



# INTERQUIP ELECTRONICS CO., LIMITED

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## Crystal Resonator Specification and Approval Sheet

**Customer:** Apex Electronics Ltd.

**Project Name:** N/A

**Contact Person:** N/A

**Applications:** 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-5032 (RoHS Compliant)

2.2 Enclosure Seal: Seam Weld

### 3. Characteristics:

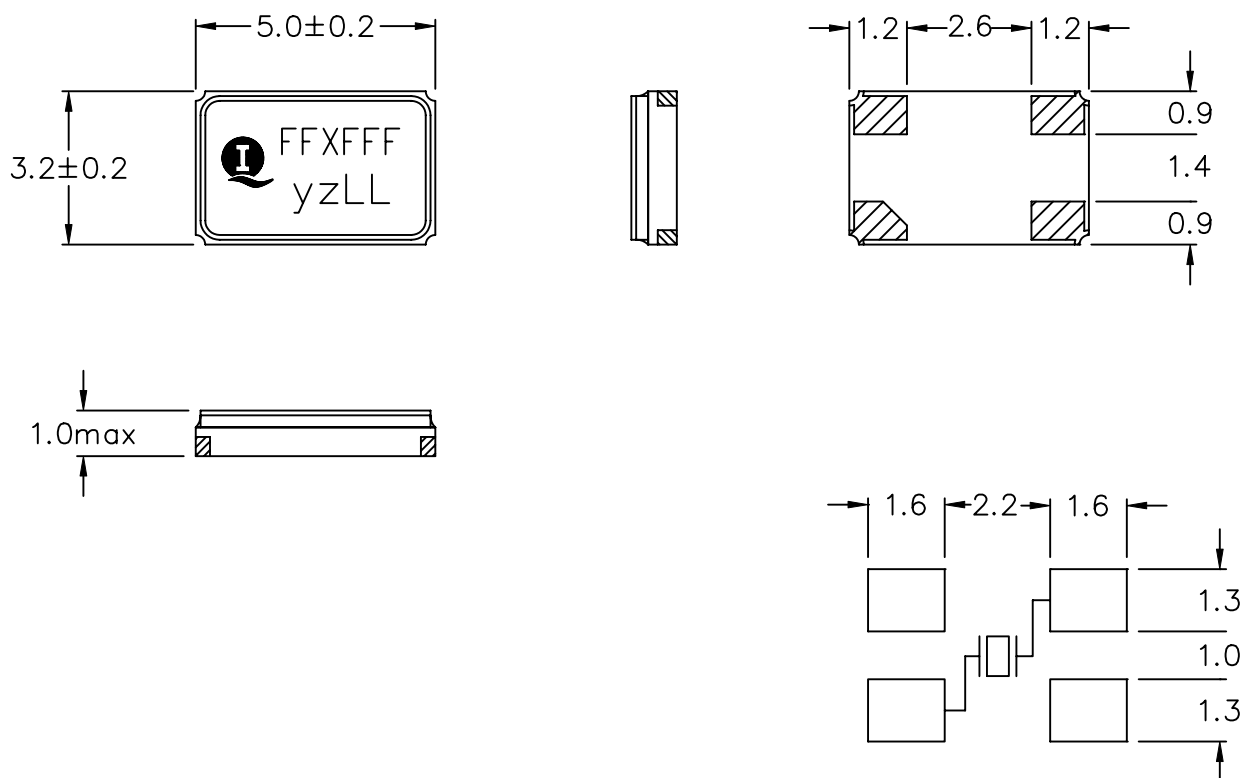
3.1	Nominal Frequency	(f)	<b>20.000000MHz</b>
3.2	Mode of Vibration		<b>Fundamental</b>
3.3	Load Capacitance	(C <sub>L</sub> )	<b>18pF</b>
3.4	Frequency Tolerance at 25°C±3°C	(Δf/f)	<b>±30 ppm</b>
3.5	Resonance Resistance	(Ω)	<b>50 Ohm Max.</b>
3.6	Shunt Capacitance	(C <sub>0</sub> )	<b>7.0pF Max.</b>
3.7	Drive Level	(D <sub>L</sub> )	<b>100uW</b>
3.8	Frequency Deviation with Temperature	(Δf/f)	<b>±30 ppm</b>
3.9	Operating Temperature Range	(T <sub>OPR</sub> )	<b>-10°C to +70°C</b>
3.10	Storage Temperature Range	(T <sub>STG</sub> )	<b>-55°C to +125°C</b>
3.11	Insulation Resistance	(SR)	<b>500MΩ or more</b>
3.11	Aging	(Δf/f)	<b>±5ppm per year Max.</b>

### 4. Special Requirements:

No special requirement is needed

				TITLE <b>CRYSTAL RESONATOR</b>		DWG.	<b>M Zhao</b>
						DATE	<b>07-03-10</b>
				PART NO <b>5X20000183SIAF50Q3</b>	TOLERANCE	CHKD.	<b>J Mok</b>
				MODEL <b>SMCE-5032</b>	X.± X.X±	DATE	<b>07-03-10</b>
				REMARK	X.XX± ANGULAR±	APPD.	<b>XM Sun</b>
						DATE	<b>07-03-10</b>
DATE	MODIFY DESCRIPTION	BY	SALESMAN Raymond Chan	SHEET 1/2		REV	<b>0</b>

## EXTERNAL DIMENSIONS



## RECOMMENDED SOLDERING PATTERN

## MARKING SPECIFICATIONS



— COMPANY'S LOGO

FF FFF — REPRESENT FREQUENCY (MHz)

X — REPRESENT PRODUCTION LINE CODE

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	2000	2001	2002	2003	2004
MARK	0	1	2	3	4

LL — REPRESENT LOT CODE (AA-ZZ)

2. DO NOT SCALE DRAWING

NOTES: 1. ALL DIMENSIONS ARE IN MM



## Interquip Electronics Co., Ltd

				TITLE SMD RESONATOR		DWN.	M Zhao
						DATE	2004.2.10
				PART NO.		CHKD	Johnson Mok
				MODEL SMCE-5032		DATE	2004.2.10
				REMARK		APPD.	XM.Sun
						DATE	2004.2.10
DATE	MODIFY DESCRIPTION	BY		DWG.NO. 004-06187-000		REV.2	