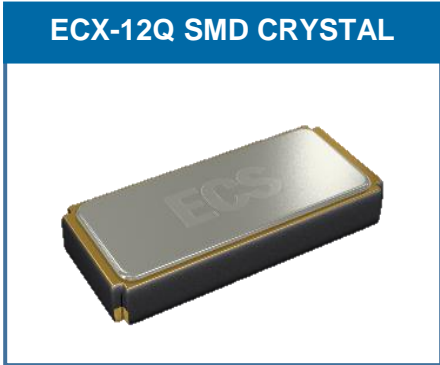


The ultra-miniature ECX-12Q is a very compact SMD AEC-Q200 Qualified Tuning Fork Crystal.

[Request a Sample](#)

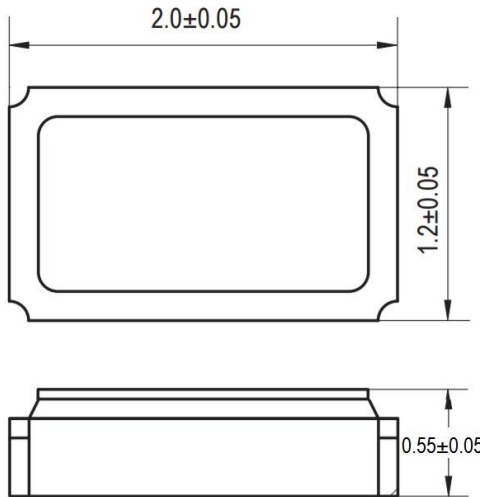
### OPERATING CONDITIONS / ELECTRICAL CHARACTERISTICS



- RoHS Compliant (2011/65/EU)
- MSL: 1
- AEC-Q200 Qualified
- TS16949 certified production
- PPAP Supported

PARAMETERS	CONDITIONS	ECX-12Q			UNITS
		MIN	TYP	MAX	
Frequency			32.768		KHz
Frequency Tolerance	@ +25°C			± 20 *	ppm
Temperature Coefficient		-0.028	-0.034	-0.040	ppm/°C <sup>2</sup>
Shunt Capacitance	Co		1.2		pF
Load Capacitance	Specify in P/N		12.5		pF
Drive Level	DL		0.1	0.5	µW
Equivalent Series Resistance	R1			90K	Ω
Insulation Resistance	@ 100V DC	500M			Ω
Turnover Temperature		+20	+25	+30	°C
Operating Temperature	S Option	-40		+125	°C
Storage Temperature	Tstg	-55		+125	°C
Aging (First Year)	@ +25°C ±3°C			±3	ppm

### DIMENSIONS (mm)



PAD CONNECTIONS	
1	In/Out
2	Out/In

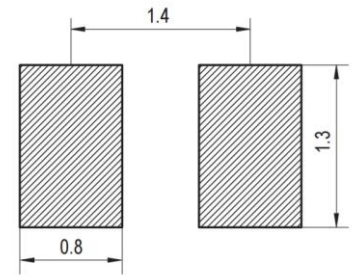


Figure 2) Suggested Land Pattern

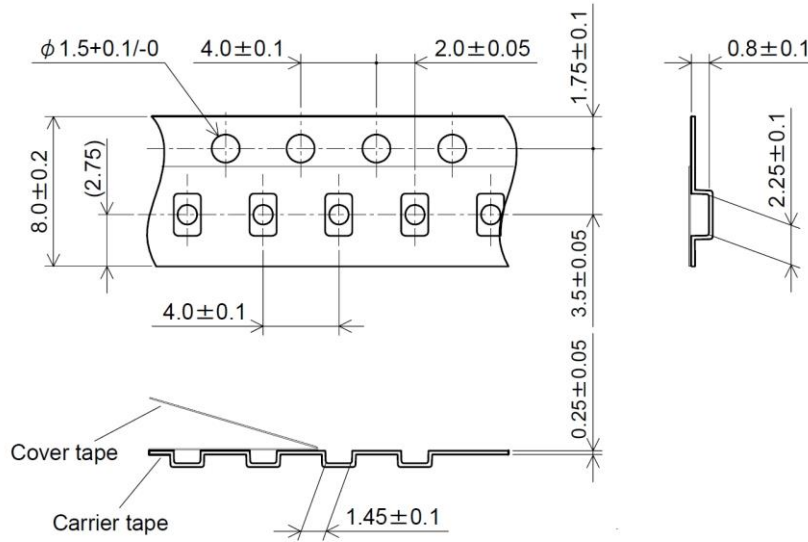
Figure 1) Top, Side, and Bottom views

### PART NUMBERING GUIDE: Example ECS-.327-12.5-12QS-TR

ECS - FREQUENCY ABBREVIATION	LOAD CAPACITANCE	PACKAGE	TOLERANCE	OPERATING TEMPERATURE	PACKAGING
ECS	.327 = 32.768 KHz	-12Q = ECX-12Q	Blank = ±20ppm * C = ± 10 ppm	N=-40 ~ +85°C S=-40 ~ 125°C	TR = Tape & Reel 3K/Reel
	12.5 = 12.5 pF 9 = 9 pF 7 = 7 pF				

\*Contact ECS for availability

**POCKET TAPE DIMENSIONS (mm)**



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

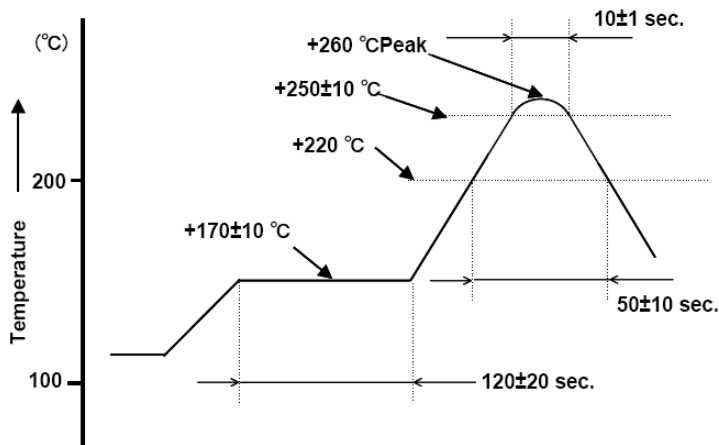


Figure 1) Suggested Reflow Profile