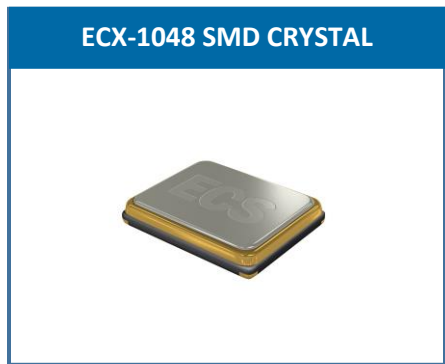


The ultra-miniature ECX-1048 is our smallest compact Crystal. The 1.2 x 1.0 x 0.33 mm ceramic package is ideal for LoRa WAN, receivers, video, audio, and mobile applications.

[Request a Sample](#)

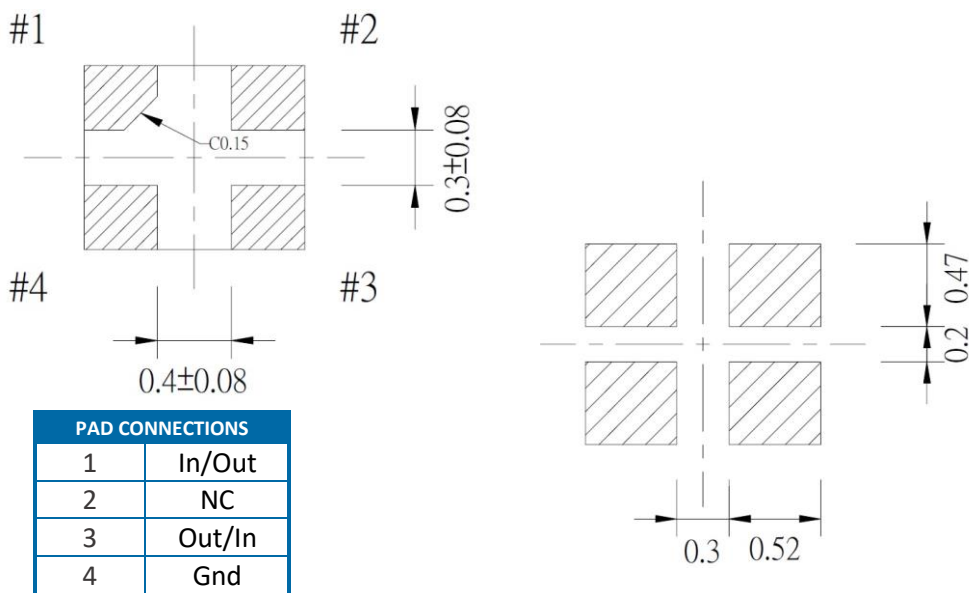
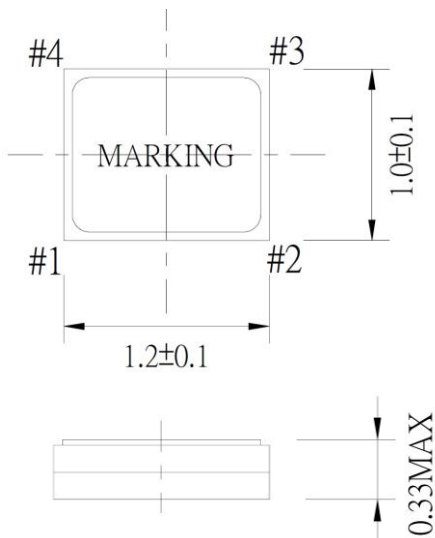


- Low Profile
- 1.2 x 1.0 mm Footprint
- Extended Temp. Range
- RoHS Compliant
- IOT/Wearable Applications

OPERATING CONDITIONS / ELECTRICAL CHARACTERISTICS

PARAMETERS	CONDITIONS	ECX-1048			UNITS
		MIN	TYP	MAX	
Frequency		24.000		54.000	MHz
Frequency Tolerance	@ +25°C			± 10	ppm
Frequency Stability	-30 ~ +85°C (Y)			± 10	ppm
Equivalent Series Resistance (ESR)	24 ~ 31.999 MHz			150	Ω
	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)



PAD CONNECTIONS	
1	In/Out
2	NC
3	Out/In
4	Gnd

Figure 1) Top, Side, and Bottom views

Figure 2) Suggested Land Pattern

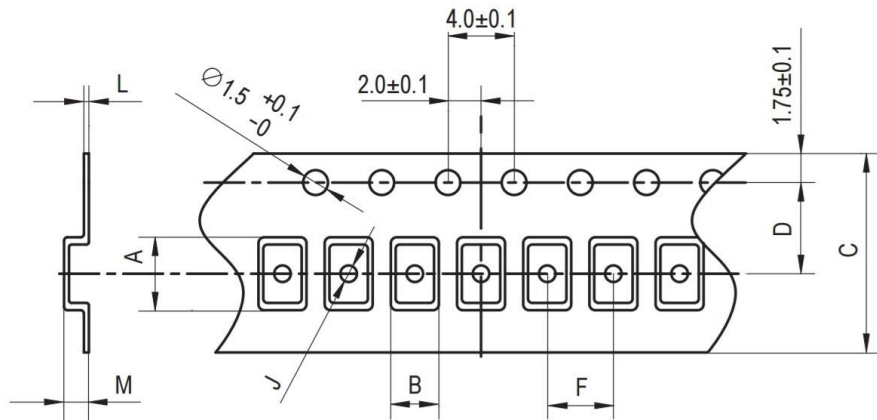
PART NUMBERING GUIDE: Example ECS-240-10-48-CKY-TR

ECS - FREQUENCY ABBREVIATION	LOAD CAPACITANCE	PACKAGE	CUSTOM OPTIOND			PACKAGING	
			Tolerance	Stability	Temp Range		
ECS	240 = 24.000 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 1K/Reel

*Contact ECS for availability

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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	1K/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)
240	24.000
260	26.000
360	36.000
374	37.400
384	38.400
400	40.000
520	52.000

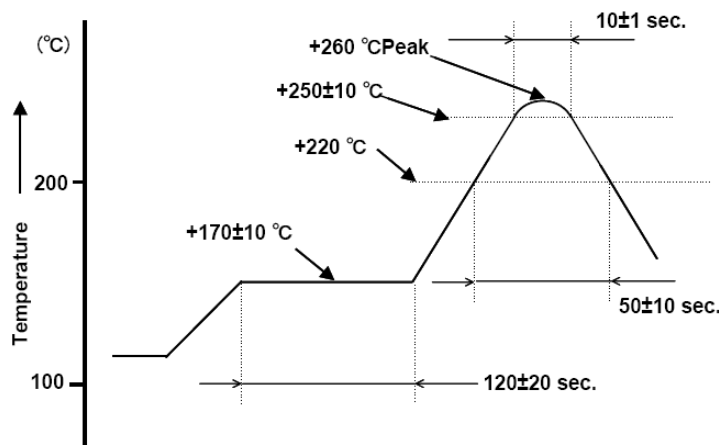


Figure 1) Suggested Reflow Profile