



- ▶ Low profile
- ▶ 3.2 x 2.5 mm Footprint
- ▶ Extended Temp Range Option
- ▶ RoHS Compliant

ECX-32 SMD QUARTZ CRYSTAL

25-06066

The sub miniature ECX-32 is a compact SMD Crystal. The 3.2 x 2.5 x 0.8 mm ceramic package is ideal for today's SMD manufacturing environment.

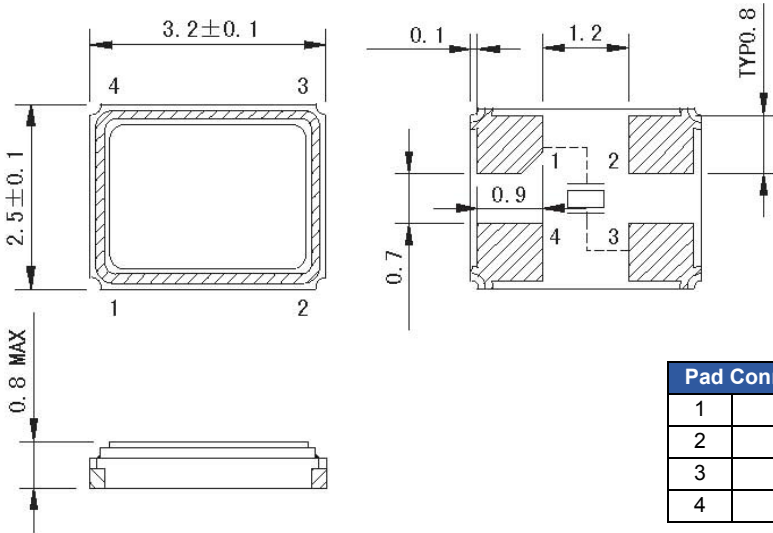
OPERATING CONDITIONS / ELECTRICAL CHARACTERISTICS

PARAMETERS	CONDITIONS	ECX-32			UNITS
		MIN	TYP	MAX	
Frequency Range		12.000		50.000	MHz
Frequency Tolerance	at +25°C			± 50 *	ppm
Frequency Stability	-20 to +70°C			± 50 *	ppm
Shunt Capacitance				5	pF
Load Capacitance	Specify in P/N	10	20	Series	pF
Drive Level				100	µW
Operating Temperature		-20		+70	°C
Storage Temperature		-55		+125	°C
Aging (Per Year)	@ +25°C ±3°C			±5	ppm

EQUIVALENT SERIES RESISTANCE/MODE OF OSCILLATION

FREQUENCY RANGE (MHz)	MODE OF OSC	MAX ESR Ω	FREQUENCY RANGE (MHz)	MODE OF OSC	MAX ESR Ω
12.00 ~ 15.999	Fundamental	100	20.000 ~ 23.999	Fundamental	60
16.000 ~ 19.999	Fundamental	80	24.000 ~ 50.000	Fundamental	40

DIMENSIONS (mm)



Pad Connections	
1	In/Out
2	Gnd
3	Out/In
4	Gnd

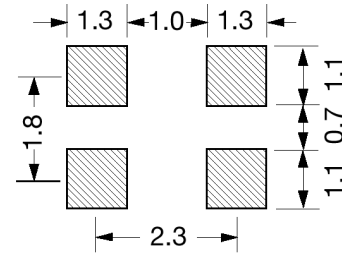


Figure 1) Top, Side, and Bottom views

Figure 2) Suggested Land Pattern

PART NUMBERING GUIDE: Example ECS-200-20-33-TR

ECS - Frequency Abbreviation - Load Capacitance - Package

200 = 20.000 MHz
See P/N Guide

20 = 20 pF
S=Series

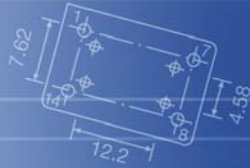
33 =
ECX-32

240 = 24.000MHz

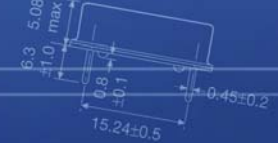
Custom Options			
Tolerance	* Stability	Temp Range	Packaging
Blank = Std A = ± 25 ppm J = ± 20 ppm R = ± 15 ppm C = ± 10 ppm	Blank = Std D = ± 100 ppm E = ± 50 ppm G = ± 30 ppm H = ± 25 ppm T = ± 20 ppm W = ± 15 ppm K = ± 10 ppm	Blank = Std M = -20 ~ +70°C N = -40 ~ +85°C P = -40 ~ +105°C S = -40 ~ +125°C U = -55 ~ +125°C	TR= Tape & Reel 1K/Reel

*Consult Factory for available stability options over extended temp range.

Rev. 8/11



ECX-32 SMD CRYSTAL



Developed Frequencies

FREQUENCY MHz	CODE
16.000	160
18.432	184
19.6608	196
20.000	200
24.000	240
25.000	250
27.000	270
30.000	300
32.000	320
36.000	360
40.000	400
48.000	480

Sample P/N: ECS-200-20-33
 ECS = Mfg Code
 200 = Frequency Code 20.000 MHz
 -20 = Load Capacitance 20 pF
 -33 = Package, ECX-32

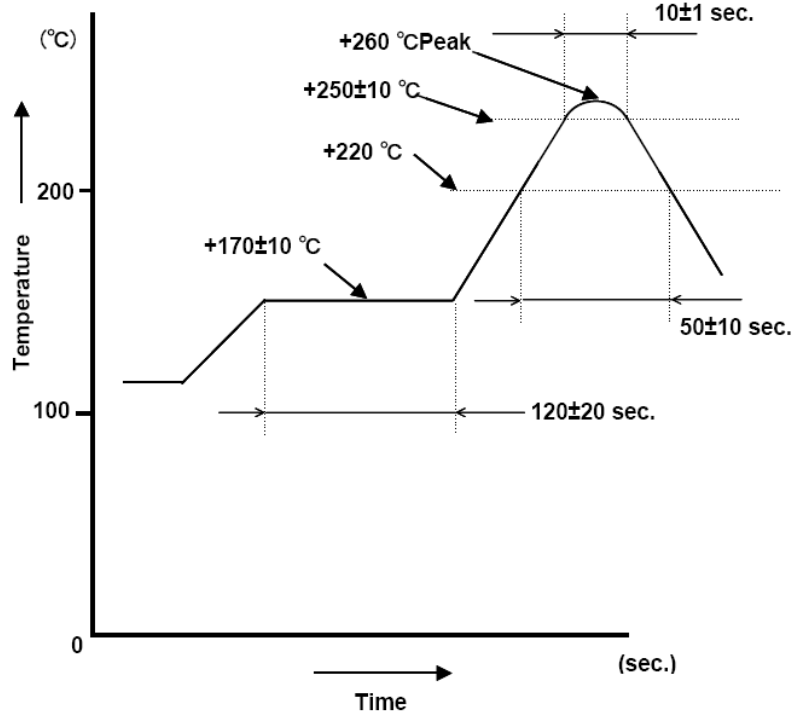
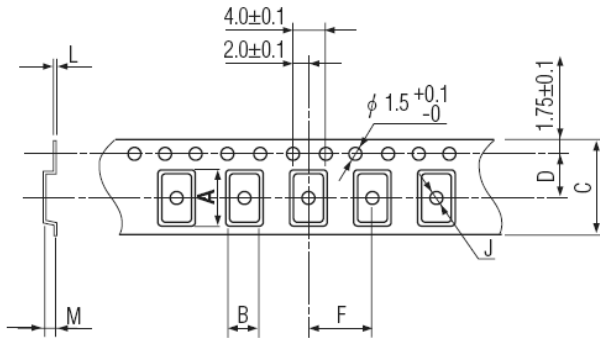


Figure 1) Suggested Reflow Profile

POCKET TAPE DIMENSIONS (mm)



A	B	C	D	F	J	L	M	Reel Dia.	Qty/Reel
3.5	2.8	8.0	3.5	4.0	1.1	0.25	1.0	180	1000

Package Data	
Item	Description
Lid	Metal
Base	Ceramic
Sealing	Seam/EB
Terminal	Tungsten (metalized)
Plating	Gold/Nickel Surface/Under
RoHS	Compliant (Pb Free)

Figure 2) Pocket Tape Dimensions