

### Features

- Tolerances down to  $\pm 10$  ppm
- Stabilities down to  $\pm 5$  ppm
- Temperature Ranges as wide as  $-55^{\circ}\text{C}$  to  $+125^{\circ}\text{C}$

STANDARD SPECIFICATIONS	
PARAMETERS	MAX (Unless otherwise noted)
Frequency Range	8.000 ~ 200.000 MHz
Frequency Tolerance @ 25°C	(See options below)
Frequency Stability, ref 25°C	
Over Operating Temp Range	(See options below)
Temperature Range	
Operating ( $T_{OPR}$ )	(See options below)
Storage ( $T_{STG}$ )	$-55^{\circ}\text{C} \sim +125^{\circ}\text{C}$
Shunt Capacitance ( $C_0$ )	5.0 pF
Load Capacitance ( $C_L$ )	(See options below)
Drive Level	100 $\mu\text{W}$
Aging per year (@ 25°C)	$\pm 5$ PPM
Maximum Soldering Temp / Time	260°C / 10 Seconds x 2
Moisture Sensitivity Level (MSL) per J-STD-033	1
Termination Finish	Au over Ni
Seal Method	Seam
Lead (Pb) Free	Yes
RoHS Compliant	Yes

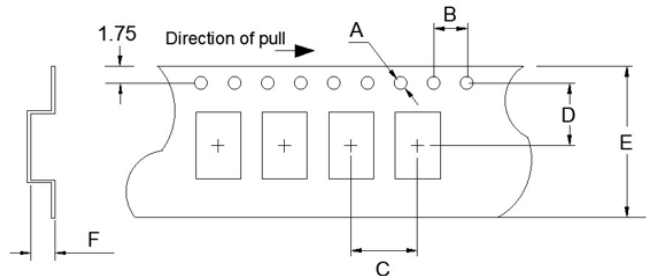
Frequency Range (MHz)	Operating Mode	Max ESR $\Omega$
8.000 ~ 9.749999	Fundamental	70
9.750 ~ 9.999999	Fundamental	60
10.000 ~ 11.999999	Fundamental	45
12.000 ~ 15.999999	Fundamental	35
16.000 ~ 19.999999	Fundamental	30
20.000 ~ 49.999999	Fundamental	25
50.000 ~ 200.000	Fundamental	20
40.000 ~ 79.999999	3rd OT	100
80.000 ~ 99.999999	3rd OT	80
100.000 ~ 133.000	3rd OT	60

DIMENSIONS / MECHANICAL SPECIFICATIONS
<p><b>Recommended Solder Pad Layout</b></p> <p>Dimensions in mm</p> <p><b>Pin Connections</b>            #1 - Crystal    #2 - Lid/Gnd            #3 - Crystal    #4 - Lid/Gnd</p>
<p>Note: Dimensional drawing is for reference to critical specifications defined by size measurements. Certain non-critical visual attributes, such as side castellations, etc. may vary.</p>

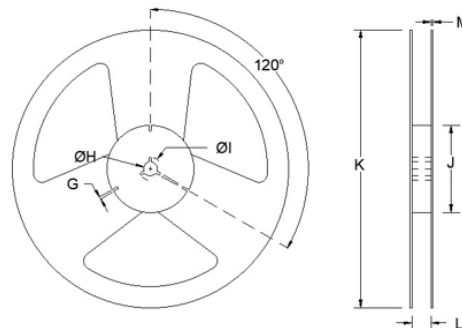
AVAILABLE OPERATING TEMPERATURES AND STABILITIES*								
Operating Temperature	±5 PPM	±10 PPM	±15 PPM	±20 PPM	±25 PPM	±30 PPM	±50 PPM	±100 PPM
0 ~ 70°C	X	O	O	O	O	O	O	N/A
-10 ~+60°C	O	O	O	O	O	O	O	N/A
-10 ~+70°C	X	O	O	O	O	O	O	N/A
-20 ~+70°C	X	O	O	O	O	O	O	N/A
-30 ~+85°C	X	X	O	O	O	O	O	N/A
-40 ~+85°C	X	X	O	O	O	O	O	N/A
-40 ~+105°C	X	X	X	X	X	X	O	O
-40 ~+125°C	X	X	X	X	X	X	O	O
-55 ~+125°C	X	X	X	X	X	X	O	O

Key: O = Available, X = Not Available, N/A Not Applicable \*Does not imply a stocked part.

TAPE SPECIFICATIONS (mm)						
A	B	C	D	E	F	REEL QTY
ø1.55	4.0	8.0	5.5	12.0	1.4	-T1 = 1,000



REEL SPECIFICATIONS (mm)						
G	H	I	J	K	L	M
2.0	ø13	ø21	ø80	ø178	13.5	2.0





**Available Options & Part Identification for Crystal Model C5BS<sup>1</sup>**

**Sample PN: FC5BSCCEM25.0-T1**

<b>F</b>	<b>C5BS</b>	<b>C</b>	<b>C</b>	<b>E</b>	<b>M</b>	<b>25.0</b>	<b>-T1</b>
<u>Fox</u>	<u>Model Number</u>	<u>Tolerance</u> B = ±50ppm <b>C = ±30ppm</b> D = ±25ppm E = ±20ppm F = ±15ppm H = ±10ppm	<u>Stability</u> A = ±100 ppm B = ±50 ppm <b>C = ±30 ppm</b> D = ±25 ppm E = ±20 ppm F = ±15 ppm H = ±10 ppm L = ±5 ppm	<u>Load Capacitance<sup>2</sup></u> <b>E = 10pF</b> G = 12pF J = 15pF K = 16pF L = 18pF M = 20pF	<u>Operating Temperature</u> C = 0 to 70°C D = -10 to +60°C E = -10 to +70°C F = -20 to +70°C K = -30 to +85°C <b>M = -40 to +85°C</b> P = -40 to +105°C I = -40 to +125°C T = -55 to +125°C	<u>Frequency (MHz)</u>	<u>Values Added Options</u> Blank = Bulk T1 = 1,000 pcs

1 Not all frequency, tolerance, stability, load, and operating temperature combinations may be available.

2 Listed load capacitances represent the most commonly used. Other load capacitances are available. Contact us for assistance

**Reliability Test Conditions**

Please contact Abracon Quality Assurance department