

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

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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)

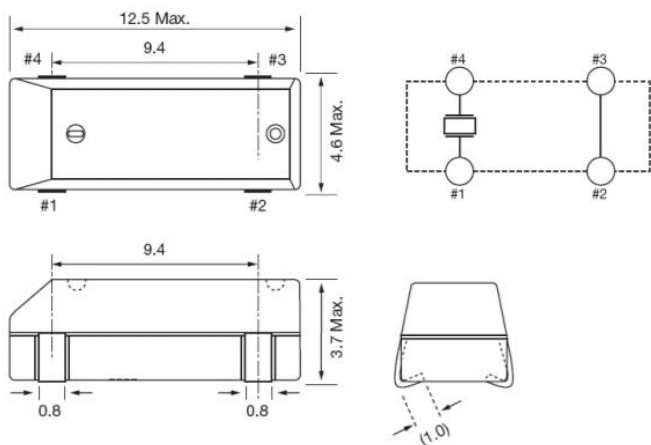


Figure 1) Top, Side, and End

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 rd Overtone

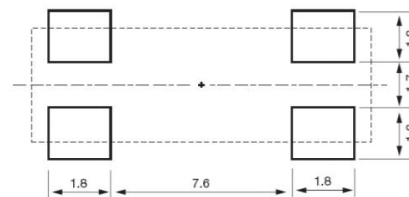


Figure 2) Suggested land

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 Developed Frequencies Pg. 2	20 = 20 pF S = Series	7SX = ECX-3SX	Blank = ±30ppm A = ± 25 ppm	Blank = ±50ppm D = ±100 ppm E = ± 50 ppm	Blank = -10 ~ +70°C L = -10 ~ +70°C M = -20 ~ +70°C N = -40 ~ +85°C	TR = Tape & Reel 1K/Reel

* Specify available options in P/N.

† Contact ECS for availability of extended temp range.

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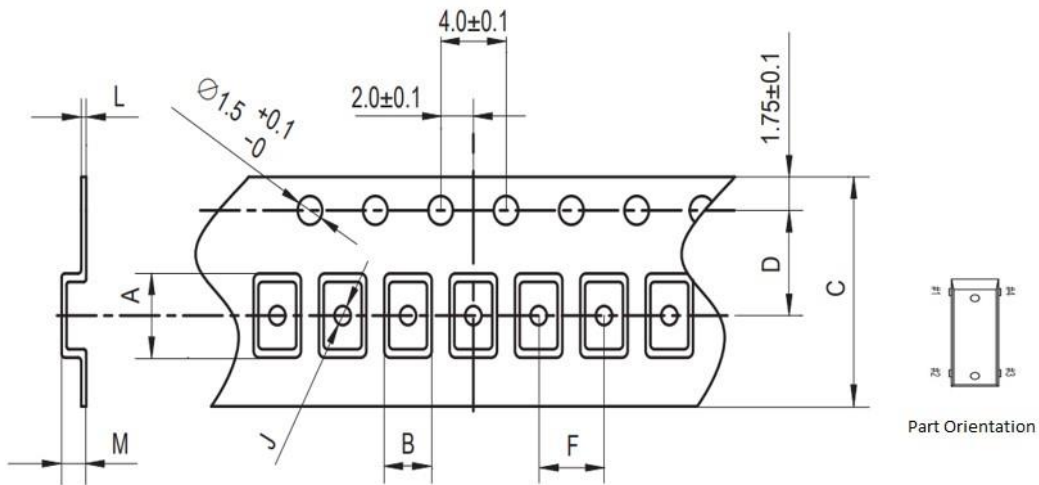


DEVELOPED FREQUENCIES	
Abbreviation	Frequency (MHZ)
35	3.579545
36	3.6864
40	4.000
41	4.096
42	4.194304
49	4.9152
50	5.000
60	6.000
61	6.144
73	7.3728
80	8.000
81.92	8.192
92.1	9.216
98.3	9.8304
100	10.000
110.5	11.0592
120	12.000

DEVELOPED FREQUENCIES	
Abbreviation	Frequency (MHZ)
122.8	12.288
125	12.500
135.0	13.500
143	14.31818
147.4	14.7456
160	16.000
163	16.384
180	18.000
184	18.432
196.6	19.6608
200	20.000
221	22.1184
240	24.000
245.7	24.576
250	25.000
283.2	28.322
294.9	29.4912

**Contact ECS for availability of frequencies not listed in table.*

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

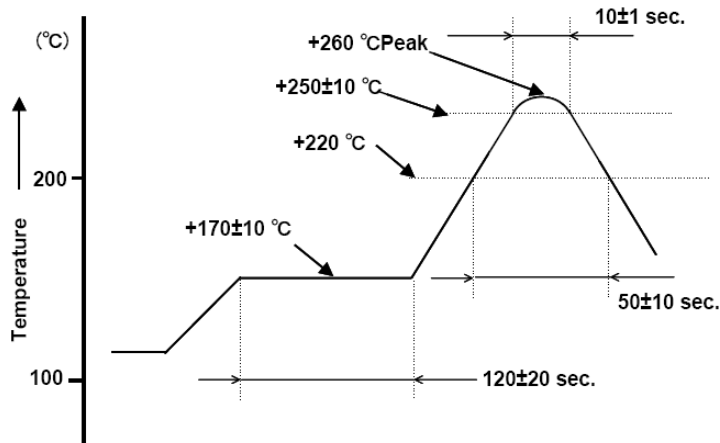


Figure 1) Suggested Reflow Profile