

Features

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

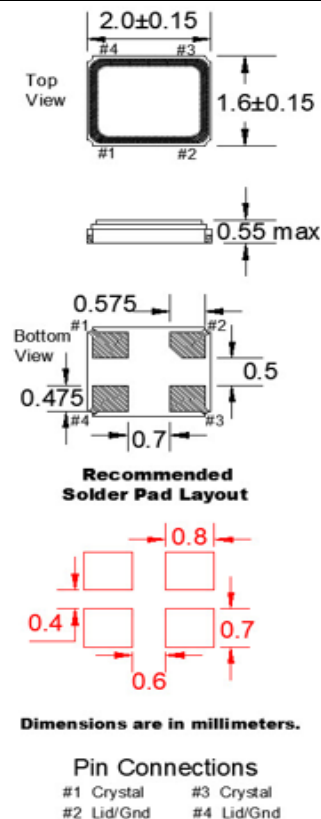
STANDARD SPECIFICATIONS	
PARAMETERS	MAX (Unless otherwise noted)
Frequency Range	16.000 ~ 200.000 MHz
Frequency Tolerance @ 25°C	(See options below)
Frequency Stability, ref 25°C	(See options below)
Temperature Range	
Operating (T_{OPR})	(See options below)
Storage (T_{STG})	$-55^{\circ}\text{C} \sim +125^{\circ}\text{C}$
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 ($0.3 \sim 1.0 \mu\text{m}$) over Ni ($1.27 \sim 8.89 \mu\text{m}$)
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 ~ 19.99999	Fundamental	200
20.000 ~ 23.99999	Fundamental	120
24.000 ~ 29.99999	Fundamental	100
30.000 ~ 39.99999	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
$0^{\circ}\text{C} \sim +70^{\circ}\text{C}$	O	O	O	O	O	O	N/A
$-10^{\circ}\text{C} \sim +60^{\circ}\text{C}$	O	O	O	O	O	O	N/A
$-10^{\circ}\text{C} \sim +70^{\circ}\text{C}$	O	O	O	O	O	O	N/A
$-20^{\circ}\text{C} \sim +70^{\circ}\text{C}$	O	O	O	O	O	O	N/A
$-30^{\circ}\text{C} \sim +85^{\circ}\text{C}$	O	O	O	O	O	O	N/A
$-40^{\circ}\text{C} \sim +85^{\circ}\text{C}$	X	O	O	O	O	O	N/A
$-40^{\circ}\text{C} \sim +105^{\circ}\text{C}$	X	X	X	X	X	O	O
$-40^{\circ}\text{C} \sim +125^{\circ}\text{C}$	X	X	X	X	X	O	O
$-55^{\circ}\text{C} \sim +125^{\circ}\text{C}$	X	X	X	X	X	O	O

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

DIMENSIONS / MECHANICAL SPECIFICATIONS



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.

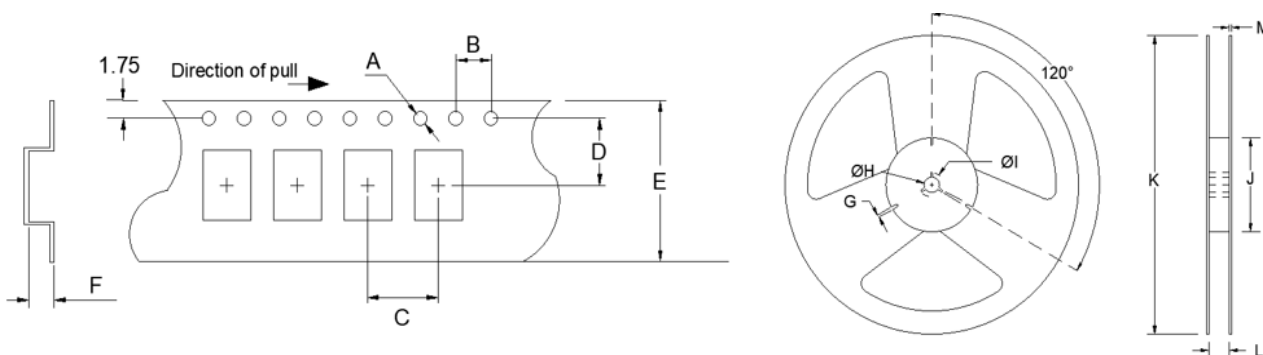
FC1BS

(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: **FC1BSEEM32.0-T1**

F	C1BS	E	E	E	M	32.0	-T1
<u>Fox</u>	<u>Model Number</u>	<u>Tolerance</u>	<u>Stability</u>	<u>Load Capacitance²</u>	<u>Operating Temperature</u>	<u>Frequency (MHz)</u>	<u>Values Added Options</u>
		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

Mouser Electronics

Authorized Distributor

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[ABRACON:](#)

[FC1BSECEM32.0-T3](#) [FC1BSCCBK48.0-T3](#) [FC1BSHEEM48.0-T3](#) [FC1BSHFGM25.0-T3](#) [FC1BSCCBM24.0-T3](#)
[FC1BSHEDM26.0-T3](#) [FC1BSHFEM32.0-T3](#) [FC1BSHHGF24.0-T3](#) [FC1BSHAWN26.0-T3](#) [FC1BSCCLF25.0-T3](#)
[FC1BSHHEF22.579-T3](#) [FC1BSEEBM25.0-T3](#) [FC1BSEEGF32.0-T3](#) [FC1BSHEEM32.0-T3](#) [FC1BSEEEF24.0-T3](#)
[FC1BSHFEM28.63636-T3](#) [FC1BSHFDM32.0-T3](#) [FC1BSBBEM32.0-T3](#) [FC1BSFDDM32.0-T3](#) [FC1BSBBJM32.0-T3](#)
[FC1BSCCDA16.0-T3](#) [FC1BSHHDN32.0-T3](#) [FC1BSHHEF20.0-T3](#) [FC1BSHHGF16.0-T3](#) [FC1BSEEBM32.0-T3](#)
[FC1BSEEEEM32.0-T3](#) [FC1BSHHGN24.0-T3](#) [FC1BSEEEEM24.0-T3](#) [FC1BSEEEF48.0-T3](#) [FC1BSHFDM32.0-T3](#)
[FC1BSBBEM24.0-T3](#) [FC1BSEELF25A0-T3](#) [FC1BSHEWM16.0-T3](#) [FC1BSCBDM24.0-T3](#) [FC1BSFDDM26.0-1-T3](#)
[FC1BSFEDM27.12-T3](#) [FC1BSFFEM25.0-T3](#) [FC1BSHFEM39.0-T3](#) [FC1BSHFGM24.0-T3](#) [FC1BSHHVK48.0-T3](#)
[FC1BSBBEM27.12-T3](#) [FC1BSCCBM27.12-T3](#) [FC1BSCCDF48.0-T3](#) [FC1BSCCEM27.12-T3](#) [FC1BSCEDF27.12-T3](#)
[FC1BSDBJM50.0-1-T3](#) [FC1BSHHDF27.12-T3](#) [FC1BSHHDK32.0-T3](#) [FC1BSHHEF40.0-T3](#) [FC1BSHHEK32.0-T3](#)
[FC1BSEEBK24.0-1-T3](#) [FC1BSEEBK32.0-T3](#) [FC1BSEEBM27.12-T3](#) [FC1BSFCLC25.0-T3](#) [FC1BSHEDM24.576-T3](#)
[FC1BSHEEM24.0-1-T3](#)