



# INTERQUIP ELECTRONICS CO., LIMITED

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## Crystal Resonator Specification and Approval Sheet

**Customer:** APEX Electronics Ltd

**Project Name:** N/A

**Applications:** N/A

**Contact Person:** Donald

**Customer Part Number:** N/A

### 1. Scope:

1.1 This specification applies to quartz crystal unit with a frequency of 12.000000MHz, which will be used in crystal oscillator applications.

### 2. Construction:

2.1 Type of Holder: SMCE-3225 (RoHS Compliant)

2.2 Enclosure Seal: Seam Welded Seal

### 3. Characteristics:

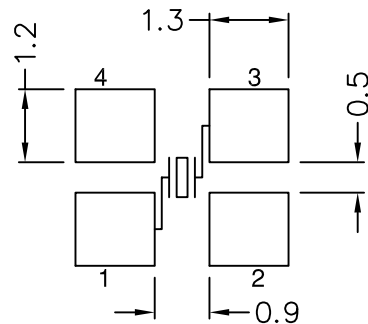
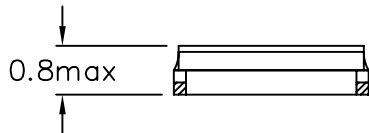
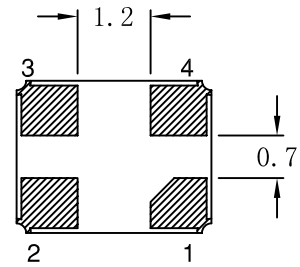
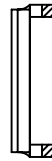
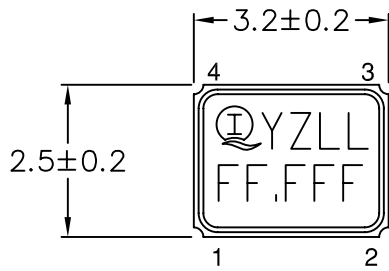
3.1	Nominal Frequency	(f)	12.000000MHz
3.2	Mode of Vibration		Fundamental
3.3	Load Capacitance	(C <sub>L</sub> )	18pF
3.4	Frequency Tolerance at 25 °C±3 °C	(Δ f/f)	±30ppm
3.5	Resonance Resistance	(Ω)	100 Ohm Max.
3.6	Shunt Capacitance	(C <sub>0</sub> )	7pF Max.
3.7	Drive Level	(D <sub>L</sub> )	100uW
3.8	Frequency Deviation with Temperature	(Δ f/f)	± 30ppm
3.9	Operating Temperature Range	(T <sub>OPR</sub> )	-40°C to 85°C
3.10	Storage Temperature Range	(T <sub>STG</sub> )	-55°C to 125°C
3.11	Insulation Resistance	(SR)	500M Ω or More
3.12	Aging	(Δ f <sub>A</sub> )	±3ppm per years

### 4. Special Requirements:

No special requirement is needed

TITLE				<b>CRYSTAL RESONATOR</b>		DWG.	M. Zhao		
						DATE	12-08-30		
IQG PN:				5YAA12000183TFA0Q3		TOLERANCE	CHKD.	J Mok	
MODEL				SMCE-3225		X± X.X±	DATE	12-08-30	
						X.XX± ANGULAR±	APPD.	XM Sun	
							DATE	12-08-30	
DATE	MODIFY DESCRIPTION	BY	SALESMAN : Gary Chan			SHEET	1/2	REV	0

## EXTERNAL DIMENSIONS



## MARKING SPECIFICATIONS

## RECOMMENDED SOLDERING PATTERN



— INTERQUIP COMPANY'S LOGO

FF.FFF — REPRESENT FREQUENCY (MHz)

YZ — REPRESENT MONTH & YEAR CODE RESPECTIVELY

” Y ” :

MONTH	Jan	Feb	Mar	Apr.	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
MARK	A	B	C	D	E	F	G	H	J	K	L	M

” Z ” CODE IS THE LAST NUMBER OF PRODUCTION YEAR

FOR INSTANCE:

YEAR	2009	2010	2011	2012	2013
MARK	9	0	1	2	3

LL — REPRESENT LOT CODE (AA-ZZ)

2. DO NOT SCALE DRAWING

NOTES: 1. ALL DIMENSIONS ARE IN MM



### Interqip Electronics Co., Ltd

<b>TITLE</b> SMD RESONATOR				DWN.	M Zhao
				DATE	2011.9.30
PART NO.			TOLERANCE		CHKD
MODEL SMCE-3225			X.±0.3 X.X±0.15		DATE
REMARK			X.XX±0.05 ANGULAR±		APPD.
					DATE
DATE	MODIFY DESCRIPTION	BY	DWG.NO. 004-061J7-002		REV. 5