



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



The ultra-miniature ECX-12Q is a very compact SMD AEC-Q200 Qualified Tuning Fork Crystal. The 2.0 x 1.2 x 0.55 mm ceramic package is ideal for today's SMD manufacturing environment.

ECX-12Q SMD 32.768 KHz CRYSTAL



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

OPERATING CONDITIONS / ELECTRICAL CHARACTERISTICS

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 ²
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	T _{stg}	-55		+125	°C
Aging (First Year)	@ +25°C ±3°C			±3	ppm

DIMENSIONS (mm)

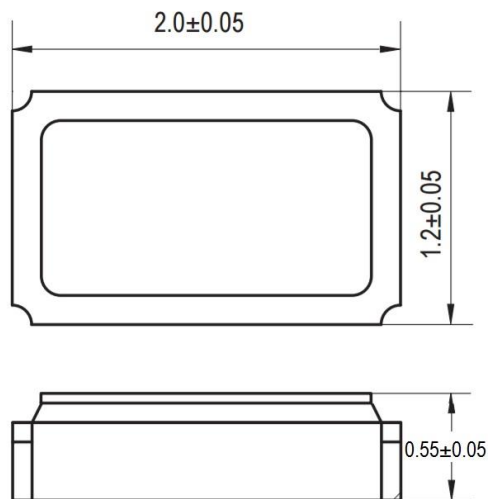


Figure 1) Top, Side, and Bottom views

PAD CONNECTIONS	
1	In/Out
2	Out/In

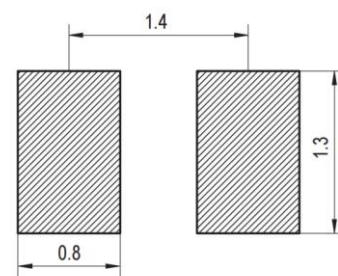


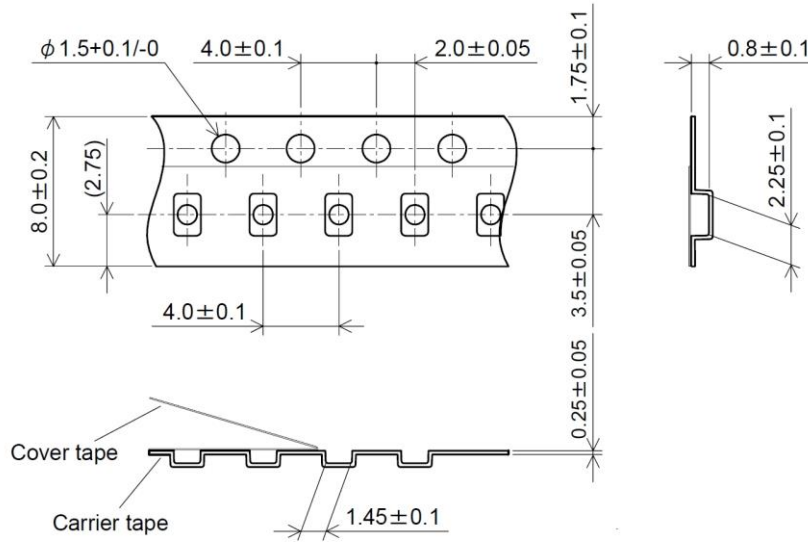
Figure 2) Suggested Land Pattern

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	12.5 = 12.5 pF 9 = 9 pF 7 = 7 pF	-12Q = ECX-12Q	Blank = ±20ppm * C = ± 10 ppm	N=-40 ~ +85°C S=-40 ~ 125°C	TR = Tape & Reel 3K/Reel

*Contact ECS for availability

POCKET TAPE DIMENSIONS (mm)



SOLDER PROFILE
Peak solder Temp $+260^{\circ}\text{C}$ Max 10 sec Max.
2 Cycles Max.
MSL 1, Lead Finish Au

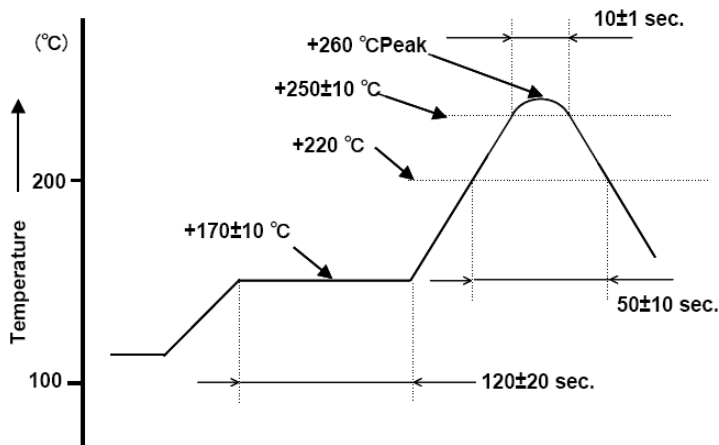


Figure 1) Suggested Reflow Profile