

- ▶ Low Profile
- ▶ 2.0 x 1.6 mm Footprint
- ▶ Extended Temp. Range Option
- ▶ RoHS Compliant

ECX-1637

SMD CRYSTAL

The sub miniature ECX-1637 is a very compact SMD Crystal. The 2.0 x 1.6 x 0.45 mm ceramic package is ideal for today's SMD manufacturing environment.

OPERATING CONDITIONS / ELECTRICAL CHARACTERISTICS

PARAMETERS	CONDITIONS	ECX-1637			UNITS
		MIN	TYP	MAX	
Frequency	Fo	20.000		80.000	MHz
Frequency Tolerance	@ +25°C			± 50 *	ppm
Frequency Stability (ref @ 25°C)	-20 ~ +70°C			± 50 *	ppm
Shunt Capacitance				5.0	pF
Load Capacitance			8		pF
Equivalent Series Resistance	Fundamental Mode			100	Ω
Drive Level				100	μW
Operating Temperature	Topr	-20		+70	°C
Storage Temperature	Tstg	-40		+85	°C
Aging Characteristics (Per Year)	@ +25°C ± 3°C			± 5	ppm

PACKAGE DIMENSIONS (mm)

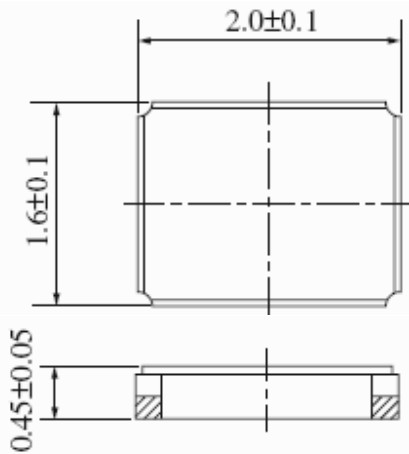


Figure 1) Top, Side and End Views

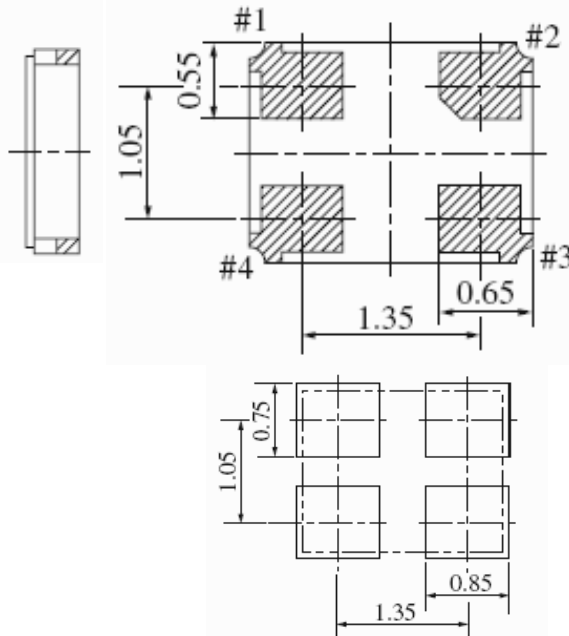
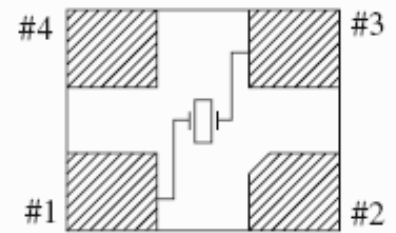


Figure 2) Bottom View and Suggested Land



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

Figure 3) Internal Connections (Top View)

PART NUMBERING GUIDE: Example ECS-200-8-37-TR

ECS - Frequency Abbreviation - Load - Package Type - Tolerance - Stability - Temp Range - Packaging

200 = 20.000 MHz
See P/N Guide for Std Frequencies

8 = 8.0 pF
S = Series

-37 =
ECX-1637

A = ± 25 ppm
C = ± 10 ppm

D = ± 100 ppm
E = ± 50 ppm
G = ± 30 ppm
H = ± 25 ppm
K = ± 10 ppm

L = -10 ~ +70°C
M = -20 ~ +70°C
N = -40 ~ +85°C
P = -40 ~ +105°C

-TR =
Tape & Reel
1K/Reel

* Tighter Tolerance/Stability Options Available (see custom options)
Not all stabilities are available at all temp ranges, consult ECS.



Developed Frequencies

FREQUENCY MHz	CODE
20.000	200
20.480	204.8
24.000	240
24.576	245.76
26.000	260
27.000	270
27.120	271.2
28.63636	286.36
32.000	320
36.000	360
38.400	384
40.000	400

Sample P/N: ECX-200-8-37
 ECS = Mfg Code
 200 = Frequency Code 20.000 MHz
 -8 = Load Capacitance 8 pF
 -37 = Package, ECX-1637

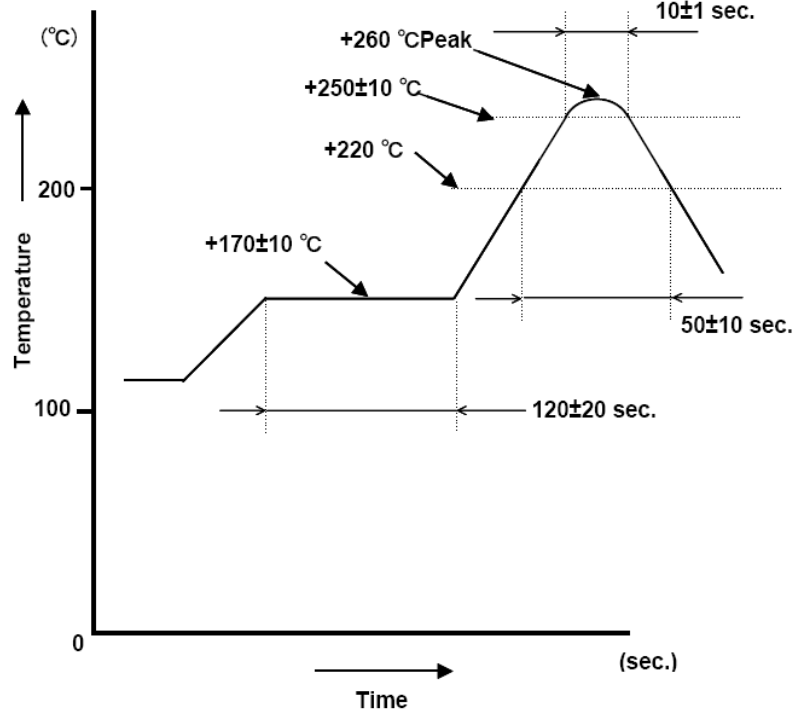
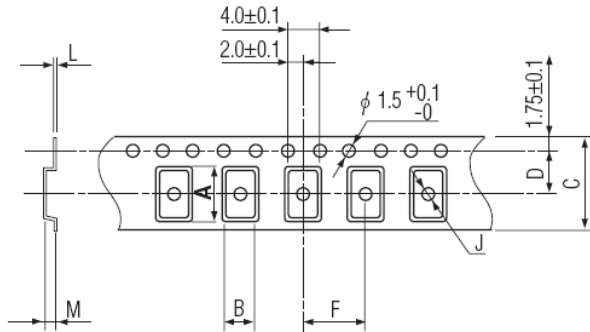


Figure 1) Suggested Reflow Profile

POCKET TAPE DIMENSIONS (mm)



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

A	B	C	D	F	J	L	M	Reel Dia.	Qty/Reel
2.25	1.85	8.0	3.5	4.0	1.0	0.25	0.65	180	1000

Figure 2) Pocket Tape Dimensions