

Features

- Tolerances down to ± 10 PPM
- Stabilities down to ± 10 PPM
- Temperature Ranges as wide as -55°C to $+125^{\circ}\text{C}$

STANDARD SPECIFICATIONS	
PARAMETERS	MAX (Unless otherwise noted)
Frequency Range	16.000 ~ 200.000 MHz
Frequency Tolerance @ 25°C	(See options below)
Frequency Stability, ref 25°C	(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)	3 pF
Load Capacitance (C_L)	(See options below)
Drive Level	100 μW
Aging per year (@ 25°C)	± 5 PPM
Maximum Soldering Temp / Time	260°C / 10 Seconds x 2
Moisture Sensitivity Level (MSL) per J-STD-033	N/A
Termination Finish	Au (0.3~1.0 μm) over Ni (1.27~8.89 μm)
Seal Method	Seam Seal
Lead (Pb) Free	Yes
RoHS Compliant	Yes, no exemptions
REACH Compliant (latest version)	Yes

Frequency Range (MHz)	Operating Mode	Max ESR Ω
16.000 ~ 19.199999	Fundamental	200
20.000 ~ 23.999999	Fundamental	120
24.000 ~ 29.999999	Fundamental	100
30.000 ~ 39.999999	Fundamental	80
40.000 ~ 200.000	Fundamental	60

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

Key: O = Available, X = Not Available, N/A = Not Applicable

DIMENSIONS / MECHANICAL SPECIFICATIONS	
<p>Recommended Solder Pad Layout</p>	
<p>Dimensions are in millimeters.</p>	
<p>Pin Connections</p> <p>#1 Crystal #3 Crystal #2 Lid/Gnd #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>	

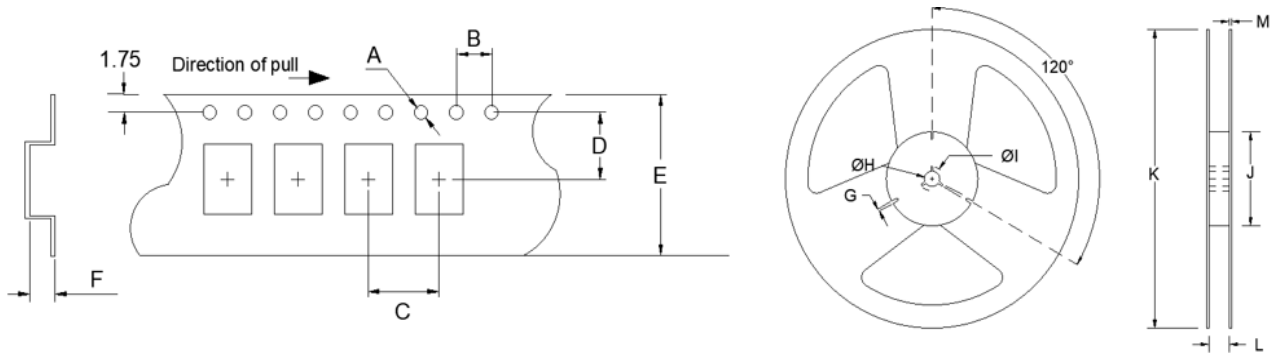
FC1BS

(Former FX2016B)

2.0mm x 1.6mm
Ceramic SMD Crystal



TAPE SPECIFICATIONS (mm)							REEL SPECIFICATIONS (mm)						
A	B	C	D	E	F	REEL QTY	G	H	I	J	K	L	M
ø1.55	4.0	4.0	3.5	8.0	0.65	-T3 = 3,000 -T2 = 2,000 -T1 = 1,000	2.0	ø13.0	ø21.0	ø60.0	ø180.0	9.0	2.0



Available Options & Part Identification for Crystal Model C1BS¹

Sample PN: FC1BSEEEM32.0-T1

F	C1BS	E	E	E	M	32.0	-T1
Fox	Model Number	Tolerance	Stability	Load Capacitance²	Operating Temperature	Frequency (MHz)	Values Added Options
		B = ±50 PPM C = ±30 PPM D = ±25 PPM E = ±20 PPM F = ±15 PPM H = ±10 PPM	B = ±50 PPM C = ±30 PPM D = ±25 PPM E = ±20 PPM F = ±15 PPM H = ±10 PPM	V=7pF D=8pF W=9pF E=10pF G=12pF J=15pF L=18pF M=20pF	C = 0 ~ +70°C D = -10 ~ +60°C E = -10 ~ +70°C F = -20 ~ +70°C K = -30 ~ +85°C M = -40 ~ +85°C P = -40 ~ +105°C I = -40 ~ +125°C T = -55 ~ +125°C		Blank = Bulk T1 = 1,000 pcs T2 = 2,000 pcs T3 = 3,000 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