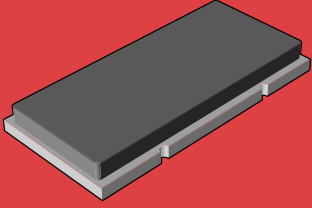


FEATURES

- Cost effective
- Space saving design
- Low profile
- Tape & Reel (1,000 pcs)



SMD QUARTZ CRYSTAL

The C3SM is enclosed in a ceramic package. It is an excellent choice for a full size version of our miniature quartz crystal. The C3SM has a low profile dimension of 2.5mm.

PART NUMBERING GUIDE "EXAMPLE"

PART NUMBER	LOAD CAPACITANCE*	TAPE & REEL	FREQUENCY
C3SM	- 20	- R	- 10.000

* Load capacitance (xx=xx pF, S= series resonance)

Note: See Product Selection Guide for additional options.

OPERATING CONDITIONS/ELECTRICAL CHARACTERISTICS

PARAMETERS	CONDITIONS	MINIMUM	TYPICAL	MAXIMUM	UNITS
FREQUENCY RANGE	f_0	3.57		30.00	MHz
MODE OF OSCILLATION	Fundamental				
LOAD CAPACITANCE	C_L	10.0	18.0 standard	Series	pF
DRIVE LEVEL	D_L			100	μ W
FREQUENCY TOLERANCE	@ +25°C	-30		+30	PPM
EQUIVALENT SERIES RESISTANCE	R_1		See ESR TABLE		Ohms
FREQUENCY STABILITY	$\Delta f/f_0$	-50		+50	PPM
OPERATING TEMP. RANGE	T_{OPR}	-10		+70	°C
STORAGE TEMP. RANGE	T_{STG}	-40		+85	°C
SHUNT CAPACITANCE	C_0			7.0	pF
AGING (FIRST YEAR @ +25°C)	$\Delta f/f_0$	-5.0		+5.0	PPM

PACKAGE DIMENSIONS (mm)

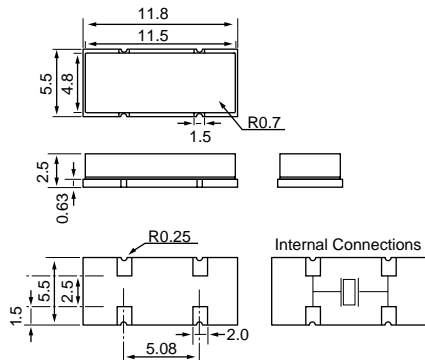


Figure 1) C3SM - Top, Side and Bottom views

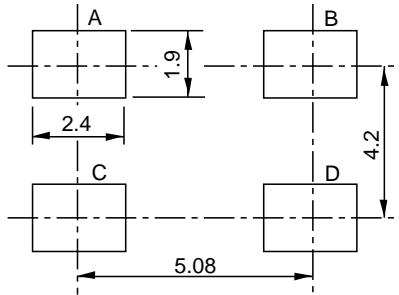


Figure 2) C3SM Land Pattern - Bottom view

EQUIVALENT SERIES RESISTANCE	
FREQUENCY MHz	(Ω MAX.)
3.57 ~ 3.999	200
4.00 ~ 5.999	150
6.00 ~ 9.999	100
10.00 ~ 13.999	80
14.00 ~ 30.00	50

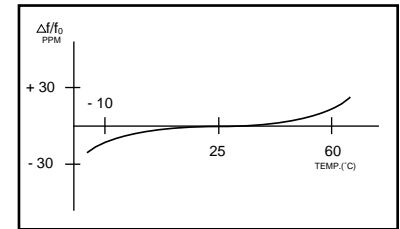


Figure 3) Frequency vs Temperature Curve