



- ▶ Low Profile
- ▶ Industry Standard Footprint
- ▶ Extended Temp. Range Option
- ▶ RoHS Compliant

# ECX-3SX

## SMD QUARTZ CRYSTAL

The wide frequency range SMD quartz crystal is an excellent choice for surface mount applications. The ruggedized moulded package is made from the same thermoplastic that is an industry standard for integrated circuits.

### OPERATING CONDITIONS / ELECTRICAL CHARACTERISTICS

PARAMETERS	CONDITIONS	ECX-3SX			UNITS
		MIN	TYP	MAX	
Frequency	Fo	3.570		70.000	MHz
Frequency Tolerance	@ +25°C			± 30 *	ppm
Frequency Stability (ref @ 25°C)	-10 ~ +70°C			± 50 *	ppm
Shunt Capacitance				7.0	pF
Load Capacitance	Specify in P/N		20		pF
Drive Level				100	µW
Operating Temperature	Topr	-10		+70	°C
Storage Temperature	Tstg	-40		+85	°C
Aging Characteristics (Per Year)	@ +25°C ± 3°C			± 5	ppm
Equivalent Series Resistance/ Mode of Oscillation	3.57 ~ 3.999 MHz (Fund)			200	Ω
	4.00 ~ 5.999 MHz (Fund)			150	Ω
	6.00 ~ 9.999 MHz (Fund)			100	Ω
	10.00 ~ 35.999 MHz (Fund)			50	Ω
	27.00 ~ 70.00 MHz (3rd OT)			100	Ω

### PACKAGE DIMENSIONS (mm)

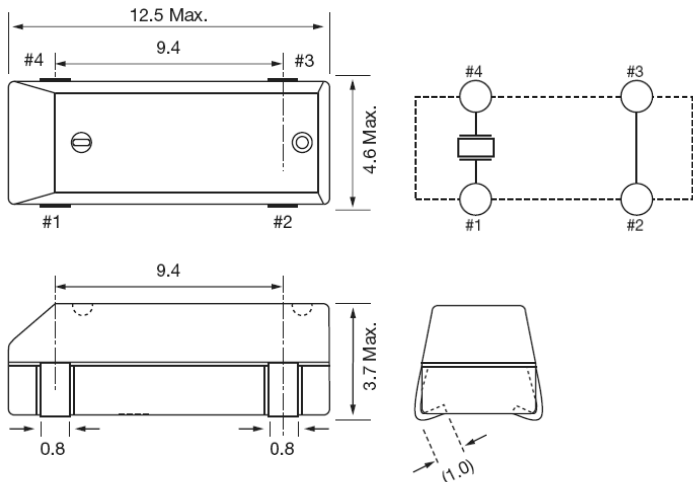


Figure 1) Top, Side and End Views

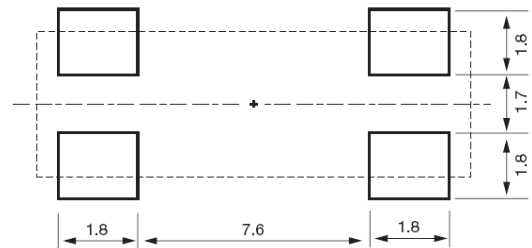


Figure 2) Suggested Land Pattern

### PART NUMBERING GUIDE: Example ECS-160-20-7SX-TR

**ECS** - Frequency Abbreviation - Load - Package Type - **Tolerance** - **Stability** - **Temp Range** - **Packaging**

160 = 16.000 MHz  
See P/N Guide for  
Std Frequencies

20 = 20.0 pF  
S = Series

-7SX =  
ECX-3SX

A = ± 25 ppm  
C = ± 10 ppm

D = ± 100 ppm  
E = ± 50 ppm  
G = ± 30 ppm  
H = ± 25 ppm  
K = ± 10 ppm

L = -10 ~ +70°C  
M = -20 ~ +70°C  
N = -40 ~ +85°C  
P = -40 ~ +105°C

-TR =  
Tape & Reel  
1K/Reel

\* Tighter Tolerance/Stability Options Available (see custom options)  
Not all stabilities are available at all temp ranges, consult ECS.

# Mouser Electronics

Authorized Distributor

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## ECS:

[ECS-120-18-7SX-TR](#) [ECS-120-32-7SX-TR](#) [ECS-120-S-7SX-TR](#) [ECS-122.8-20-7SX-TR](#) [ECS-122.8-S-7SX-TR](#)  
[ECS-143-20-7SX-TR](#) [ECS-184-S-7SX-TR](#) [ECS-196.6-20-7SX-TR](#) [ECS-200-16-7SX-TR](#) [ECS-200-S-7SX-TR](#) [ECS-61-32-7SX-TR](#) [ECS-80-16-7SX-TR](#) [ECS-98.3-20-7SX-TR](#) [ECS-49-S-7SX-TR](#) [ECS-196.6-S-7SX-TR](#) [ECS-36-S-7SX-TR](#) [ECS-40-20-7SX-TR](#) [ECS-65-12-7SX-TR](#) [ECS-35-17-7SX-TR](#) [ECS-36-20-7SX-TR](#) [ECS-41-16-7SX-TR](#) [ECS-42-12-7SX-TR](#) [ECS-49-20-7SX-TR](#) [ECS-50-20-7SX-TR](#) [ECS-60-32-7SX-TR](#) [ECS-73-20-7SX-TR](#) [ECS-100-20-7SX-TR](#) [ECS-147.4-20-7SX-TR](#) [ECS-160-20-7SX-TR](#) [ECS-049-20-7SX-TR](#) [ECS-035-17-7SX-TR](#) [ECS-240-20-7SX-TR](#) [ECS-060-S-7SX-TR](#) [ECS-041-16-7SX-TR](#) [ECS-050-20-7SX-TR](#) [ECS-060-32-7SX-TR](#) [ECS-160-S-7SX-TR](#) [ECS-080-S-7SX-TR](#) [ECS-073-S-7SX-TR](#) [ECS-200-20-7SX-TR](#) [ECS-147.4-S-7SX-TR](#) [ECS-065-12-7SX-TR](#) [ECS-073-20-7SX-TR](#) [ECS-042-12-7SX-TR](#) [ECS-110.5-20-7SX-TR](#) [ECS-035-S-7SX-TR](#) [ECS-100-S-7SX-TR](#) [ECS-110.5-S-7SX-TR](#) [ECS-036-20-7SX-TR](#) [ECS-143-S-7SX-TR](#) [ECS-040-S-7SX-TR](#) [ECS-235.92-S-7SX-TR](#) [ECS-120-16-7SX-TR](#) [ECS-235.9-S-7SX-TR](#) [ECS-240-16-7SX-TR](#) [ECS-240-S-7SX-TR](#) [ECS-44-20-7SX-TR](#) [ECS-98.3-S-7SX-TR](#) [ECS-051-18-7SX-DN-TR](#)