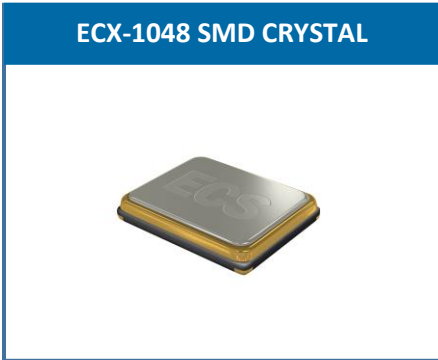


The ultra-miniature ECX-1048 is our smallest compact Crystal. The 1.2 x 1.0 x 0.33 mm ceramic package is ideal for LoRa WAN, receivers, video, audio, and mobile applications.

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- Low Profile
- 1.2 x 1.0 mm Footprint
- Extended Temp. Range
- RoHS Compliant
- IOT/Wearable Applications

## OPERATING CONDITIONS / ELECTRICAL CHARACTERISTICS

PARAMETERS	CONDITIONS	ECX-1048			UNITS
		MIN	TYP	MAX	
Frequency		32.000		54.000	MHz
Frequency Tolerance	@ +25°C			± 10	ppm
Frequency Stability	-30 ~ +85°C (Y)			± 10	ppm
Resistance (ESR)	32 ~ 54.000 MHz			100	Ω
Shunt Capacitance	Co			2	pF
Load Capacitance	Specify in P/N		10		pF
Drive Level	DL		10	50	μW
Operating Temperature	Topr	-40		+85	°C
Storage Temperature	Tstg	-40		+90	°C
Aging (First Year)	@ +25°C ±3°C			±2	ppm

## DIMENSIONS (mm)

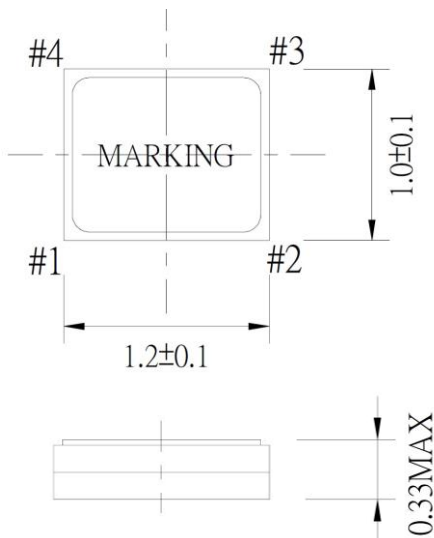


Figure 1) Top, Side, and Bottom views

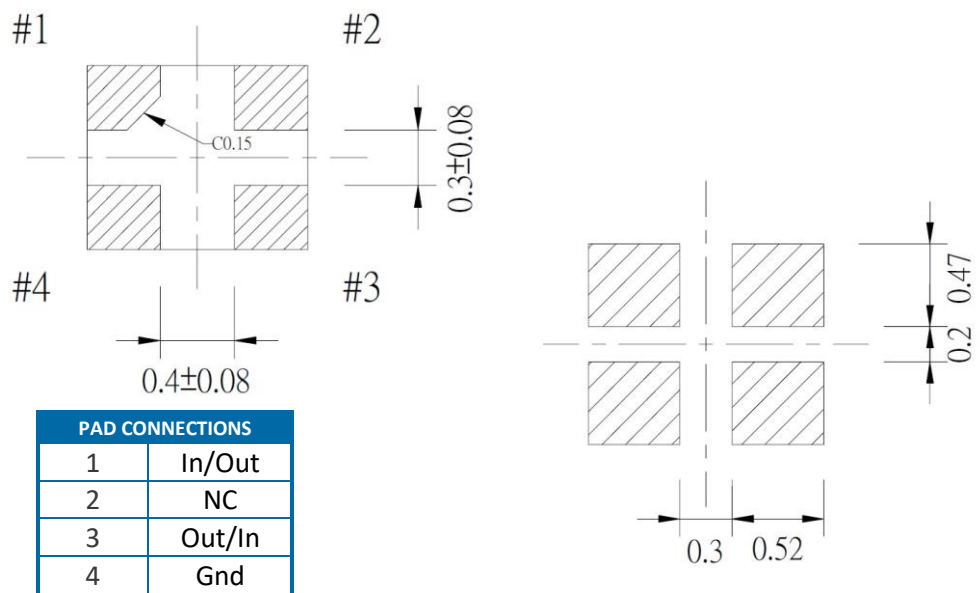


Figure 2) Suggested Land Pattern

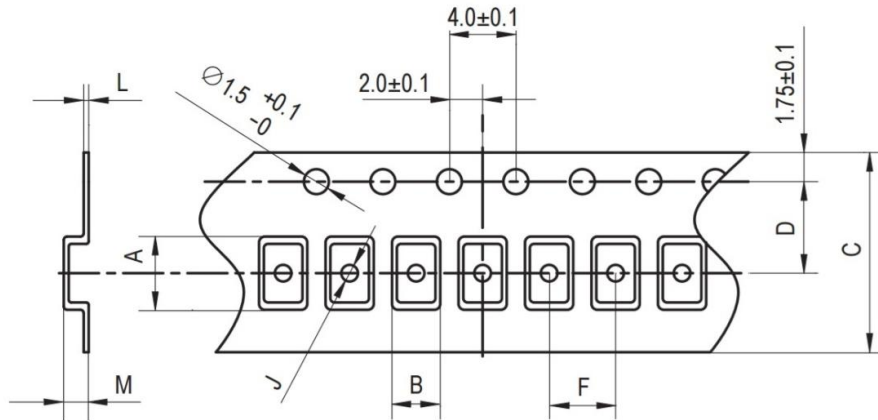
## PART NUMBERING GUIDE: Example ECS-320-10-48-CKY-TR

ECS - FREQUENCY ABBREVIATION	LOAD CAPACITANCE	PACKAGE	CUSTOM OPTIOND			PACKAGING	
			Tolerance	Stability	Temp Range		
ECS	320 = 32.000 MHz See P/N Guide	8 = 8 pF 10 = 10 pF	-48 = ECX-1048	A = ± 25 ppm J = ± 20 ppm R = ± 15 ppm C = ± 10 ppm	E = ± 50 ppm G = ± 30 ppm H = ± 25 ppm T = ± 20 ppm W = ± 15 ppm K = ± 10 ppm	M = -20 ~ +70°C Y = -30 ~ +85°C N = -40 ~ +85°C	TR = Tape & Reel 3K/Reel

\*Contact ECS for availability

Rev.2017

**POCKET TAPE DIMENSIONS (mm)**



A	B	C	D	F	J	L	M	Reel Dia.	Qty/Reel
1.42	1.17	8.0	3.5	4.0	0.5	0.2	0.65	180	3K/Reel

SOLDER PROFILE
Peak solder Temp +260°C Max 10 sec Max.
2 Cycles Max.
MSL 1, Lead Finish Au

STANDARD FREQUENCIES	
Abbreviation	Frequency (MHZ)
320	32.000
374	37.400
384	38.400
480	48.000

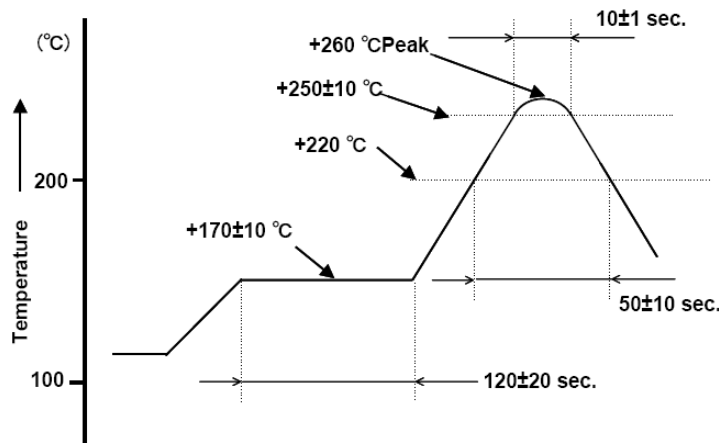


Figure 1) Suggested Reflow Profile

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