



# 1.2x1.0mm Ceramic SMD Crystal CABS

## DATASHEET

- Tolerances down to  $\pm 10$  PPM
- Stabilities down to  $\pm 10$  PPM
- Temperature Ranges as wide as  $-40^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$

### • SPECIFICATIONS

PARAMETERS	MAX (unless otherwise noted)
Frequency Range	32.000 ~ 80.000 MHz
Frequency Tolerance @ $25^{\circ}\text{C}$	(See options on page 2)
Frequency Stability, ref @ $25^{\circ}\text{C}$	(See options below)
Temperature Range	
Operating (TOPR)	(See options below)
Storage (TSTG)	$-55^{\circ}\text{C} \sim +125^{\circ}\text{C}$
Shunt Capacitance ( $C_0$ )	2 pF
Load Capacitance ( $C_L$ )	(See options on page 2)
Drive Level	100 $\mu\text{W}$ (10 $\mu\text{W}$ typical)
Aging per year	$\pm 3$ PPM
Maximum Soldering Temp / Time	$260^{\circ}\text{C}$ / 10 Seconds x 2
Moisture Sensitivity Level (MSL)	1
Termination Finish	Au over Ni
Lead (Pb) Free	Yes
RoHS/REACH Compliant	Yes

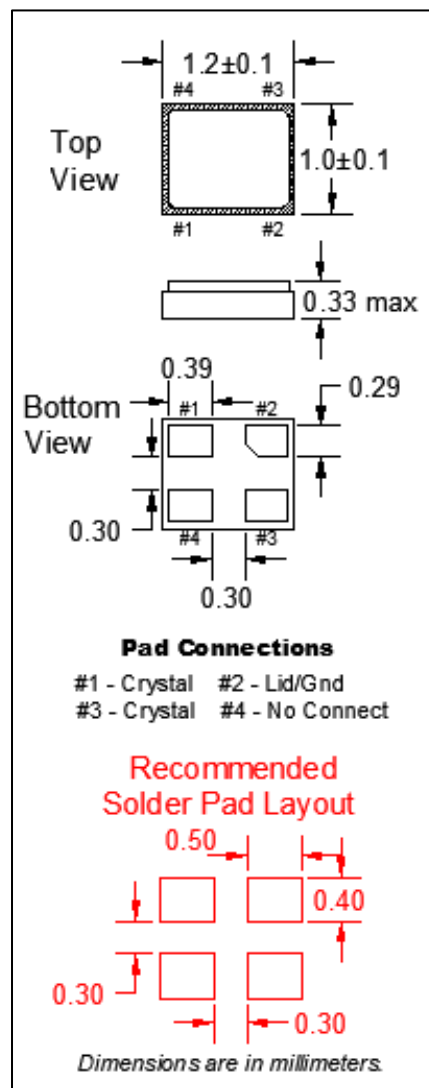
Frequency Range (MHz)	Operating Mode	Max ESR $\Omega$
32.000 ~ 32.999999	Fundamental	100
33.000 ~ 36.999999	Fundamental	80
37.000 ~ 80.000	Fundamental	60

### • Available Operating Temperatures and Stabilities\*

Operating Temperature	$\pm 10$ PPM	$\pm 15$ PPM	$\pm 20$ PPM	$\pm 25$ PPM
$-20 \sim +70^{\circ}\text{C}$	O	O	O	O
$-30 \sim +85^{\circ}\text{C}$	X	O	O	O
$-40 \sim +85^{\circ}\text{C}$	X	O	O	O

Key: O=Available, X=Not Available

\*Does not imply a stocked part.



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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• TAPE SPECIFICATIONS (millimeters)							• REEL SPECIFICATIONS (millimeters)						
A	B	C	D	E	F	Reel QTY	G	H	I	J	K	L	M
Ø1.5	4.0	4.0	3.5	8.0	0.45	-T5 = 5,000	2.0	Ø13	Ø21	Ø60	Ø180	9.0	1.5

### Available Options & Part Identification for CABS\*

#### **F CABS F F D M 40.0**

F	CABS	F	F	D	M	40.0
<b>FOX</b>	<b>Model Number</b>	<b>Tolerance</b> D = ±25 PPM E = ±20 PPM F = ±15 PPM H = ±10 PPM	<b>Stability</b> D = ±25 PPM E = ±20 PPM F = ±15 PPM H = ±10 PPM	<b>Load Capacitance<sup>1</sup></b> B = 6 pF V = 7 pF D = 8 pF E = 10 pF G = 12 pF	<b>Operating Temperature</b> F = -20 ~ +70°C K = -30 ~ +85°C M = -40 ~ +85°C	<b>Frequency (MHz)</b>

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

<sup>1</sup>Listed load capacitances represent the most commonly used. Other load capacitances are available.



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