

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.

[Request a Sample](#)

## ECX-3SX SMD CRYSTAL



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

## OPERATING CONDITIONS / ELECTRICAL CHARACTERISTICS

PARAMETERS	CONDITIONS	ECX-3SX			UNITS
		MIN	TYP	MAX	
Frequency		3.570		70.000	MHz
Frequency Tolerance*	@ +25°C			± 30	ppm
Frequency Stability*	-10 ~ +70°C			± 50	ppm
Shunt Capacitance	Co			7.0	pF
Load Capacitance	Specify in P/N		20		pF
Drive Level	DL			100	μW
Operating Temperature*	Topr	-10		+70	°C
Storage Temperature	Tstg	-40		+85	°C
Aging (First Year)	@ +25°C ±3°C			±5	ppm

## DIMENSIONS (mm)

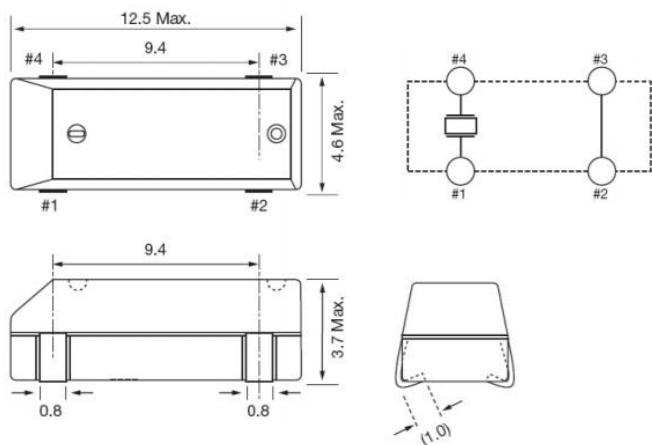


Figure 1) Top, Side, and End

Frequency (MHz)	ESR Ω Max.	Mode of Osc.
3.57 ~ 3.999	200	Fundamental
4.000 ~ 5.999	150	Fundamental
6.000 ~ 9.999	100	Fundamental
10.000 ~ 35.999	50	Fundamental
27.000 ~ 70.000	100	3 <sup>rd</sup> Overtone

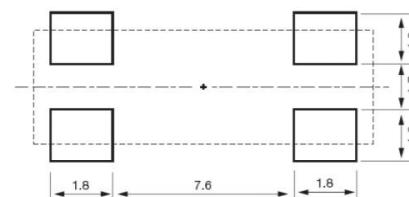


Figure 2) Suggested land

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

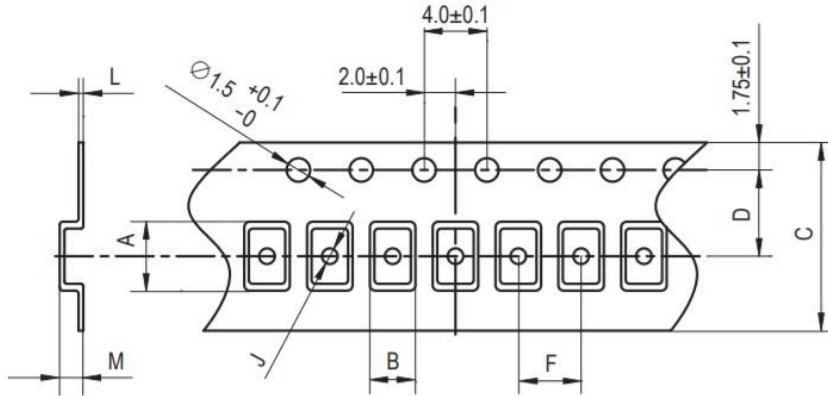
ECS - FREQUENCY ABBREVIATION	LOAD CAPACITANCE	PACKAGE	AVAILABLE OPTIONS			PACKAGING	
			Tolerance	Stability	Temp Range		
ECS	160 = 16.000 MHz See P/N Guide	20 = 20 pF S = Series	7SX = ECX-3SX	Blank = Std A = ± 25 ppm J = ± 20 ppm R = ± 15 ppm C = ± 10 ppm	Blank = Std D = ± 100 ppm E = ± 50 ppm G = ± 30 ppm H = ± 25 ppm T = ± 20 ppm † W = ± 15 ppm † K = ± 10 ppm †	Blank = Std L = -10 ~ +70°C M = -20 ~ +70°C Y = -30 ~ +85°C N = -40 ~ +85°C P = -40 ~ +105°C S = -40 ~ +125°C U = -55 ~ +125°C	TR = Tape & Reel 1K/Reel

\* Specify available options in P/N.

† Contact ECS for availability over extended temp range.

Rev.2017

**POCKET TAPE DIMENSIONS (mm)**



A	B	C	D	F	J	L	M	Reel Dia.	Qty/Reel
12.8	4.8	24.0	11.5	12.0	2.2	0.4	3.9	330	1000pcs

**SOLDER PROFILE**

Peak solder Temp +260°C Max 10 sec Max.

2 Cycles Max.

MSL 1, Lead Finish Sn/Cu

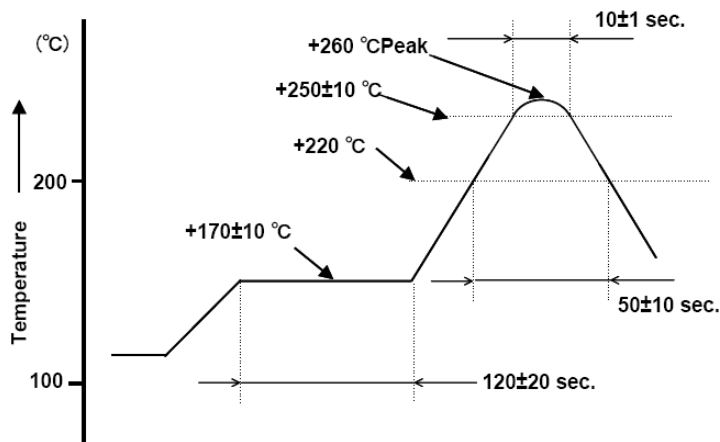


Figure 1) Suggested Reflow Profile

# Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

## 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](#)