



# INTERQUIP ELECTRONICS CO., LIMITED

Flat A, 9th Floor, On Shing Industrial Building, 2-16 Wo Liu Hang Road,

Fotan, New Territories, Hong Kong

Tel: (852) 2413 5515 Fax: (852) 2413 7053

Web site: <http://www.interquip.com> Email: [iql@interquip.com](mailto:iql@interquip.com)

## Crystal Resonator Specification and Approval Sheet

**Customer:** Apex Electronics

**Project Name:** N/A

**Applications:** N/A

**Contact Person:** N/A

**Customer Part Number:** N/A

### 1. Scope:

1.1 This specification applies to quartz crystal unit with a frequency of 20.000000MHz, which will be used in crystal oscillator applications.

### 2. Construction:

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

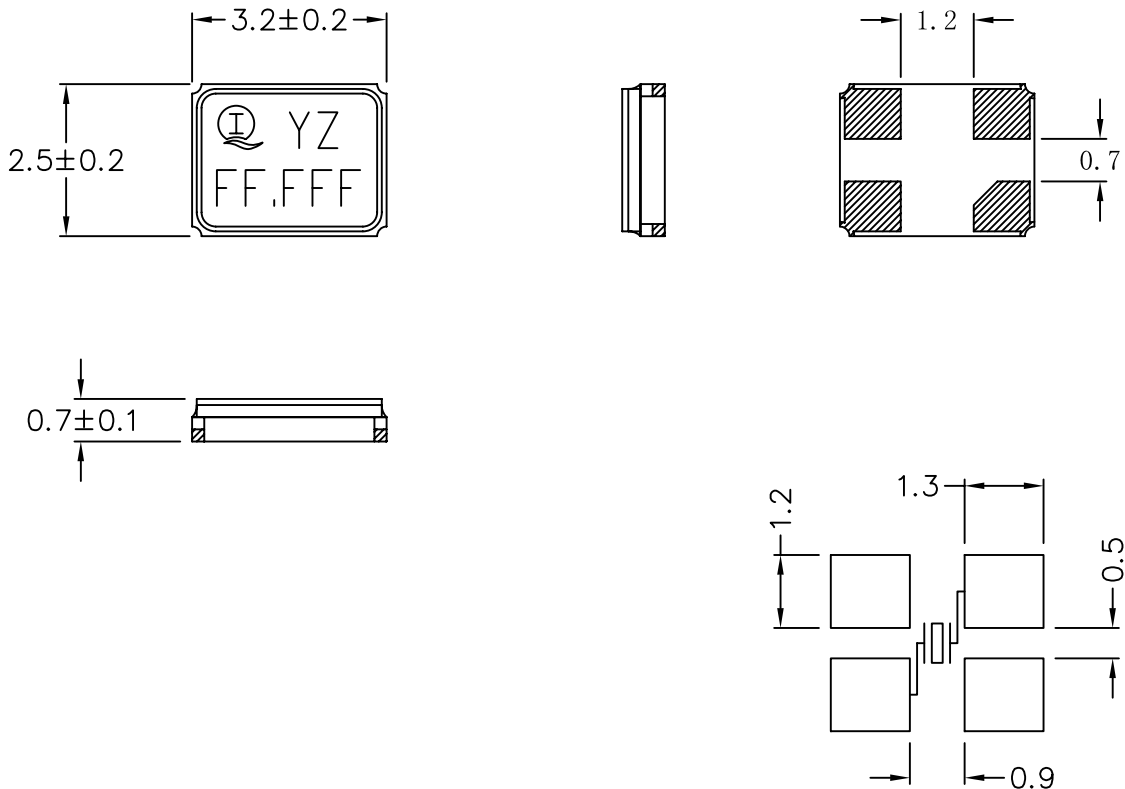
2.2 Enclosure Seal: Seam Welded Seal

### 3. Characteristics:

3.1	Nominal Frequency	(f)	20.000000MHz
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)	70 Ohm Max.
3.6	Shunt Capacitance	(C <sub>0</sub> )	7.0pF Max.
3.7	Drive Level	(D <sub>L</sub> )	0.1mW
3.8	Frequency Deviation with Temperature	(Δ f/f)	±30ppm
3.9	Operating Temperature Range	(T <sub>OPR</sub> )	-30°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> )	±5 ppm per years

				TITLE <b>CRYSTAL RESONATOR</b>		DWG.	M. Zhao	
						DATE	09-08-19	
				PART NO	5YAA20000183SF70Q3	TOLERANCE	CHKD.	J Mok
				MODEL	SMCE-3225	X± X.X±	DATE	09-08-19
				REMARK		X.XX± ANGULAR±	APPD.	XM Sun
							DATE	09-08-19
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

2. DO NOT SCALE DRAWING

NOTES: 1. ALL DIMENSIONS ARE IN MM



## Interquip Electronics Co., Ltd

				TITLE		SMD RESONATOR		DWN.	M Zhao
				PART NO.				DATE	2009.2.4
				MODEL		SMCE-3225		CHKD	Johnson Mok
				REMARK				DATE	2009.2.4
								APPD.	XM.Sun
								DATE	2009.2.4
DATE	MODIFY DESCRIPTION	BY		DWG.NO. 004-061J7-002				REV. 2	