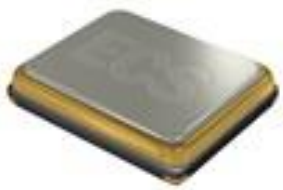
CSM-8M
SMD CRYSTAL

RoHS COMPLIANT

The CSM-8M is a miniature SMD Crystal with a 7.0 x 5.0 mm footprint. This seam welded metal lid/ceramic package crystal is ideal for PCMIA ethernet applications.

ECS INC INTERNATIONAL®

CSM-8M SMD CRYSTAL



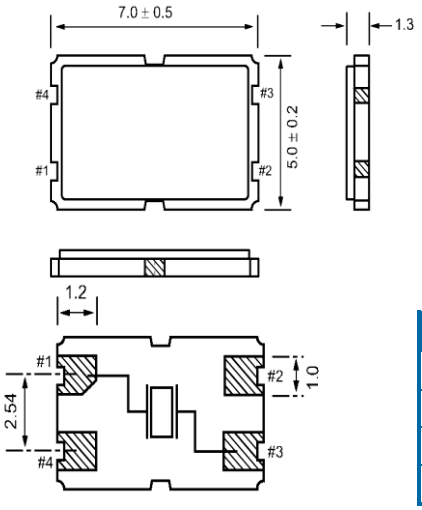
- Compact and Low Profile
- RoHS Compliant
- MSL: 1
- Lead Finish: Au

OPERATING CONDITIONS / ELECTRICAL CHARACTERISTICS

PARAMETERS	CONDITIONS	CSM-8M			UNITS
		MIN	TYP	MAX	
Frequency		6.000		42.000	MHz
Mode of Oscillation	Fundamental				
Frequency Tolerance*	@ +25°C			± 30	ppm
Frequency Stability*	-10 ~ +70°C			± 50	ppm
Shunt Capacitance	Co			5	pF
Load Capacitance	Specify in P/N	8	20	Series	pF
Drive Level	DL			100	µW
Operating Temperature*	Topr	-10		+70	°C
Storage Temperature	Tstg	-55		+125	°C
Aging (First Year)	@ +25°C ±3°C			±5	ppm

Frequency (MHz)	ESR Ω Max.
6.000 ~ 7.999	70
8.000 ~ 15.999	60
16.000 ~ 42.000	40

DIMENSIONS (mm)



Pad Connections	
1	In/Out
2	Gnd
3	Out/In
4	Gnd

Figure 1) *Top, Side, and Bottom*

Crystal is symmetrical, pad 1 & 3 are interchangeable. Chamfer on the bottom pad has no electrical significance.

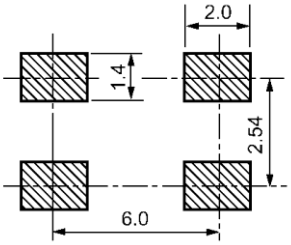


Figure 2) *Suggested land*

PART NUMBERING GUIDE: Example ECS-200-20-20BM-TR

ECS - FREQUENCY ABBREVIATION	LOAD CAPACITANCE	PACKAGE	AVAILABLE OPTIONS			PACKAGING
			Tolerance	Stability	Temp Range	
ECS	200 = 20.000 MHz See P/N Guide	20 = 20 pF S = Series	20BM = CSM-8M	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.

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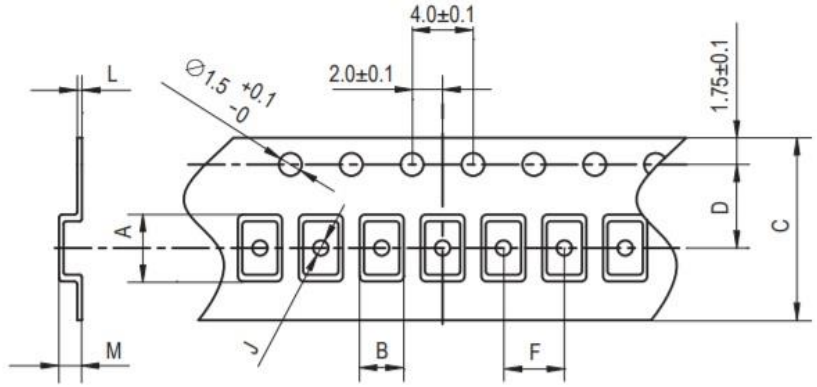
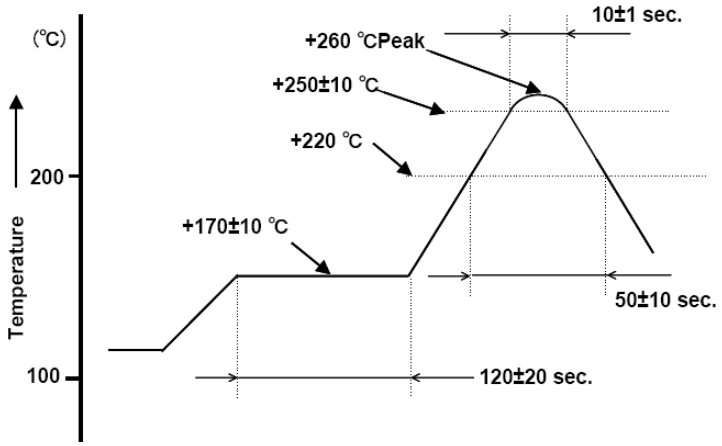
POCKET TAPE DIMENSIONS (mm)



A	B	C	D	F	J	L	M	Reel Dia.	Qty/Reel
7.3	5.3	16.0	7.5	8.0	1.5	0.3	1.9	178	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)
060	6.000
073	7.3728
080	8.000
098.3	9.8304
100	10.000
120	12.000
147.4	14.7456
160	16.000
184	18.432
200	20.000
240	24.000
250	25.000
330	33.000

Figure 1) *Suggested Reflow Profile*