



CHEQUERS ELECTRONIC (CHINA) LIMITED

捷嘉電子(中國)有限公司

SURFACE-MOUNT (SMD) CERAMIC RESONATOR SPECIFICATION

PART NO.: LTC5.5MCB
<THIS PRODUCT IS RoHS COMPLIANT>

Part no.	:	LTC5.5MCB
Printed on	:	20-Feb-14
Prepared	:	FRANKIE
Ver. Ctrl.	:	022014/F
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1. Scope

This specification shall cover the characteristics of ceramic resonator LTC5.5MCB.

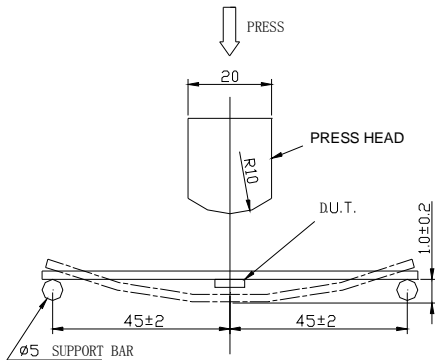
2. Specification no.: 2.832.130.70.2013

3. Part no.: LTC5.5MCB

4. Electrical specification

4-1	Nominal frequency	5.500 MHz
4-2	3dB bandwidth	$f_n \pm 60\text{KHz}$ Min.
4-3	20dB bandwidth	600KHz Max.
4-4	Insertion loss	6.0dB Max.
4-5	Spurious loss	0 ~ 5.5000MHz 25dB Min.
		5.500 ~ 7.0MHz 15dB Min.
4-6	Rated voltage	DC 50V (1 minute)
4-7	Insulation resistance	100M Ω Min.
4-8	Operating Temperature	-20°C ~ +80°C
4-9	Storage temperature	-40°C~+85°C
4-10	Input / output impedance	600 Ω

5. Physical characteristics

	Test item	Condition of test	Performance requirement
5-1	Random drop	Resonator shall be measured after 3 random drops from the height of 1.0m on concrete floor.	No visible damage and the measured values shall meet Table 1.
5-2	Vibration	Resonator shall be measured after being applied with vibration (amplitude: 1.5mm, frequency: 10Hz to 55Hz) to each of the 3 perpendicular directions i.e. X, Y and Z for 2 hours.	The measured values shall meet Table 1.
5-3	PCB bending strength	<p>With a glass-epoxy board (width=40mm, thickness=1.6mm). Then the board is bent to 1.0mm displacement and kept in this condition for 5 seconds (see below for details).</p> 	No visible damage and the measured values shall meet Table 1.

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	Test item	Condition of test	Performance requirement
5-4	Soldering heat resistance	<p>Temperature profile of reflow soldering The resonator shall be measured after being placed in room temperature for 1 hour.</p>	The measured values shall meet Table 1.
5-6	Solderability	Dipped in 235°C±5°C solder bath for 3secs ± 0.5secs with rosin flux (25wt% ethanol solution).	Terminals should be at least 95% covered by solder.

6. Environmental characteristics

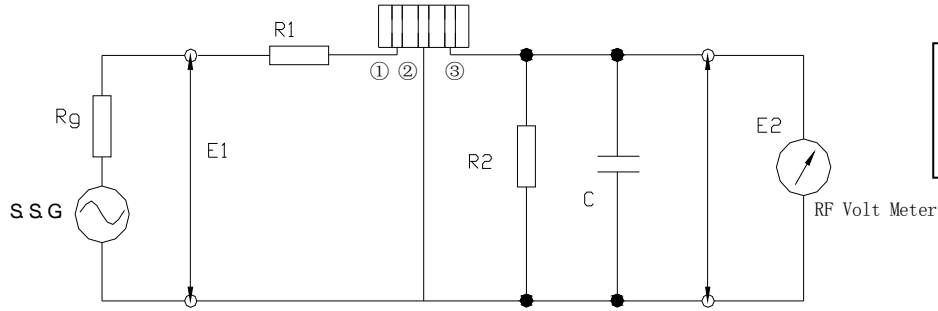
	Test item	Condition of test	Performance requirement
6-1	High temperature	After being placed in a chamber (+85°C±2°C) for 96 hours ± 4 hours, the resonator is measured after being placed in room temperature for 1 hour.	The measured values shall meet Table 1.
6-2	Low temperature	After being placed in a chamber (-40°C±2°C) for 96 hours ± 4 hours, the resonator is measured after being placed in room temperature for 1 hour.	The measured values shall meet Table 1.
6-3	Humidity	After being placed in a chamber with a humidity of 90% to 95% RH and a temperature of +40°C±2°C for 96 hours ± 4 hours, the resonator is measured after being placed in room temperature for 1 hour.	The measured values shall meet Table 1.
6-4	Heat shock	After being kept at room temperature, resonator shall be placed at a temperature of -20°C. After 30 minutes at this temperature, the resonator is placed at a temperature of 85°C. After another 30 minutes at this temperature, the resonator is placed under -20°C again. The above processes are counted as 1 cycle. There is a transfer time of 15 seconds between different temperatures. After 5 cycles, the resonator shall be measured after being placed in room temperature for 1 hour.	The measured values shall meet Table 1.

Table 1

Measurements	Requirements
	*Referenced from initial measurements
3dB bandwidth variation	±25KHz Max.
20dB bandwidth variation	±40KHz Max.
Insertion loss variation	±2dB Max.

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7. Test circuit

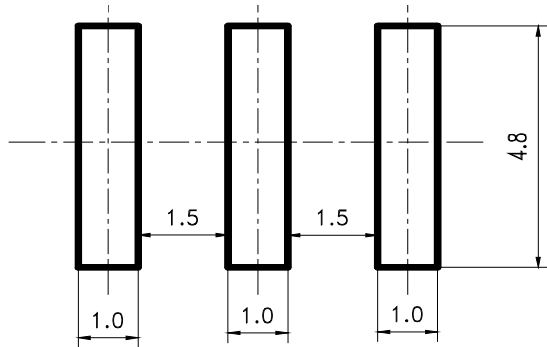


Test Condition:
 Temperature: $25^{\circ}\text{C} \pm 2^{\circ}\text{C}$
 Humidity: $65\% \pm 5\% \text{ RH}$

$R_g + R_1 = R_2 = 470 \Omega$ $R_g = 50 \Omega$
 $C = 10 \text{ pF}$ (Including stray capacitance and input capacitance of RF voltmeter)
 S.S.G: Output Voltmeter
 ①: Input
 ②: Ground
 ③: Output

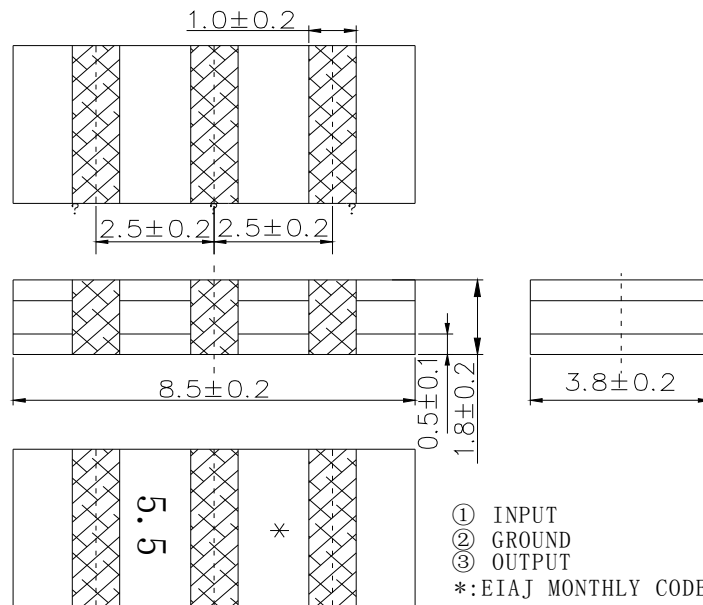
8. Dimensions and recommended soldering pattern

8-1 Recommended soldering pattern



Unit: mm

8-2 Dimensions



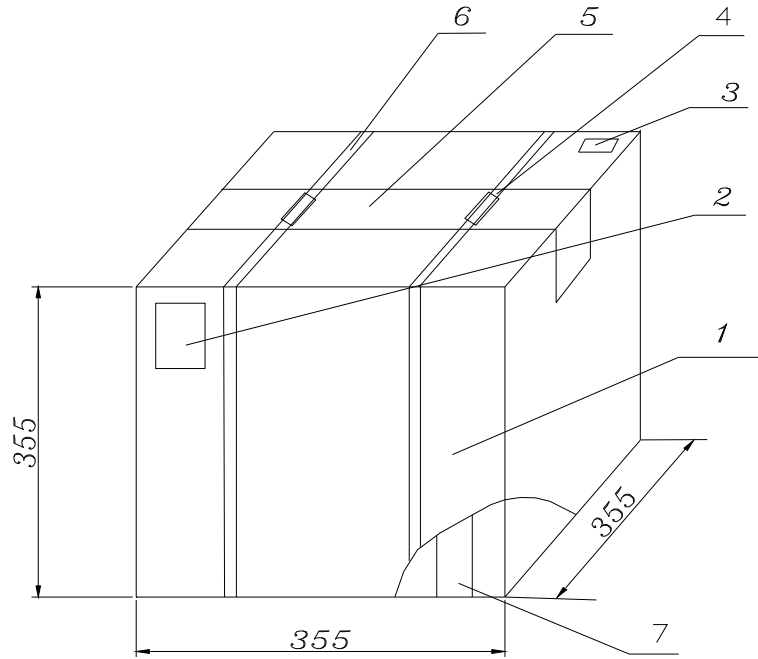
① INPUT
 ② GROUND
 ③ OUTPUT
 *: EIAJ MONTHLY CODE

Unit: mm

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9. Packing information

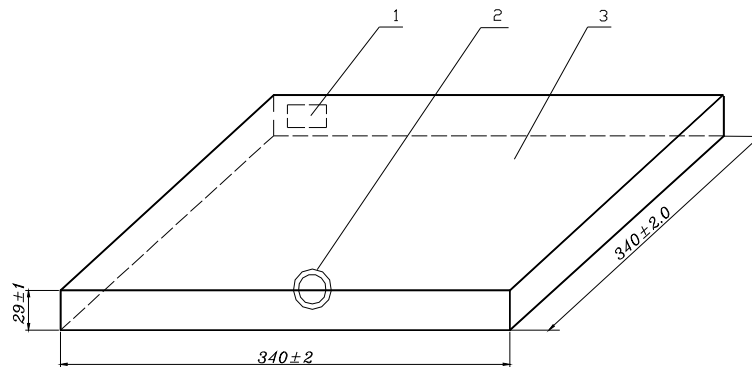
9-1 Outer carton box



Unit: mm

No.	Description	Quantity
1	Package	1
2	Certificate of approval	1
3	Label	1
4	Cargo belt	1.3m
5	Adhesive tape	1.2m
6	Cargo belt	1.3m
7	Inner box	10

9-2 Inner box



Each inner box contains 1 reel that can hold 4000 pieces.

No.	Description
1	Product information label
2	QC label
3	Inner box

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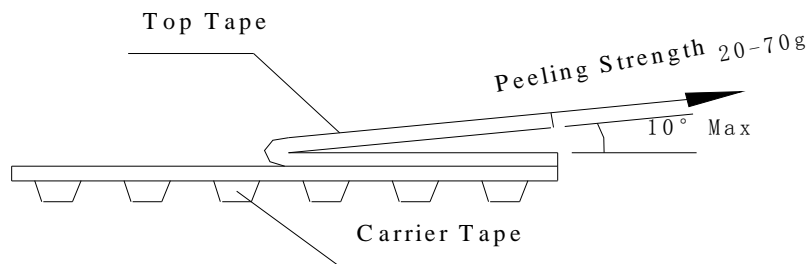
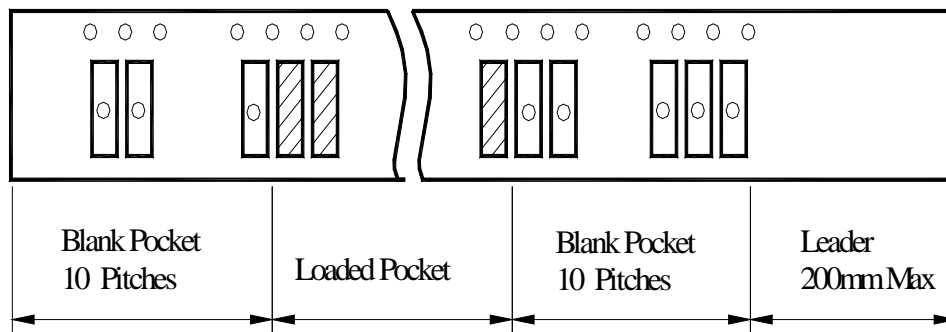
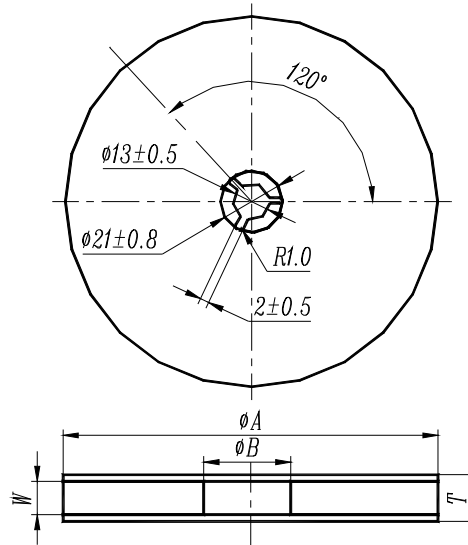
9-3 Dimension of tape and reel

Unit: mm

Item	Dimension	Remark
ØA	330±3	-
ØB	80 min.	-
W	16.4 min.	-
T	22.4 max.	-

Unit: mm

Quantity per reel	4000pcs
Size of carrier tape	16



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