

The miniature ECX-42 is a compact SMD Crystal. The 4.0 x 2.5 x 0.8 mm ceramic package is ideal for today's SMD manufacturing environment.

ECX-42 SMD CRYSTAL

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- Low Profile
- 4.0 x 2.5 mm Footprint
- Extended Temp. Range Option
- RoHS Compliant

OPERATING CONDITIONS / ELECTRICAL CHARACTERISTICS

PARAMETERS	CONDITIONS	ECX-42			UNITS
		MIN	TYP	MAX	
Frequency		12.000		50.000	MHz
Mode of Oscillation	Fundamental				
Frequency Tolerance*	@ +25°C			± 30	ppm
Frequency Stability*	-10 ~ +70°C			± 50	ppm
Shunt Capacitance	Co			5	pF
Load Capacitance	Specify in P/N		12		pF
Drive Level	DL			300	μW
Operating Temperature*	T _{opr}	-10		+70	°C
Storage Temperature	T _{stg}	-55		+125	°C
Aging (First Year)	@ +25°C ±3°C			±5	ppm

DIMENSIONS (mm)

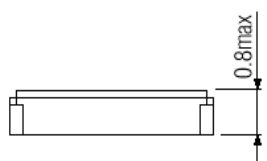
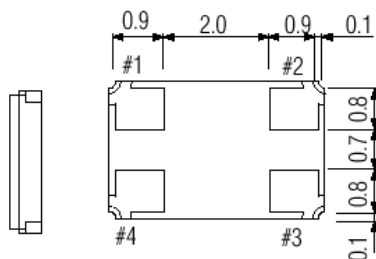
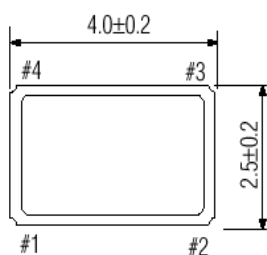
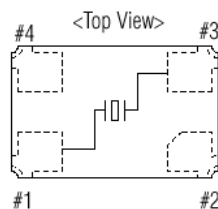


Figure 1) Top, Side, and Bottom

Crystal is symmetrical, pad 1 & 3 are interchangeable. Chamfer on the bottom pad has no electrical significance.



Pad Connections

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

Frequency (MHz)	ESR Ω Max.
12.000 ~ 15.999	80
16.000 ~ 19.999	60
20.000 ~ 23.999	50
24.000 ~ 50.000	40

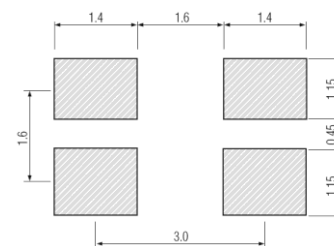


Figure 2) Suggested land

PART NUMBERING GUIDE: Example ECS-200-20-42-TR

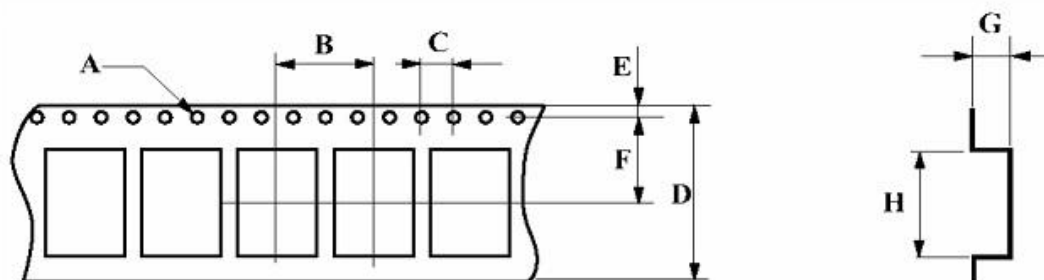
ECS - FREQUENCY ABBREVIATION		LOAD CAPACITANCE	PACKAGE	AVAILABLE OPTIONS			PACKAGING
				Tolerance	Stability	Temp Range	
ECS	200 = 20.000 MHz See P/N Guide	20 = 20 pF S = Series	42 = ECX-42	Blank = Std A = ± 25 ppm J = ± 20 ppm R = ± 15 ppm C = ± 10 ppm	Blank= Std D= ±100 ppm E = ± 50 ppm G = ± 30 ppm H = ± 25 ppm T = ± 20 ppm † W = ±15 ppm † K = ± 10 ppm †	Blank= Std L = -10 ~ +70°C M = -20 ~ +70°C Y = -30 ~ +85°C N = -40 ~ +85°C P = -40 ~ +105°C S = -40 ~ +125°C U = -55 ~ +125°C	TR = Tape & Reel 1K/Reel
* Specify available options in P/N.							
† Contact ECS for availability over extended temp range.							
				Rev.2017			

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POCKET TAPE DIMENSIONS (mm)



TAPE SPECIFICATIONS (mm)								
MODEL	A	B	C	D	E	F	G	H
ECS-42	$\phi 1.5$	4.0	4.0	12.0	2.50	3.5	1.0	4.4

SOLDER PROFILE

Peak solder Temp +260°C Max 10 sec Max.

2 Cycles Max.

MSL 1, Lead Finish Au

DEVELOPED FREQUENCIES

Abbreviation	Frequency (MHZ)
120	12.000
130	13.000
160	16.000
240	24.000
260	26.000
320	32.000

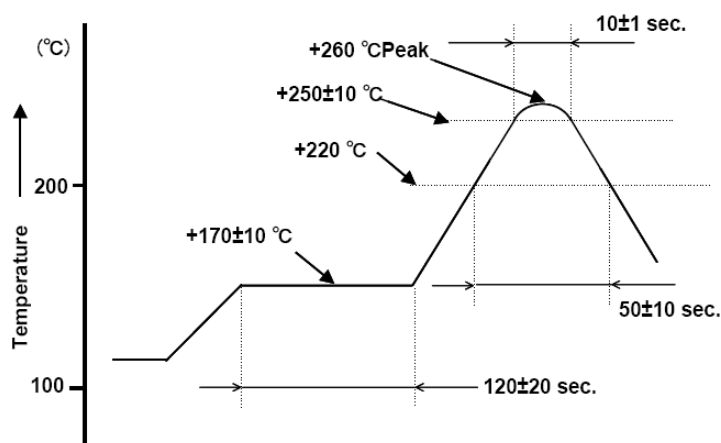


Figure 1) Suggested Reflow Profile