



- **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	UNITS
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)

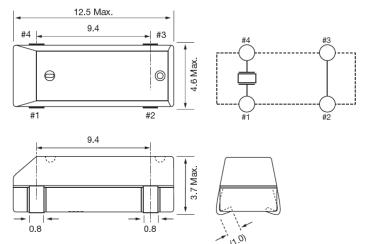


Figure 1) Top, Side and End Views

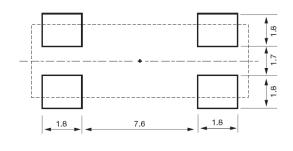


Figure 2) Suggested Land Pattern

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

Package Type ECS - Frequency Abbreviation - Load -

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

20 = 20.0 pFS = Series

* Tighter Tolerance/Stability Options Available (see custom options)

Not all stabilities are available at all temp ranges, consult ECS.

-7SX = ECX-3SX $A = \pm 25 \text{ ppm}$ $C = \pm 10 ppm$

Stability -**Tolerance** $D = \pm 100 \text{ ppm}$ $E = \pm 50 \text{ ppm}$ $G = \pm 30 ppm$ $H = \pm 25 ppm$

Custom Options

L = -10 ~ +70°C $M = -20 \sim +70^{\circ}C$ $N = -40 \sim +85^{\circ}C$ P = -40~+105°C $K = \pm 10 ppm$

Temp Range

-TR = Tape & Reel 1K/Reel

Packaging