



7x5mm Ceramic SMD Crystal

C7BS

(former FD)

DATASHEET

Tolerances down to ± 10 PPM

Stabilities down to ± 5 PPM

Operating Temperature Range to $-55^{\circ}\text{C} \sim +125^{\circ}\text{C}$

Fundamental (Inverted Mesa) > 50 MHz

• SPECIFICATIONS

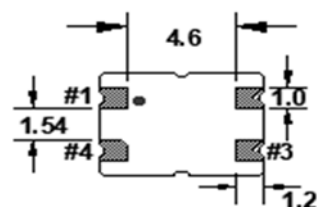
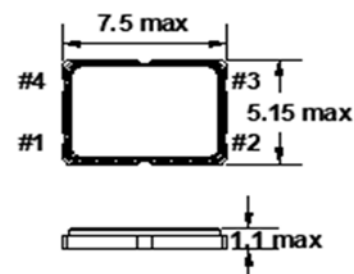
PARAMETERS	MAX (unless otherwise noted)
Frequency Range (F_o)	6.000 ~ 312.000 MHz
Frequency Tolerance @ 25°C	(See options on page 2)
Frequency Stability, ref @ 25°C	(See options below)
Temperature Range	
Operating (T_{OPR})	(See options below)
Storage (T_{STG})	$-55^{\circ}\text{C} \sim +125^{\circ}\text{C}$
Shunt Capacitance (C_o)	5 pF
Load Capacitance (C_L)	(See options on page 2)
Drive Level	
6.000 ~ 100.000 MHz (Fund to 50MHz, 3rd OT, 5th OT)	0.5 mW
>50.000 ~ 312 MHz (Fund Inverted Mesa)	0.1 mW
Aging per year	± 3 PPM
Maximum Soldering Temp / Time	260°C / 10 Seconds x 2
Moisture Sensitivity Level (MSL)	1
Termination Finish	Au over Ni
Seal Method	Seam
Lead (Pb) Free	Yes
RoHS/REACH Compliant	Yes

Frequency Range (MHz)	Operating Mode	Max ESR (Ω)
6.000 ~ 9.999999	Fundamental	80
10.000 ~ 15.999999	Fundamental	50
16.000 ~ 31.999999	Fundamental	40
32.000 ~ 39.999999	Fundamental	30
40.000 ~ 312.000	Fundamental	20
28.000 ~ 84.000	3 RD OT	70
84.000 ~ 100.000	5 TH OT	80

• Available Operating Temperatures and Stabilities

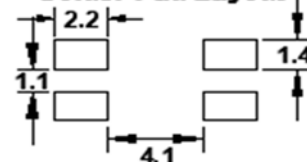
Operating Temperature	± 5 PPM	± 10 PPM	± 15 PPM	± 20 PPM	± 25 PPM	± 30 PPM	± 50 PPM	± 100 PPM
0 ~ $+70^{\circ}\text{C}$	X	O	O	O	O	O	O	N/A
-10 ~ $+60^{\circ}\text{C}$	O	O	O	O	O	O	O	N/A
-10 ~ $+70^{\circ}\text{C}$	X	O	O	O	O	O	O	N/A
-20 ~ $+70^{\circ}\text{C}$	X	O	O	O	O	O	O	N/A
-30 ~ $+85^{\circ}\text{C}$	X	X	O	O	O	O	O	N/A
-40 ~ $+85^{\circ}\text{C}$	X	X	O	O	O	O	O	N/A
-40 ~ $+105^{\circ}\text{C}$	X	X	X	X	X	X	O	O
-40 ~ $+125^{\circ}\text{C}$	X	X	X	X	X	X	O	O
-55 ~ $+155^{\circ}\text{C}$	X	X	X	X	X	X	O	O

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



Dimensions in mm

Recommended Solder Pad Layout



Pin Connections

#4 - Lid/Gnd #3 - Crystal
#1 - Crystal #2 - 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.



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Title / Description: C7BS SERIES STANDARD SPECIFICATIONS

Drawing Number: C7BS-DOC-2

Size: A

Part Number:

Cage: 61429

Draftsperson: BEC

Approved: MAJ

Revision Date: 06/04/2019



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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	8.0	7.5	16.0	1.7	-T1 = 1,000 -T2 = 2,000	2.0	Ø13	Ø21	Ø80	Ø250	17.5	2.0

Available Options & Part Identification for Crystal Model C7BS¹

F C7BS B B M D 25.0

F	C7BS	B	B	M	D	25.0
FOX	Model Number	Tolerance	Stability	Load Capacitance ²	Operating Temperature	Frequency (MHz)
		B = ±50 PPM C = ±30 PPM D = ±25 PPM E = ±20 PPM F = ±15 PPM H = ±10 PPM	A = ±100 PPM B = ±50 PPM C = ±30 PPM D = ±25 PPM E = ±20 PPM F = ±15 PPM H = ±10 PPM L = ±5 PPM	E = 10 pF G = 12 pF J = 15 pF K = 16 pF L = 18 pF M = 20 pF	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	

¹Not 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 Fox Technical Support for assistance



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