



# 5 x 3.2mm Auto Grade Crystal

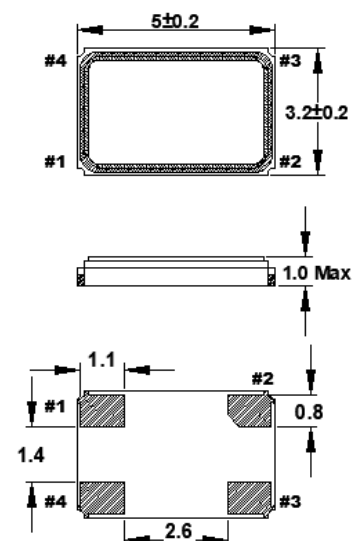
**C5BA**  
(former FXA5032B)  
**DATASHEET**

- AEC Q200 Qualified
- IATF-16949 QMS
- Tolerances down to  $\pm 10$  PPM
- Stabilities down to  $\pm 20$  PPM

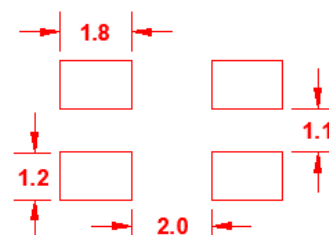
## • SPECIFICATIONS

PARAMETERS	MAX (unless otherwise noted)
Frequency Range	8.000 ~ 133.000 MHz
Frequency Tolerance @ 25°C	(See options on page 2)
Frequency Stability, ref @ 25°C	(See options below)
Temperature Range	
Operating (T <sub>OPR</sub> )	See options below
Storage (T <sub>STG</sub> )	-55°C ~ +150°C
Shunt Capacitance (C <sub>0</sub> )	7 pF
Load Capacitance (C <sub>L</sub> )	(See options on page 2)
Drive Level	100 $\mu$ W
Aging per year	$\pm 5$ 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 $\mu$ m) over Ni (1.27~8.89 $\mu$ m)
Seal Method	Seam
Lead (Pb) Free	Yes
RoHS Compliant	Yes, no exemptions
REACH Compliant (latest version)	Yes

Frequency Range (MHz)	Operating Mode	Max ESR $\Omega$
8.000 ~ 9.749999	Fundamental	70
9.750 ~ 9.999999	Fundamental	60
10.000 ~ 11.999999	Fundamental	45
12.000 ~ 15.999999	Fundamental	35
16.000 ~ 19.999999	Fundamental	30
20.000 ~ 49.999999	Fundamental	25
50.000 ~ 54.000	Fundamental	20
40.000 ~ 79.999999	3 <sup>RD</sup> OT	100
80.000 ~ 99.999999	3 <sup>RD</sup> OT	80
100.000 ~ 133.000	3 <sup>RD</sup> OT	60



### Recommended Solder Pad Layout



Dimensions in mm

### Pin Connections

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

Note: Dimensional drawing is for reference to critical specifications defined by size measurements.

## • Available Operating Temperatures and Stabilities

Operating Temperature	$\pm 20$ PPM	$\pm 25$ PPM	$\pm 30$ PPM	$\pm 50$ PPM	$\pm 100$ PPM
-40 ~ +85°C	O	O	O	O	O
-40 ~ +105°C	X	X	O	O	O
-40 ~ +125°C	X	X	X	O	O
-55 ~ +125°C	X	X	X	O	O

Key: O=Available, X=Not Available,

### Reference / Comments

7/21/2020 – Added thickness info to termination metals, adjusted MSL info to include J-STD-033 and N/A

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### Title / Description: C5BA SERIES STANDARD SPECIFICATIONS

Drawing Number: C5BA-DOC-1

Part Number:

Draftsperson: BEC

Size: A

Cage: 61429

Approved: MAJ

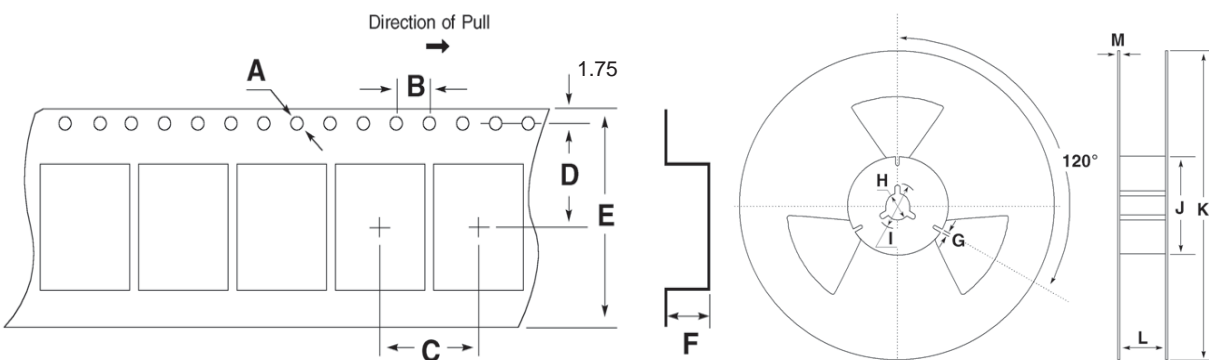
Date: 07/21/2020



# 5 x 3.2mm Auto Grade Crystal

**C5BA**  
(former FXA5032B)  
**DATASHEET**

• 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	5.5	12.0	1.4	-T1 = 1,000	2.0	Ø13	Ø21	Ø62	Ø180	13.5	2.0



## Available Options & Part Identification for Automotive Crystal Model C5BA<sup>1</sup>

### F C5BA B C V I 40.0

F	C5BA	B	C	V	I	40.0
FOX	Model Number	Tolerance	Stability	Load Capacitance <sup>2</sup>	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	V=7pF D=8pF E=10pF G=12pF J=15pF K=16pF L=18pF M=20pF	M = -40 to +85°C P = -40 to +105°C I = -40 to +125°C T = -55 to +125°C	

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

<sup>2</sup>Listed load capacitances represent the most commonly used. Other load capacitances are available. Contact Fox Technical Support for assistance.



### Corporate Headquarters

5570 Enterprise Parkway  
Fort Myers, FL 33905  
<http://www.FOXONLINE.com>

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

Reference / Comments	Title / Description: C5BA SERIES STANDARD SPECIFICATIONS		
7/21/2020 – Added thickness info to termination metals, adjusted MSL info to include J-STD-033 and N/A  © Copyright 2020 Fox Electronics. All rights reserved	Drawing Number: C5BA-DOC-1		Size: A
	Part Number:		Cage: 61429
	Draftsperson: BEC	Approved: MAJ	Date: 07/21/2020

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