

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"

ECS	FREQUENCY (16.0000 MHz)	LOAD CAPACITANCE*	PACKAGE TYPE**
-	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
	"DN" Option -40 +85°C			±100	PPM
OPERATING TEMPERATURE	Standard	-10		+70	°C
	"DN" Option	-40		+85	°C
STORAGE TEMPERATURE (T <sub>STG</sub> )	T <sub>STG</sub>	-40		+105	°C
SHUNT CAPACITANCE (C <sub>0</sub> )	C <sub>0</sub>			7.0	pF
LOAD CAPACITANCE (C <sub>L</sub> )	C <sub>L</sub> (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

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)

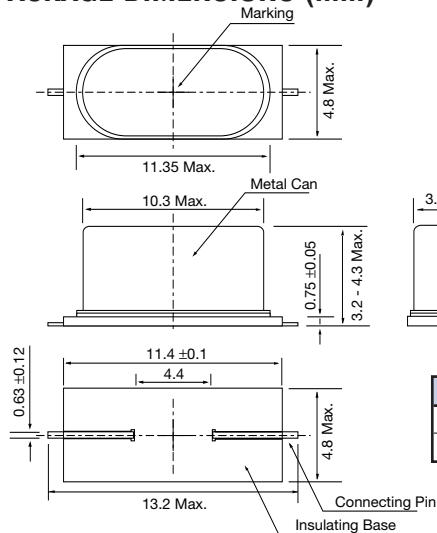


Figure 1) CSM-7 - Top, Side, Bottom and End views

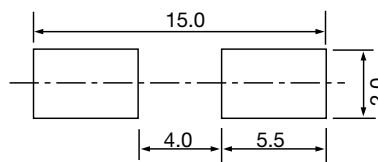


Figure 2) CSM-7 Land Pattern - Bottom view

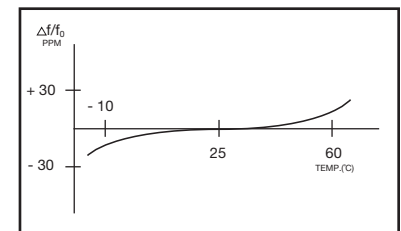


Figure 3) Frequency vs Temperature Curve

Height "H" (max.)	
-5P	4.3 mm
-5PL	3.2 mm

## X-ON Electronics

Largest Supplier of Electrical and Electronic Components

*Click to view similar products for [Crystals category](#):*

*Click to view products by [ECS Inc manufacturer](#):*

Other Similar products are found below :

[MC405 32.0000K-R3:PURE SN](#) [7B-27.000MBBK-T](#) [MP1-8.0 99-BU](#) [9B-15.360MBBK-B](#) [PTX-A2JM-10.000M](#) [9C-7.680MBBK-T](#) [H10S-12.000-18-EXT-TR](#) [ABLS-18.432MHZ-20-D-4-T](#) [R38-32.768-12.5-5PPM-NPB](#) [BTD1062E05A-513](#) [21U15A-21.4MHZ](#) [RTX-781DF1-S-20.950](#) [LFXTAL066198Cutt](#) [9C-14.31818MBBK-T](#) [A-11.000MHZ-27](#) [ABM3B1-25.000MHZ-D2Y-T](#) [SPT2A-.032768B](#) [SPT2A.032768G](#) [SSPT7F-9PF20-R](#) [FX325BS-38.88EEM1201](#) [MP-1-25.000MHZ-3L](#) [MP-1-6.000MHZ](#) [LFXTAL065253Cutt](#) [LFXTAL066431Cutt](#) [XT9S20ANA14M7456](#) [XT9SNLANA16M](#) [646G-24-2](#) [7B-30.000MBBK-T](#) [9B-14.31818MBBK-B](#) [6504-202-1501](#) [6526-202-1501](#) [FA-118T](#) [27.1200MB50P-K0](#) [ABLS-12.000MHZ-B2Y-T](#) [BTJ120E02C](#) [SG636PCE-20.000MC](#) [3404](#) [CX3225SB48000Z0DZNC1](#) [CM315D32768EZFT](#) [C1E-24.000-7-2020-R](#) [C1E-19.200-12-1530-X-R](#) [C1E-16.000-12-1530-X-R](#) [FL5000014](#) [EUCA18-3.1872M](#) [425F35E027M0000](#) [FP0800018](#) [17196](#) [MS3V-T1R-32.768kHz-7pF-20PPM-TA-QC-Au](#) [VXM7-1C1-16M000](#) [MS1V-T1K-32.768kHz-10pF-20PPM-TA-QC-Au](#)