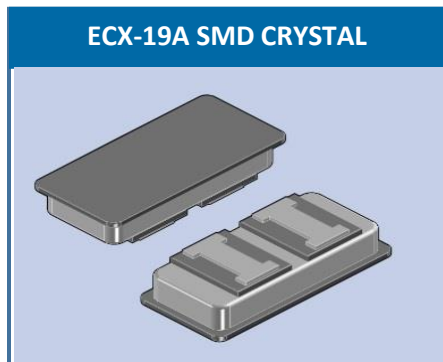


The ECX-19A SMD crystal is pin out compatible with our CSM-12. The ECX-19A covers a wide frequency range and has a 2.0 mm height profile.

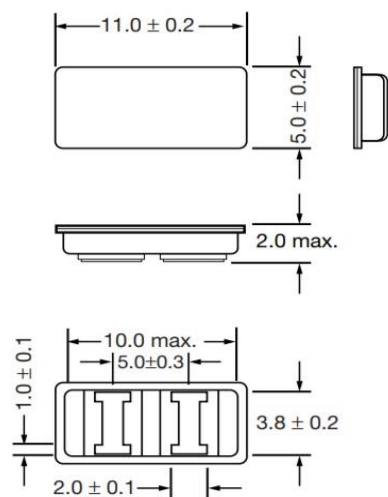


- Compact & Low Profile
- Resistance-weld sealed
- Extended Temp. Range Option
- Pb Free/RoHS Compliant

OPERATING CONDITIONS / ELECTRICAL CHARACTERISTICS

PARAMETERS	CONDITIONS	ECX-19A			UNITS
		MIN	TYP	MAX	
Frequency		3.579545		40.000	MHz
Mode of Oscillation	Fundamental				
Frequency Tolerance	@ +25°C			± 30	ppm
Frequency Stability	-10 ~ +70°C			± 50	ppm
Shunt Capacitance	Co			7	pF
Load Capacitance	Specify in P/N	10	20	Series	pF
Drive Level	DL			100	μW
Operating Temperature*	Topr	-10		+70	°C
Storage Temperature	Tstg	-30		+85	°C
Aging (First Year)	@ +25°C ±3°C			±5	ppm

DIMENSIONS (mm)



Frequency (MHz)	ESR Ω Max.
3.579545 ~ 3.999	200
4.000 ~ 5.999	150
6.000 ~ 9.999	100
10.000 ~ 13.999	80
14.000 ~ 24.999	50
25.000 ~ 40.000	40

Figure 1) Top, Side, and Bottom

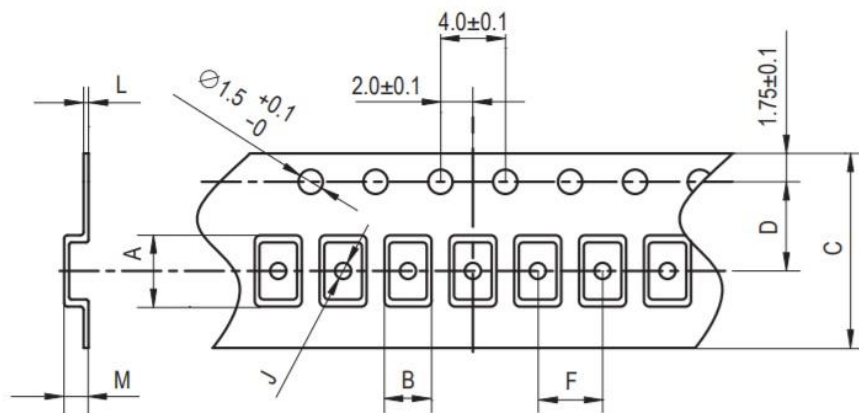
Figure 2) Suggested land

PART NUMBERING GUIDE: Example ECS-200-20-19A-TR

ECS - FREQUENCY ABBREVIATION	LOAD CAPACITANCE	PACKAGE	AVAILABLE OPTIONS Temp Range	PACKAGING
ECS	200 = 20.000 MHz See P/N Guide	19A = ECX-19A	Blank= Std M = -20 ~ +70°C N = -40 ~ +85°C	TR = Tape & Reel 1K/Reel

* Specify available options in P/N.

POCKET TAPE DIMENSIONS (mm)



A	B	C	D	F	J	L	M	Reel Dia.	Qty/Reel
11.3	5.3	24.0	11.5	12.0	1.7	0.3	2.7	330	1000pcs

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

DEVELOPED FREQUENCIES	
Abbreviation	Frequency (MHZ)
035	3.579545
036	3.6864
040	4.000
049	4.9152
061	6.144
073	7.3728
080	8.000
098.3	9.8304
100	10.000
110.5	11.0592
120	12.000
143	14.31818
160	16.000
184	18.432
196.6	19.6608
200	20.000
240	24.000

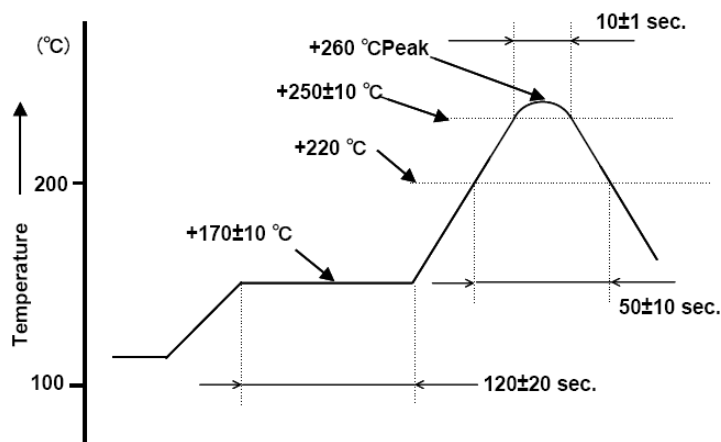


Figure 1) Suggested Reflow Profile