



1.6 x 1.2mm Ceramic SMD Crystal

C0BS

(former FX1612B)

DATASHEET

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

• SPECIFICATIONS

PARAMETERS	MAX (unless otherwise noted)
Frequency Range	23.900 ~ 80.000 MHz
Frequency Tolerance @ 25°C	(See options on page 2)
Frequency Stability, ref @ 25°C	(See options below)
Temperature Range	
Operating (TOPR)	(See options below)
Storage (TSTG)	$-40^{\circ}\text{C} \sim +85^{\circ}\text{C}$
Shunt Capacitance (C_0)	3 pF
Load Capacitance (C_L)	(See options on page 2)
Drive Level	100 μW
Aging per year	± 3 PPM

Frequency Range (MHz)	Operating Mode	Max ESR Ω
23.900 ~ 29.999999 MHz	Fundamental	150
30.000 ~ 80.000 MHz	Fundamental	100

• Available Operating Temperatures and Stabilities

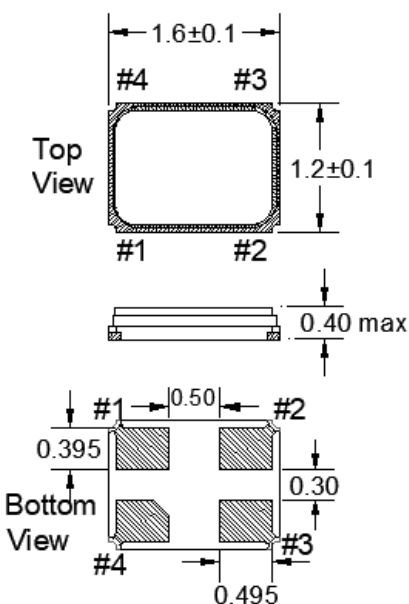
Operating Temperature	± 10 PPM	± 15 PPM	± 20 PPM	± 25 PPM	± 30 PPM	± 50 PPM	± 100 PPM
-10 ~ $+60^{\circ}\text{C}$	O	O	O	O	O	O	N/A
-10 ~ $+70^{\circ}\text{C}$	O	O	O	O	O	O	N/A
-20 ~ $+70^{\circ}\text{C}$	O	O	O	O	O	O	N/A
-30 ~ $+85^{\circ}\text{C}$	X	O	O	O	O	O	N/A
-40 ~ $+85^{\circ}\text{C}$	X	O	O	O	O	O	N/A
-40 ~ $+105^{\circ}\text{C}$	X	X	X	X	X	O	O
-40 ~ $+125^{\circ}\text{C}$	X	X	X	X	X	O	O
-55 ~ $+125^{\circ}\text{C}$	X	X	X	X	X	O	O

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



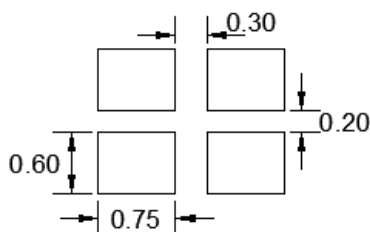
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#1 - Crystal #2 Lid - connect to GND
#4 - NC #3 - Crystal

Recommended Solder Pad Layout



Dimensions are in millimeters.

Note: Dimensional drawing is for reference to critical specifications defined by size measurements.
Certain non-critical visual attributes, such as side castellations, reference pin shape, reference pin location, etc. may vary.

Maximum Soldering Temp / Time	260°C/10 Seconds x 2
Moisture Sensitivity Level (MSL) per J-STD-033	N/A
Termination Finish	Au (0.3~1µm) over Ni (1.27~8.89µm)
Seal Method	Seam
Lead (Pb) Free	Yes
ROHS Compliant	Yes, no exemptions
REACH Compliant (latest version)	Yes



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• TAPE SPECIFICATIONS (millimeters)							• REEL SPECIFICATIONS (millimeters)						
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	0.45	-T1 = 1,000 -T2 = 2,000 -T3 = 3,000	2.0	Ø13	Ø21	Ø60	Ø180	9.0	1.2

Available Options & Part Identification for Crystal Model C0BS¹

F C0BS B C V M 40.0

F	C0BS	B	C	V	M	40.0
FOX	Model Number	Tolerance B = ±50ppm C = ±30ppm D = ±25ppm E = ±20ppm F = ±15ppm H = ±10ppm	Stability A = ±100ppm B = ±50ppm C = ±30ppm D = ±25ppm E = ±20ppm F = ±15ppm H = ±10ppm	Load Capacitance² C = 4 pF V = 7 pF D = 8 pF E = 10 pF G = 12 pF M = 20 pF	Operating Temperature 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	Frequency (MHz)

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

² Listed Load Capacitances represent those most commonly used. Other load capacitance values are available.



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For datasheet type definitions and a glossary of common terms, visit <http://www.foxonline.com/tgcrystals.html>.

7/23/2020 - Added thickness info to termination metals, adjusted MSL info to include J-STD-033 and N/A.

Title / Description: C0BS SERIES STANDARD SPECIFICATIONS

Drawing Number: C0BS-DOC-1

Size: A

Part Number:

Cage: 61429

Draftsperson: BEC

Approved: MAJ

Revision Date: 07/23/2020

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