



- -55 to +125°C Temp RangeIndustry Std. Footprint
- ► Pb Free/RoHS Compliant

# CSM-7X-DU SMD CRYSTAL

## **OPERATING CONDITIONS / ELECTRICAL CHARACTERISTICS**

PARAMETERS	CONDITIONS	CSM-7X-DU			UNITS	
PARAIVIETERS		MIN	TYP	MAX	UNITS	
Frequency Range		3.57		70.000	MHz	
Frequency Tolerance	at +25°C			± 30	ppm	
Frequency Stability	-55 to +125°C			± 100	ppm	
Shunt Capacitance				7	pF	
Load Capacitance	Specify in P/N	10	20	Series	pF	
Drive Level				500	μW	
Operating Temperature		-55		+125	°C	
Storage Temperature		-55		+125	°C	
Aging (Per Year)	@ +25°C ±3°C			±5	ppm	

#### **EOUIVALENT SERIES RESISTANCE/MODE OF OSCILLATION**

FREQUENCY RANGE (MHz)	MODE OF OSC	MAX ESR Ω	FREQUENCY RANGE (MHz)	MODE OF OSC	MAX ESR Ω
3.57 ~ 4.999	Fundamental	150	13.000 ~ 19.999	Fundamental	40
5.000 ~ 5.999	Fundamental	100	20.000 ~ 30.000	Fundamental	30
6.000 ~ 6.999	Fundamental	80	26.000 ~ 39.999	3rd Overtone	100
7.000 ~ 8.999	Fundamental	60	40.000 ~ 70.000	3rd Overtone	80
9.000 ~ 12.999	Fundamental	50			

# **DIMENSIONS (mm)**

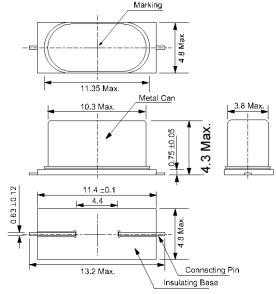


Figure 1) Top, Side, Bottom and End views

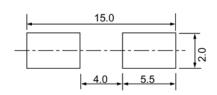


Figure 2) Suggested Land Pattern

PART NUMBERING GUIDE: Example ECS-200-20-5PXDU-TR

ECS - Frequency Abbreviation - Load Capacitance - Package

200 = 20.000 MHz See P/N Guide 20 =20 pF S=Series 5PX = CSM-7X

Stability

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D= ± 100 ppm

Temperature - Packaging

U= -55 ~ +125°C TR= Tape

TR= Tape & Reel 1K/Reel

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### ECS: