



LGE—CR7SA1693—2006

# SPECIFICATION OF PRODUCTS

CUSTOMER : \_\_\_\_\_

PRODUCT NAME: CRYSTAL UNITS

PART NUMBER : SMD 16.9344M

## SHENZHEN LUGUANG ELECTRONIC TECHNOLOGY CO.,LTD

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Approved by	Checked by	Drawn by



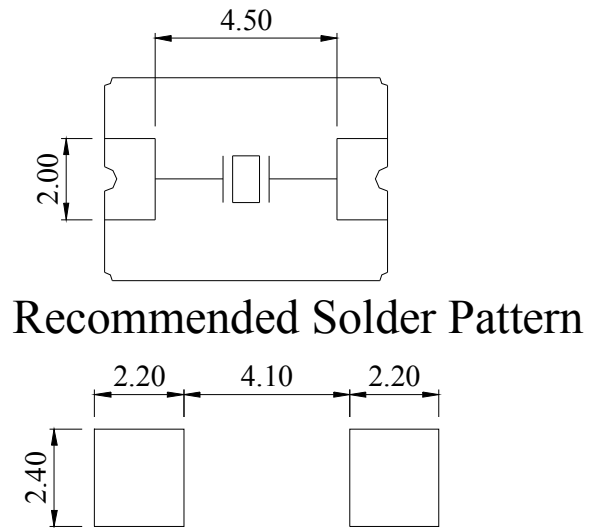
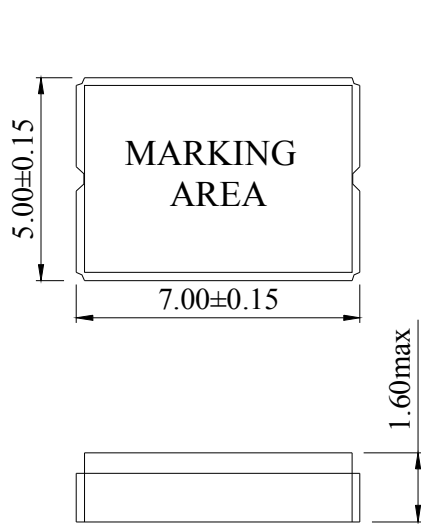
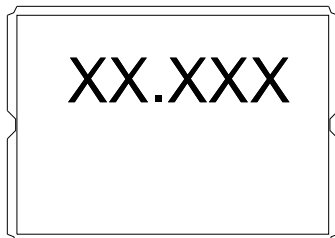
**I ELECTRICAL PARAMETERS**

No.	Characteristic	Limits	Remark
1	Nominal Frequency	16.9344MHz	
2	Mode of Vibration	Fundamental	
3	Frequency Tolerance	$\pm 30\text{ppm}$	Measure at $25^{\circ}\text{C} \pm 3^{\circ}\text{C}$
4	Operating Temperature Range	$-40^{\circ}\text{C} \sim +85^{\circ}\text{C}$	
5	Frequency Stability	$\pm 30\text{ppm}$	Over Operating Temperature Range
6	Storage Temperature Range	$-40^{\circ}\text{C} \sim +85^{\circ}\text{C}$	
7	Load capacitance	20pF	
8	Equivalent Series Resistance	40 $\Omega$ max	
9	Drive Level	100 $\mu$ W max	
10	Insulation Resistance	500M $\Omega$	At 100V <sub>DC</sub>
11	Shunt Capacitance	7pF max	
12	Motional Capacitance		
13	Aging Per Year	$\pm 5\text{ppm}$	First Year
14	Resistance Variation vs. Drive Level		
15	Frequency Variation vs. Drive Level		
16	Package Type	HCX-7SA	See Page 4



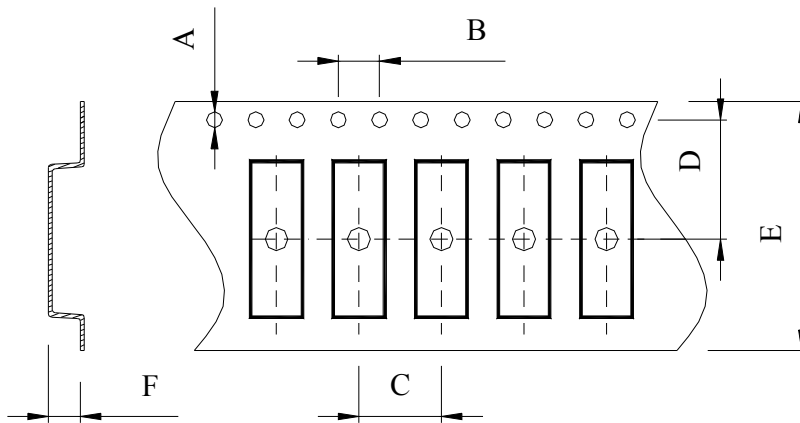
**I RELIABILITY SPECIFICATIONS**

No.	Test Item	Test Conditions	Reference
1	High Temperature Storage	Temperature: 125°C ±10°C Time: 1000±24 Hours	MIL-STD-883E
2	Temperature Cycle	Temperature 1: -55°C ±10°C Temperature 2: 125°C ±10°C Temperature change between T1 and T2 at soonest Run 10 cycles, maintain T1 and T2 30minutes each in one cycle	MIL-STD-883E
3	Solder Heat Resistance	Pre-heat: 125°C 60~120 Seconds Solder Temperature: 260°C ±10°C Time: 5 Seconds	MIL-STD-202F
4	Drop Test	3 Times Free Fall from 75cm height table to 3cm thickness hard wood board	MIL-STD-202F
5	High Temperature, High Humidity Storage	Temperature: 85°C Relative Humidity: 85% Time: 1000 Hours	MIL-STD-883E
6	Steam Aging	Temperature: 97°C Time: 8 Hours 230°C solder pot to check solderability	MIL-STD-883E
7	Solderability	Dip in flux 5~10 seconds Temperature: 230°C ±10°C Time: 5 Seconds	MIL-STD-883E
8	Aging	Temperature: 85°C Time: 300 Hours	MIL-STD-883E
9	Thermal Shock	Temperature 1: -55°C ±10°C Temperature 2: 125°C ±10°C Temperature change between T1 and T2: 5 seconds 10 cycles, maintain T1 and T2 for 30 minutes each in one cycle	MIL-STD-202F
10	Vibration	Frequency Range: 10Hz~1000Hz Amplitude: 1.5mm 40mins in each direction, total 120mins	MIL-STD-883E

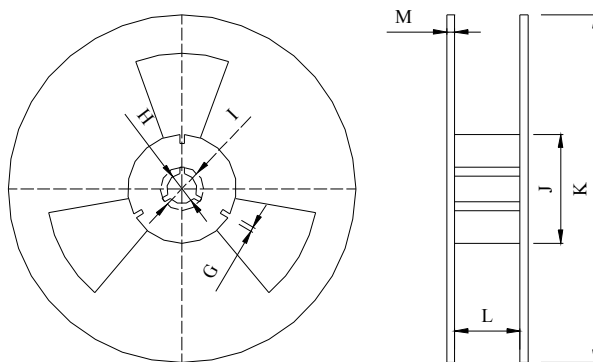
**I Outline Dimensions(unit: mm)**

**I MARKING**


Line: Frequency in MHz (6 digitals include dot)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aut	Sept	Oct	Nov	Dec
A	B	C	D	E	F	G	H	I	J	K	L

**I PACKAGE**
*Tape Dimensions(unit :mm)*


A	B	C	D	E	F
1.50	4.0	8.0	7.5	16.0	1.6

*Reel Dimensions(unit: mm)*


G	H	I	J	K	L	M
2.5	13.5	21.6	60.0	178	17.5	1.6

**\*1000pcs/Reel**