

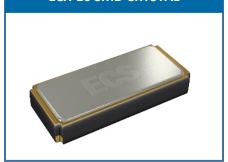
ECX-16
32.768 KHz
SMD Tuning Fork Crystal

ECS INC
INTERNATIONAL®

Request a Sample

The minature ECX-16 is a very compact SMD Tuning Fork Crystal. Low ESR part recommended by STMicroelectronics for the STM32 Microcontrollers.

### **ECX-16 SMD CRYSTAL**

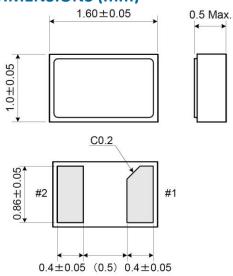


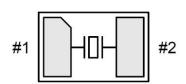
- Low Power RTC Applications such as STM32 AN2867
- 1.6 x 1.0 mm Footprint
- Extended Temp. Range
- RoHS Compliant
- Applications: Automotive, COTS, Industrial, IOT

# OPERATING CONDITIONS / ELECTRICAL CHARACTERISTICS

PARAMETERS	CONDITIONS	ECX-16		UNITS	
		MIN	TYP	MAX	
Frequency		32.768			KHz
Frequency Tolerance	@ +25°C			± 20 *	ppm
Load Capacitance	Specify in P/N		12.5		pF
Drive Level	DL			0.5	μW
Equivalent Series Resistance	R1			90K	Ω
Motional Capacitance			6.5		fF
Turnover Temperature		+20	+25	+30	°C
Temperature Coefficient		-0.02	-0.03	-0.040	ppm/°C²
Shunt Capacitance	Со		1.3		pF
Aging (First Year)	@ +25°C ±3°C			±3	ppm
Operating Temperature	Topr	-40		+85	°C
Storage Temperature	Tstg	-55		+125	°C

## **DIMENSIONS (mm)**





PAD CONNECTIONS		
1	In/Out	
2	Out/In	

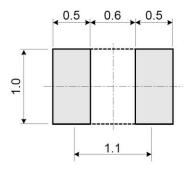


Figure 2) Suggested Land Pattern

Figure 1) Top, Side, and Bottom views

#### PART NUMBERING GUIDE: Example ECS-.327-12.5-16-TR

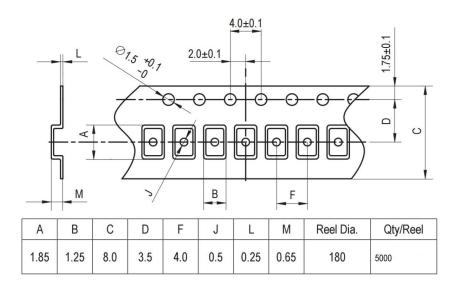
ECS - FRI	EQUENCY ABBREVIATION	LOAD CAPACITANCE	PACKAGE	CUSTOM OPTIONS  Tolerance	PACKAGING
ECS	.327 = 32.768 KHz	12.5 = 12.5 pF 9 = 9 pF 7 = 7 pF 5 = 5 pF	-16 = ECX-16	Blank = ±20 ppm * C = ± 10 ppm	TR = Tape & Reel

Rev.2017





### **POCKET TAPE DIMENSIONS (mm)**



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

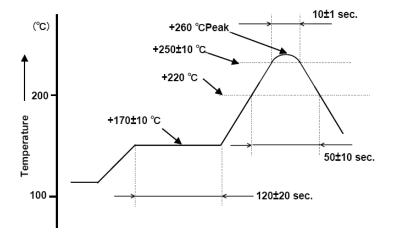


Figure 1) Suggested Reflow Profile