



**THE DATASHEET OF  
FC5BACBEI12.0-T1**



### Features

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

STANDARD SPECIFICATIONS	
PARAMETERS	MAX (Unless otherwise noted)
Frequency Range	8.000 ~ 133.000 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 ~ +150°C
Shunt Capacitance ( $C_o$ )	7 pF
Load Capacitance ( $C_L$ )	(See options below)
Drive Level	100 $\mu$ W
Aging per year (@ 25°C)	$\pm 5$ 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

DIMENSIONS / MECHANICAL SPECIFICATIONS	
<p style="text-align: center;"><b>Recommended Solder Pad Layout</b></p>	
<p style="text-align: center;">Dimensions in mm</p>	
<p style="text-align: center;"><b>Pin Connections</b></p> <p>#1 - Crystal    #2 - Lid/Gnd #3 - Crystal    #4 - Lid/Gnd</p>	
<p>Note: Dimensional drawing is for reference to critical specifications defined by size measurements.</p>	

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

Key: O = Available, X = Not Available

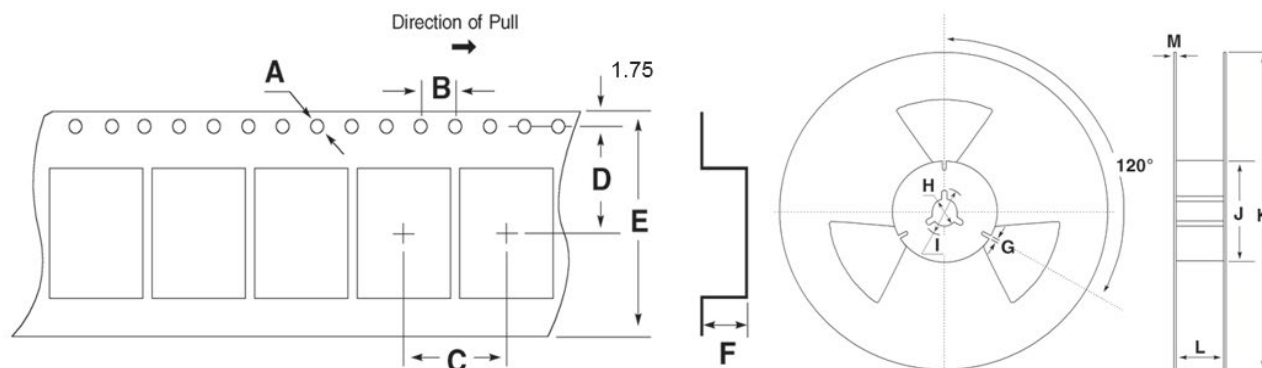
# FC5BA

(Former FXA5032B)

5mm x 3.2mm  
Auto Grade 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	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>

Sample PN: FC5BABCVI40.0-T1

F	C5BA	B	C	V	I	40.0	-T1
<b>Fox</b>	<b>Model Number</b>	<b>Tolerance</b> B = ±50 PPM C = ±30 PPM D = ±25 PPM E = ±20 PPM F = ±15 PPM H = ±10 PPM	<b>Stability</b> A = ±100 PPM B = ±50 PPM <b>C = ±30 PPM</b> D = ±25 PPM E = ±20 PPM	<b>Load Capacitance<sup>2</sup></b> V = 7pF D = 8pF E = 10pF G = 12pF J = 15pF K = 16pF L = 18pF M = 20pF	<b>Operating Temperature</b> M = -40 to +85°C P = -40 to +105°C <b>I = -40 to +125°C</b> T = -55 to +125°C	<b>Frequency (MHz)</b>	<b>Values Added Options</b> Blank = Bulk T1 = 1,000 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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