

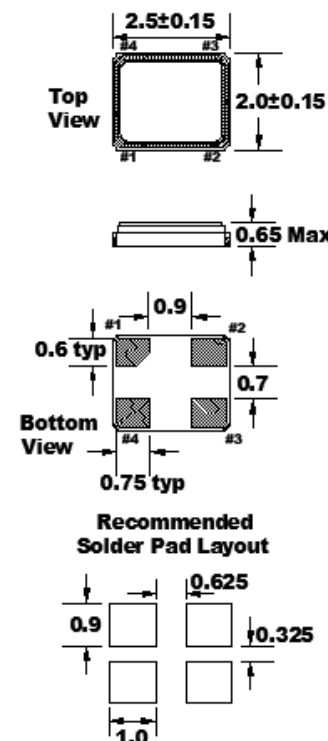
Features

- Tolerances down to ± 10 PPM
- Stabilities down to ± 10 PPM

STANDARD SPECIFICATIONS	
PARAMETERS	MAX (Unless otherwise noted)
Frequency Range	12.000 ~ 80.000 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°C ~ +125°C
Shunt Capacitance (C_0)	3 pF
Load Capacitance (C_L)	(See options below)
Drive Level	100 μ W
Aging per year (@ 25°C)	± 5 PPM
Maximum Soldering Temp / Time	260°C / 10 Seconds
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 Ω
12.000 ~ 13.999999	Fundamental	200
14.000 ~ 15.999999	Fundamental	150
16.000 ~ 19.999999	Fundamental	90
20.000 ~ 23.999999	Fundamental	70
24.000 ~ 24.999999	Fundamental	60
25.000 ~ 44.999999	Fundamental	50
45.000 ~ 80.000	Fundamental	40

DIMENSIONS / MECHANICAL SPECIFICATIONS



Top View
 Overall dimensions: 2.5 ± 0.15 mm (width), 2.0 ± 0.15 mm (height).
 Pin locations: #1, #2, #3, #4.

Bottom View
 Pad dimensions: 0.6 typ, 0.7 , 0.9 , 0.75 typ.

Recommended Solder Pad Layout
 Pad dimensions: 0.9 , 1.0 , 0.625 , 0.325 .

Dimensions in millimeters.

Pin Connections
 #1 Crystal #3 Crystal
 #2 Lid/Gnd #4 Lid/Gnd

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.

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	X	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 *Does not imply a stocked part.

FC2BS

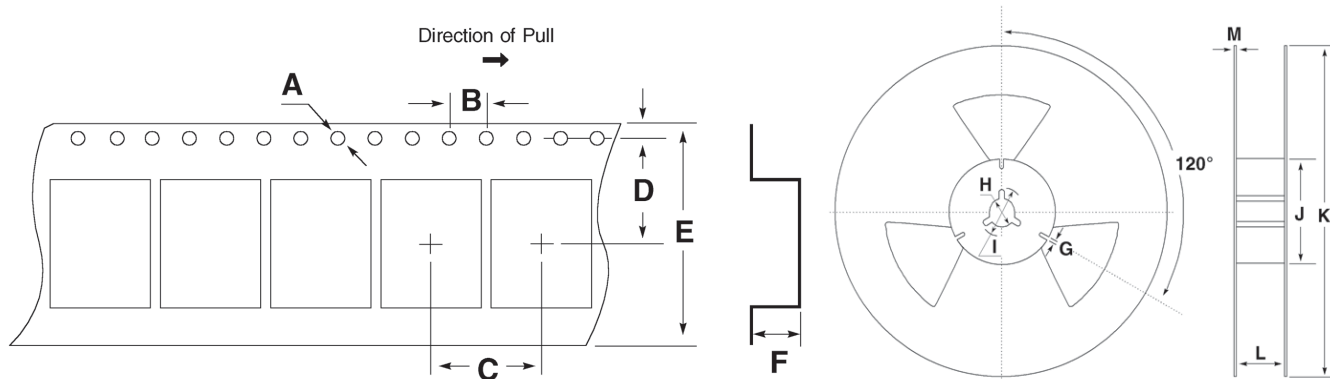
(Former FX252BS)

2.5mm x 2.0mm

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	ø21	ø60	ø180	9.0	2.0



Available Options & Part Identification for SMD Crystal C2BS ¹							
Sample PN: <u>FC2BSCDM24.0-T3</u>							
F	C2BS	C	C	D	M	24.0	-T3
<u>Fox</u>	<u>Model Number</u>	<u>Tolerance</u> B = ±50 PPM C = ±30 PPM D = ±25 PPM E = ±20 PPM F = ±15 PPM H = ±10 PPM	<u>Stability</u> A = ±100 PPM B = ±50 PPM C = ±30 PPM D = ±25 PPM E = ±20 PPM F = ±15 PPM H = ±10 PPM	<u>Load Capacitance²</u> D = 8pF W = 9pF E = 10pF G = 12pF 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 M = -40 to +85°C 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 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

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ABRACON:

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[FC2BSHFEF39.0-T3](#) [FC2BSBBMM20.0-T3](#) [FC2BSHEEM18.432-T3](#) [FC2BSBBMD24.0-T3](#) [FC2BSCCDK-24.0-T3](#)