

- ▶ Compact and low profile
- ▶ RoH Compliant (2011/65/EU)
- ▶ MSL 1
- ▶ Lead Finish: Au
- ▶ AEC-Q200 Qualified



CSM-8Q

SMD QUARTZ CRYSTAL

The CSM-8Q is a miniature SMD Crystal with a 7.0 x 5.0 mm footprint. AEC-Q200 Qualified.

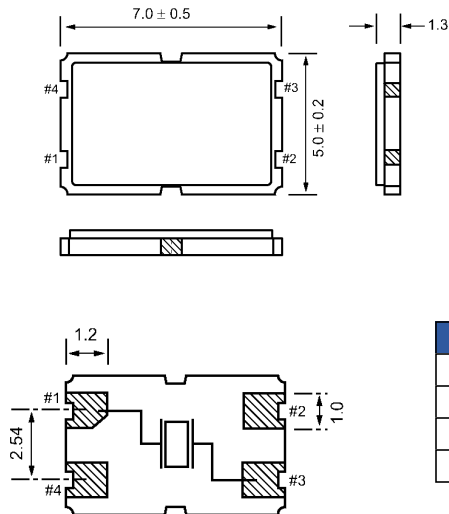
OPERATING CONDITIONS / ELECTRICAL CHARACTERISTICS

PARAMETERS	CONDITIONS	CSM-8Q			UNITS
		MIN	TYP	MAX	
Frequency Range		8.000		36.000	MHz
Frequency Tolerance	at +25°C			± 30 *	ppm
Frequency Stability	-55 to +125°C (DU Option)			± 100 *	ppm
Shunt Capacitance				7	pF
Load Capacitance	Specify in P/N	10	20	Series	pF
Drive Level				100	µW
Operating Temperature	DU Option	-55		+125	°C
Storage Temperature		-55		+125	°C
Aging (Per Year)	@ +25°C ±3°C			±5	ppm

EQUIVALENT SERIES RESISTANCE/MODE OF OSCILLATION

FREQUENCY RANGE (MHz)	MODE OF OSC	MAX ESR Ω	FREQUENCY RANGE (MHz)	MODE OF OSC	MAX ESR Ω
8.000 ~ 15.999	Fundamental	60	16.000 ~ 36.000	Fundamental	40

DIMENSIONS (mm)



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

** Pad 2 & 4 is tied to metal cover and can be tied to ground or no connected

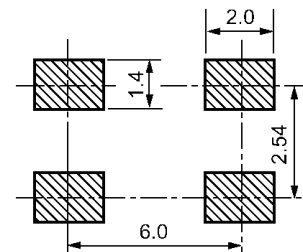


Figure 2) Suggested Land Pattern

Figure 1) Top, Side, Bottom and End views

PART NUMBERING GUIDE: Example ECS-200-20-20BQ-DU-TR

ECS - Frequency Abbreviation - Load Capacitance - Package

200 = 20.000 MHz
See P/N Guide

20 = 20 pF
S=Series

20BQ =
CSM-8Q

Custom Options

Tolerance

Blank = Std
A = ± 25 ppm
J = ± 20 ppm
R = ± 15 ppm
C = ± 10 ppm

* Stability

Blank = Std
D = ± 100 ppm
E = ± 50 ppm
G = ± 30 ppm
H = ± 25 ppm
T = ± 20 ppm
W = ± 15 ppm
K = ± 10 ppm

Temp Range

Blank = Std
M = -20 ~ +70 °C
N = -40 ~ +85 °C
P = -40 ~ +105 °C
S = -40 ~ +125 °C
U = -55 ~ +125 °C

Packaging

TR= Tape
& Reel
1K/Reel

*Consult Factory for available stability options over extended temp range.