

The CSM-7 is an excellent choice for the SMD version of the HC-49US leaded crystal. The CSM-7 has a case height of 4.3 mm maximum in a resistance weld metal package. A package profile of 3.2 mm maximum is also available.

FEATURES

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

PART NUMBERING GUIDE "EXAMPLE"

		FREQUENCY (16.0000 MHz)		LOAD CAPACITANCE*		PACKAGE TYPE**
ECS	_	160	_	20	-	5P

^{*} Load capacitance (xx=xx pF, S= series resonance), ** Package Type examples (-5P= 4.3mm max. height, -5PL= 3.2mm max. height) For extended temp range of -40 to +85°C ad -DN suffix for example ECS-160-20-5P-DN Note: See Product Selection Guide for additional options.

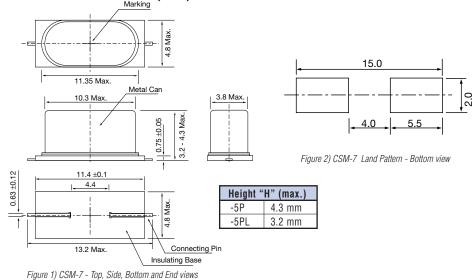
OPERATING CONDITIONS/ELECTRICAL CHARACTERISTICS

PARAMETERS	CONDITIONS	MINIMUM	TYPICAL	MAXIMUM	UNITS
FREQUENCY RANGE	f ₀	3.57		70.000	MHz
FREQUENCY TOLERANCE	@ +25°C			±30	PPM
FREQUENCY STABILITY, ref @ 25°C	Standard -10 +70°C			±50	PPM
FREQUENCY STABILITY, Tet @ 25 C	"DN" Option -40 +85°C			±100	PPM
ODEDATING TEMPEDATURE	Standard	-10		+70	°C
OPERATING TEMPERATURE	"DN" Option	-40		+85	°C
STORAGE TEMPERATURE (T _{STG})	T _{STG}	-40		+105	°C
SHUNT CAPACITANCE (C ₀)	C_0			7.0	pF
LOAD CAPACITANCE (C _L)	C _L (Customer Specified)	10	20.0 standard	Series	pF
DRIVE LEVEL	3.570 - 70.000 MHz			0.5	mW
AGING (FIRST YEAR)	@ +25°C			±5.0	PPM

EQUIVALENT SERIES RESISTANCE

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FREQUENCY RANGE (MHz)	MODE	MAX ESR Ω	FREQUENCY RANGE (MHz)	MODE	MAX ESR Ω
3.570 ~ 4.999	Fundamental	150	13.000 ~ 19.000	Fundamental	40
5.000 ~ 5.999	Fundamental	80	20.000 ~ 29.000	Fundamental	30
6.000 ~ 6.999	Fundamental	70	26.000 ~ 39.999	3rd O/T	100
7.000 ~ 8.999	Fundamental	60	40.000 ~ 70.000	3rd O/T	80
9.000 ~ 12.999	Fundamental	50			

PACKAGE DIMENSIONS (mm)



-30 - 25 60 TEMP/C)

Figure 3) Frequency vs Temperature Curve

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