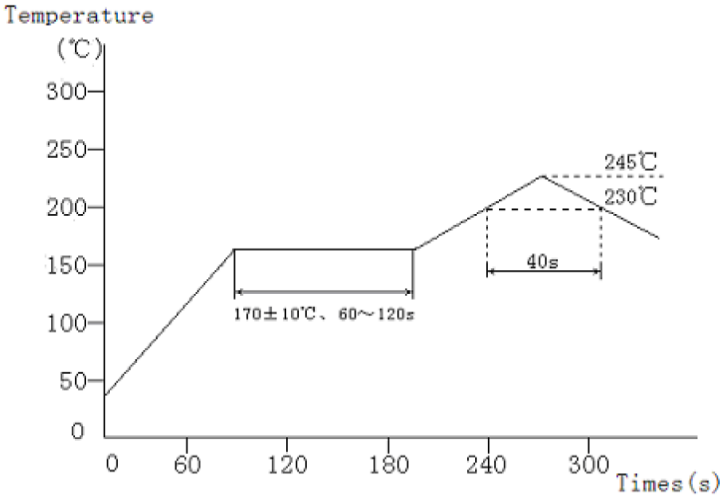
Part No.	Z(Ω) Common Mode Impedance at 10MHz / 0.1V		Inductance (uH) at 100kHz	DCR (Ω)	IDC (mA)	Rated Volt. (V)Typ.
PCML3225AC-110	300 min.	550 typ.	11	0.4	300	80
			+ 50/-30%	Max.	Max.	Typ.
PCML3225AC-220	500 min.	1100 typ.	22	0.5	250	80
			+ 50/-30%	Max.	Max.	Typ.
PCML3225AC-510	1000 min.	2600 typ.	51	0.7	200	80
			+ 50/-30%	Max.	Max.	Typ.
PCML3225AC-101	2200 min.	5100 typ.	100	1.5	150	80
			+ 50/-30%	Max.	Max.	Typ.
PCML3225AC-201	7000 min.	7500 typ.	200	5.5	70	80
			+ 50/-30%	Max.	Max.	Typ.

. Reflow Soldering Heat Endurance



No mechanical and electrical defects are found after testing based on the above profile and keeping under the conditions of room temperature and humidity for 2 hours.
Twice reflow test is acceptable with the test interval remaining 1 hour under the normal conditions. The reflow test profile may vary with the testing instruments.

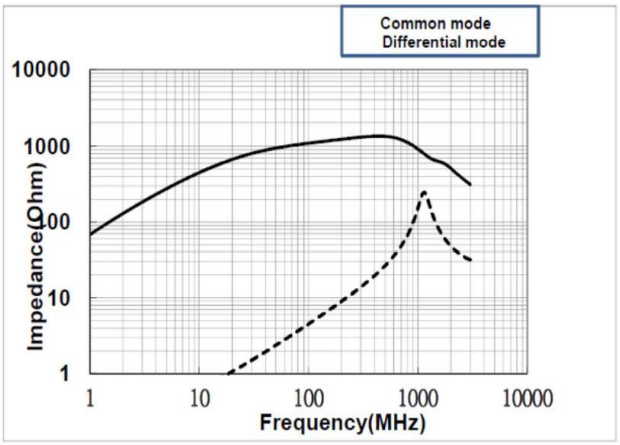
. Recommended Reflow Conditions



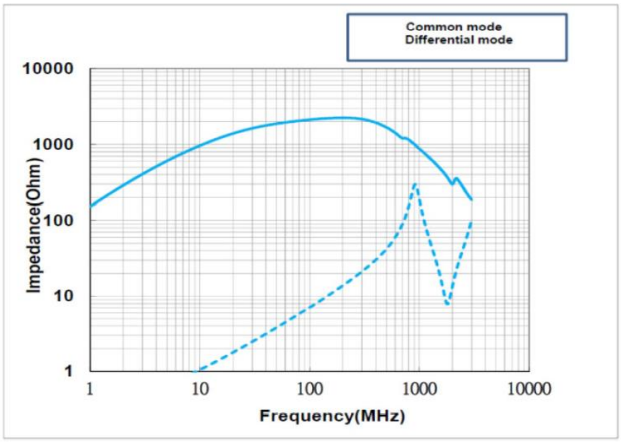
The recommended reflow profile is based on the testing instruments used. Solder ability will depend on the testing equipments, reflow conditions, testing method, etc. So it is necessary to make a confirmation of them when the reflow conditions are set up.
However halogen lamp shall be used, side heat will be beyond range of resistance heat, so we can't recommend it.

.Test curve

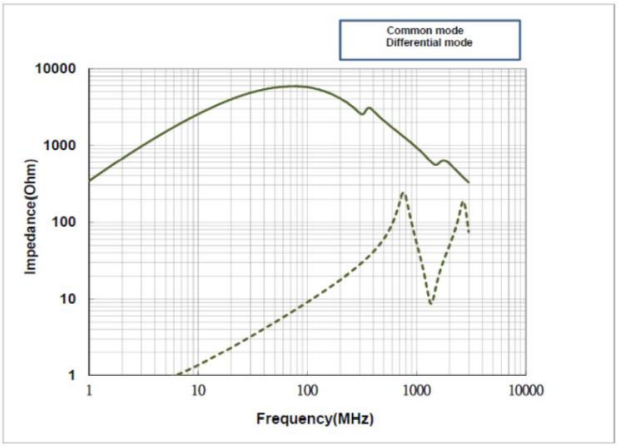
PCML3225AC-110



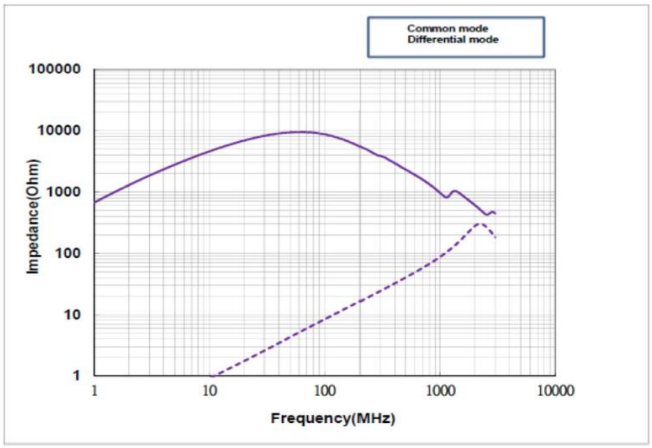
PCML3225AC-220



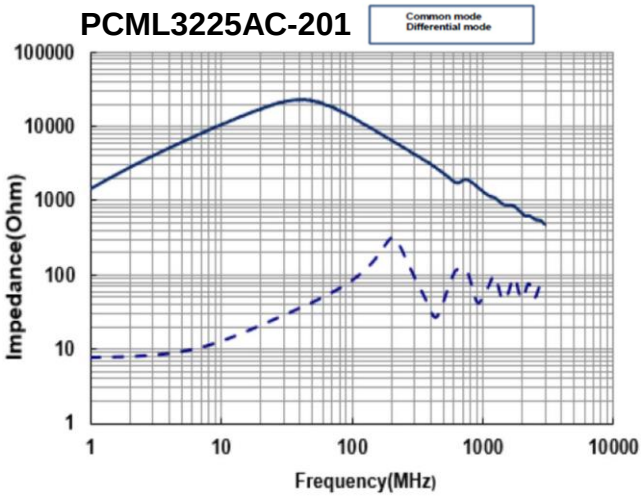
PCML3225AC-510



PCML3225AC-101

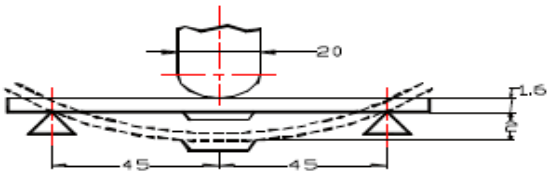
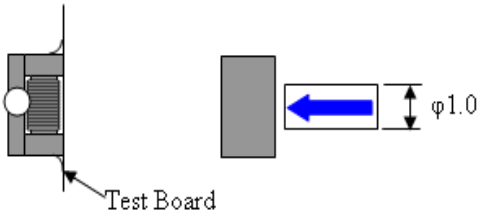


PCML3225AC-201



.Reliability Test / PCML3225AC Series

Item	Specification	Test Conditions
High Temperature Exposure (Storage) MIL-STD-202 Method 108	Appearance:No damage Inductance change shall be within ±20%.	Temperature: 125±3℃ Time:1000hrs Measured after exposure in the room condition for 24hrs.
Temperature Cycling JESD22 Method JA-104	Appearance:No damage Inductance change shall be within ±20%.	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
Biased Humidity MIL-STD-202 Method 103	Appearance:No damage Inductance change shall be within ±20%.	Temperature: 85±2°C Relative Humidity: 85% Time: 1000hrs Measured after exposure in the room condition for 24hrs
Operational Life MIL-STD-202 Method 108	Appearance:No damage Inductance change shall be within ±20%.	Temperature : 125±2℃ Appliend Current : Rated Current Time :1000±24 hrs Measured after exposure in the room condition for 24 hrs
Extenal Visaul MIL-STD-883 Method 2009 Physical Dimension JESD22 Method JB-100	No abnormalities.	Inspect device construction,marking and workmanship. Electrical Test not required.
Mechanical Shock MIL-STD-202 Method 213	The forces applied on the right conditions must not damage the terminal electrode and the ferrite.	Pulse shape:Half-sine waveform Impact acceleration:1500g Pulse duration : 0.5ms
Vibration MIL-STD-202 Method 204	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

Item	Specification	Test Conditions
Resistance to Soldering Heat MIL-STD-202 Method 210	Appearance:No damage Inductance change shall be within ±20%.	Pre-heating: 150℃ , 1min Solder Composition: Sn/Ag3.0/Cu0.5 Solder Temperature: 260±5℃ Immersion Time: 10±1sec
Solderability J-STD-002	The electrodes shall be at least 95% covered with new solder coating.	Pre-heating: 150℃ , 1min Solder Composition: Sn/Ag3.0/Cu0.5 Solder Temperature: 260±5℃ Immersion Time: 4±1sec
Electrical Characteriztion	No defects	Parametrically test per lot and sample size requirements, summary to show Min,Max,Mean and standard deviation at room temperatures.
Board Flex AEC-Q200-005	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 AEC-Q200-006	The inductor must not damage the terminal electrode and the ferrite.	Appendix 1 Note(AEC-Q200-006):Force of 1.8 kg for 60 seconds. 

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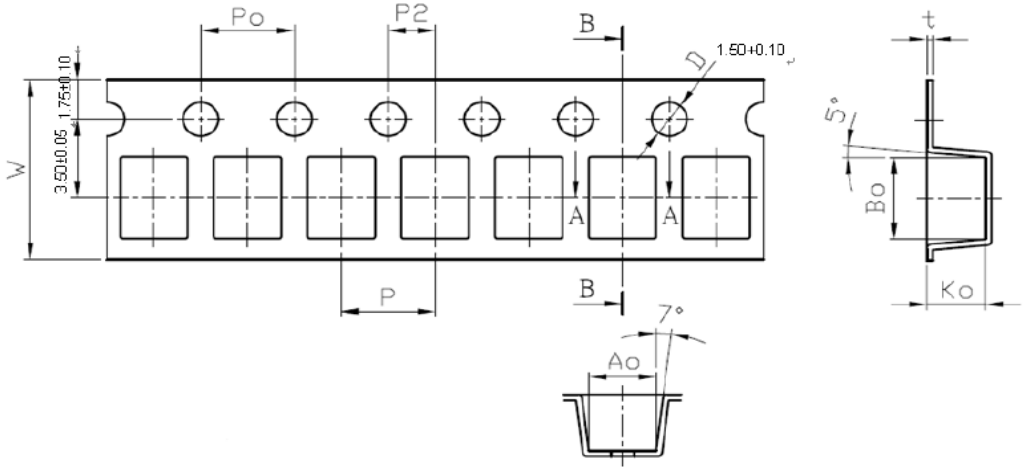
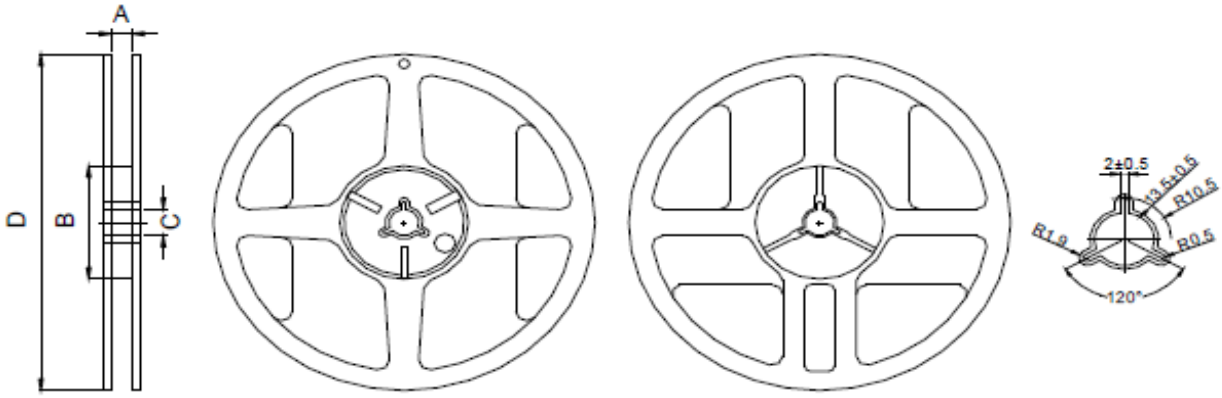
.Packing Specifications



TYPE	Packaging Quantity	Tape Dimension(mm)				
	Pcs / Reel	P	P0	P2	B0	A0
PCML3225AC	1000	` 4.0±0.1	` 4.0±0.1	2.0±0.05	3.65±0.10	2.88±0.1



7"x8mm 7"x12mm

TYPE	Reel Dimension(mm)			
	A	B	C	D
PCML3225AC	9.5	60	13.5	178±2