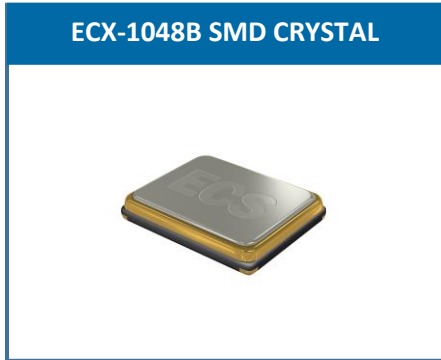


The ultra-miniature ECX-1048B is our smallest compact Crystal. The 1.2 x 1.0 x 0.33 mm ceramic package is ideal for today's SMD manufacturing environment.

[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-1048B			UNITS
		MIN	TYP	MAX	
Frequency		32.000		80.000	MHz
Frequency Tolerance	@ +25°C (R)			± 15	ppm
Frequency Stability	-40 ~ +85°C (TN)			± 20	ppm
Equivalent Series Resistance (ESR)	32 ~ 33.0 MHz			100	Ω
	33.1 ~ 37.0 MHz			80	Ω
	37.1 ~ 80.0 MHz			60	Ω
Shunt Capacitance	Co			2	pF
Load Capacitance	Specify in P/N		7		pF
Drive Level	DL		10	100	μW
Operating Temperature	Topr	-40		+85	°C
Storage Temperature	Tstg	-40		+105	°C
Aging (First Year)	@ +25°C ±3°C			±2	ppm

## DIMENSIONS (mm)

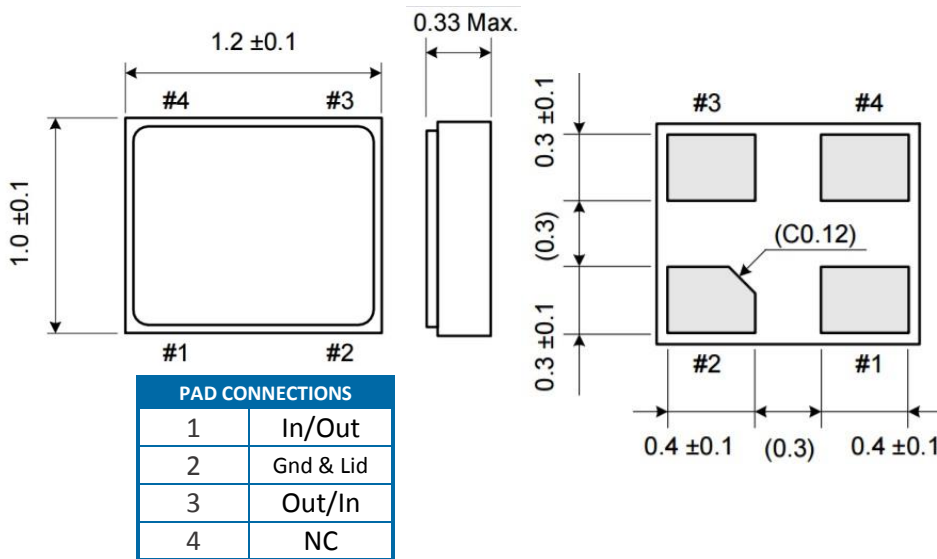


Figure 1) Top, Side, and Bottom views

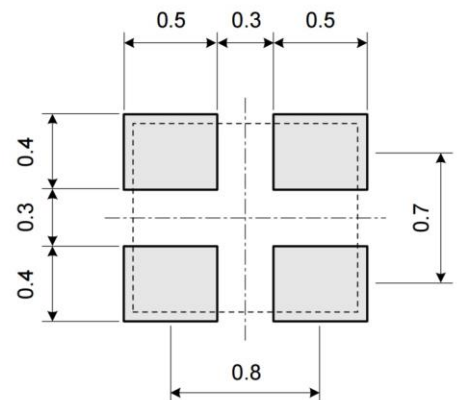


Figure 2) Suggested Land Pattern

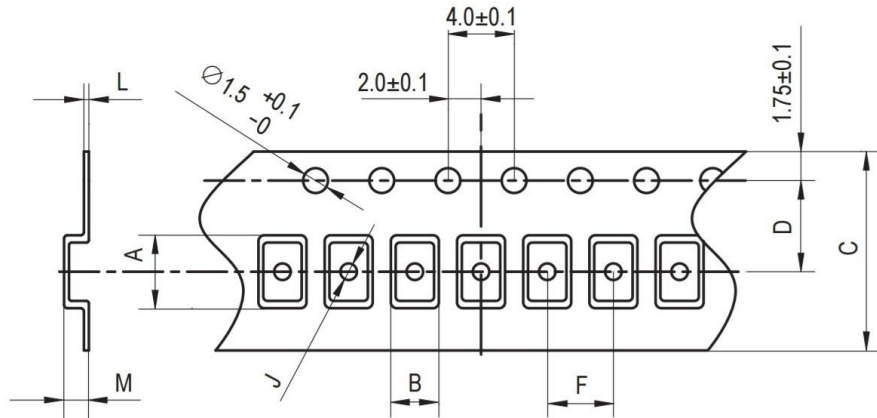
## PART NUMBERING GUIDE: Example ECS-480-10-48B-RTN-TR

ECS	FREQUENCY ABBREVIATION	LOAD CAPACITANCE	PACKAGE	CUSTOM OPTIOND		PACKAGING	
				Tolerance	* Stability		Temp Range
ECS	480 = 48.000 MHz See P/N Guide	7 = 7 pF * Other CL's available	-48B = ECX-1048B	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 5K/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	5K/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
450	45.000
480	48.000
520	52.000
640	64.000

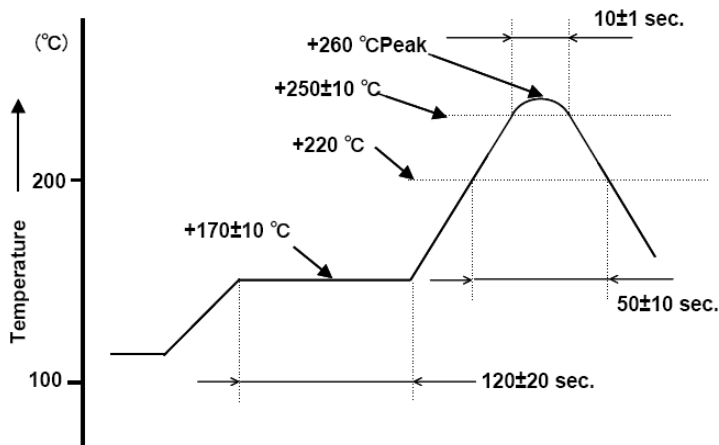


Figure 1) Suggested Reflow Profile