

Abundance Enterprise Co. PRODUCT SPECIFICATION

CERAMIC RESONATOR

AEC PART NUMBER / SPEC. NO: ZTTCP3.58MG

CUSTOMER: Schukat electronic Vertriebs GmbH





Peak soldering temperature 260°C/10 sec Ceramic component is exempted (According to ROHS directive 2005/95/EC ANNEX point 7)

Customer's Name	Schukat electronic Vertriebs GmbH
Production Name	Ceramic Resonator
Frequency	3.58MHz
Model No	ZTTCP3.58MG
Issue Date	15 th Oct, 2013

Address: Room 602-603, Java Commercial Centre,

128 Java Road,

North Point, Hong Kong

Homepage: http://www.aeccrystal.com/

Email: sales@aeccrystal.com

Telephone: (852)-28560000 Fax (852) 2561 2161

Prepared	Inspection	Approved
Nathan	Andy	Henkie

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1. SCOPE

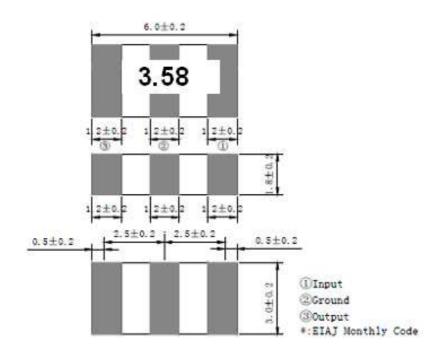
This specification shall cover the characteristics of the ceramic resonator with the type ZTTCP3.58MG

2. PART NO.:

PART NUMBER	CUSTOMER PART NO	SPECIFICATION NO
ZTTCP3.58MG		

3. OUTLINE DRAWING AND DIMENSIONS:

- 3.1 Appearance: No visible damage and dirt.
- 3.2 Dimensions:



Unit: mm

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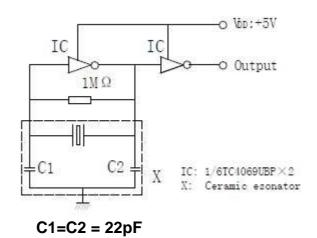
4. ELECTRICAL SPECIFICATIONS:

	Item	Requirements
4.1	Oscillation Frequency Fosc (MHz)	3.58
	Frequency Accuracy (%)	±0.5
4.2	Resonant Impedance Ro	40
	(Ω) max	
4.3	Temperature Coefficient of	±0.3 (Oscillation
	Oscillation Frequency (%) max	Frequency drift -20℃ to
		+85℃)
4.4	Withstanding Voltage	100 VDC, 5 sec
4.5	Rating Voltage U _R (V)	
	(1) D.C. Voltage	6 VDC.
	(2) A.C. Voltage	15 Vp-p.
4.6	Insulation Resistance Ri, ($\mathbf{M}\Omega$) min	500 (10V, 1min)
4.7	Operating Temperature (℃)	-20∼+85
4.8	Storage Temperature (°C)	-55∼+85
4.9	Aging Rate (%) max	±0.1 From initial value

Components shall be left in a chamber of +85±2°C for 1000 hours, then measured after leaving in natural condition for 1 hours.

4. MEASUREMENT:

- 4.1 Measurement Conditions: Parts shall be measured under a condition (Temp.: 20±15℃, Humidity: 65±20% R.H.) unless the standard condition (Temp.: 25±3 ℃, Humidity: 65±5% R.H.) is regulated to measure.
- 4.2 Test Circuit:



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5. PHYSICAL AND ENVIRONMENTAL CHARACTERISTICS

Requirem Requirem Requirem Requirem Subject the resonator at 40±2°C and 90-95% RH for 96±4 hours. Then Release the resonator into the room Condition for 1 hour prior to the Measurement. It shall fulfill specification Table 1.	nce
90-95% RH for 96±4 hours. Then Release the resonator into the room Condition for 1 hour prior to the Measurement. 6.2 Vibration Subject the resonator to vibration for 2 hours each in x ⋅ y and z axis With the amplitude of 1.5mm, the frequency shall be varied uniformly between the limits of 10 Hz—55Hz. 6.3 Mechanical Drop the resonator randomly onto a wooden floor from the height of 100cm 3 times. 6.4 Soldering Test Passed through the re-flow oven under the following condition and left at room temperature for 1 hour before measurement. Temperature at the surface of time the substrate Preheat 150±5°C 6.5 Solder Ability Ability Subject the resonator to 80±5°C for 96 It shall fulfill specification Table 1. The termina be at least 9 covered by section of the shall fulfill shall fu	
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6.6 High Subject the resonator to 80±5℃ for 96 It shall fulfill	older.
	ıs in
Exposure the room conditions for 1 hour prior to Table 1.	
the measurement.	
6.7 Low Subject the resonator to -20±5℃ for 96 It shall fulfill	the
Temperature hours, then release the resonator into specification	ıs in
Exposure the room conditions for 1 hour prior to Table 1.	
the measurement.	

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Item	Condition of Test	Performance
		Requirements
Temperature	Subject the resonator to -40℃ for 30	It shall fulfill the
Cycling	min. followed by a high temperature of	specifications in
	85℃ for 30 min.	Table 1.
	Cycling shall be repeated 5 times with a	
	transfer time of 15 sec. At the room	
	temperature for 1 hour prior to the	
	measurement.	
Board	Mount a glass-epoxy board	Mechanical
Bending	(Width=40mm,thickness=1.6mm),then	damage such as
	bend it to 1mm displacement and keep it	breaks shall not
	for 5 seconds. (See the following figure)	occur.
	PRESS HEAD D.U.T. OF SUPPORT BAR	occur.
	Cycling	Temperature Cycling Subject the resonator to -40°C for 30 min. followed by a high temperature of 85°C for 30 min. Cycling shall be repeated 5 times with a transfer time of 15 sec. At the room temperature for 1 hour prior to the measurement. Board Bending Mount a glass-epoxy board (Width=40mm,thickness=1.6mm),then bend it to 1mm displacement and keep it for 5 seconds. (See the following figure) PRESS PRESS D.U.T. PRESS PRE

TABLE 1

Item	Specification
Oscillation Frequency	
Change	±0.3
Fosc/Fosc (%) max	
Resonant Impedance	AE
Ro(Ω)max	45

Note: The limits in the above table are referenced to the initial measurements.

6. REVIEW OF SPECIFICATIONS

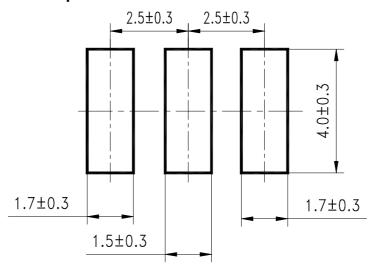
When something gets doubtful with this specifications, we shall jointly work to get an agreement.

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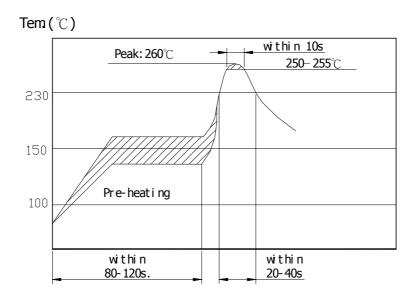
7. RECOMMENDED LAND PATTERN AND REFLOW SOLDERING

STANDARD CONDITIONS

8.1Recommended land pattern



8.2 Recommended reflow soldering standard conditions



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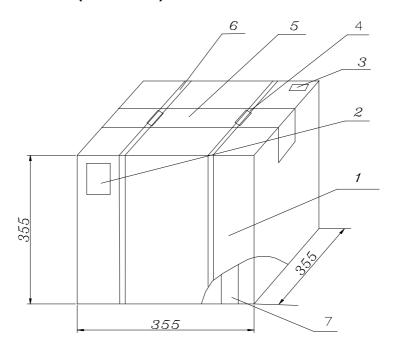
8. PACKAGE

To protect the products in storage and transportation, it is necessary to pack them (outer and inner package). On paper pack, the following requirements are requested.

8.1 Dimensions and Mark

At the end of package, the warning (moisture proof, upward put) should be stick to it.

Dimensions and Mark (see below)



NO.	Name	Quantity	Notes
1	Package	1	
2	Certificate of approval	1	
3	Label	1	
4	Tying	2	
5	Adhesive tape	1.2m	
6	Belt	2.9m	
7	Inner Box	10	

8.2 Section of package

Package is made of corrugated paper with thickness of 0.8cm. Package has 10 inner boxes, each box has 1 reel (each reel for plastic bag).

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8.3 Quantity of package

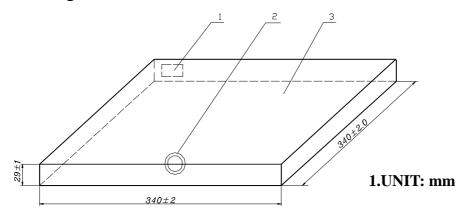
Per plastic reel 4000 pieces of piezoelectric ceramic part

Per inner box 1 reel

Per package 10 inner boxes (40000 pieces of piezoelectric

ceramic part)

8.4 Inner Packing Dimensions

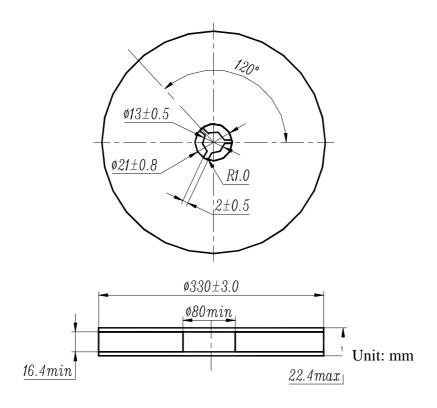


1	Label
2	QC Label
3	Inner Box

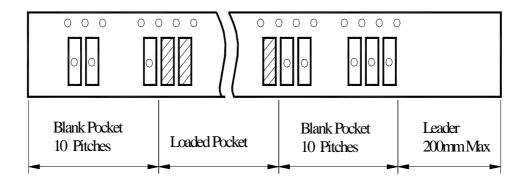
Pars shall be packaged in box with hold down tape upside. Part No., quantity and lot No.

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8.5 Reel



8.6 Packing Method Sketch Map



8.7 Test Condition Of Peeling Strength

