

Package	Description
HC-49SM 4 Pad	SMD Quartz Crystal

Features

- Cost Effective
- Low Profile
- Space saving design
- Tape and Reel



Electrical Characteristics

Parameter	Conditions	Characteristics	Units
Frequency Range	f ₀	3.579545 ~ 70.00	MHz
Frequency Tolerance	Ref @ +25°C	±30 (Std.) / ±15 , ±50 (Option)	PPM
Temperature Stability	TL	±50 (Std.) / ±30 , ±100 (Option)	PPM
Operating Temperature	TOPR	-20 ~ +70 (Std.) / -40 ~ +85 (Option)	°C
Storage Temperature	TSTG	-40 ~ +85	°C
Resistance	ESR	(See Table 1)	Ohms
Mode of Operation		(See Table 1)	
Shunt Capacitance	C ₀	7.0 max.	pF
Load Capacitance	C _L	18.0 (Std.) / 10 ~ 50 and Series (Option)	pF
Drive Level	DL	1.0 max.	mW
Aging (First Year)	@ +25°C	±5.0	PPM/Y
Insulation Resistance	IR	500 (DC100 ±10V) min.	Mohm

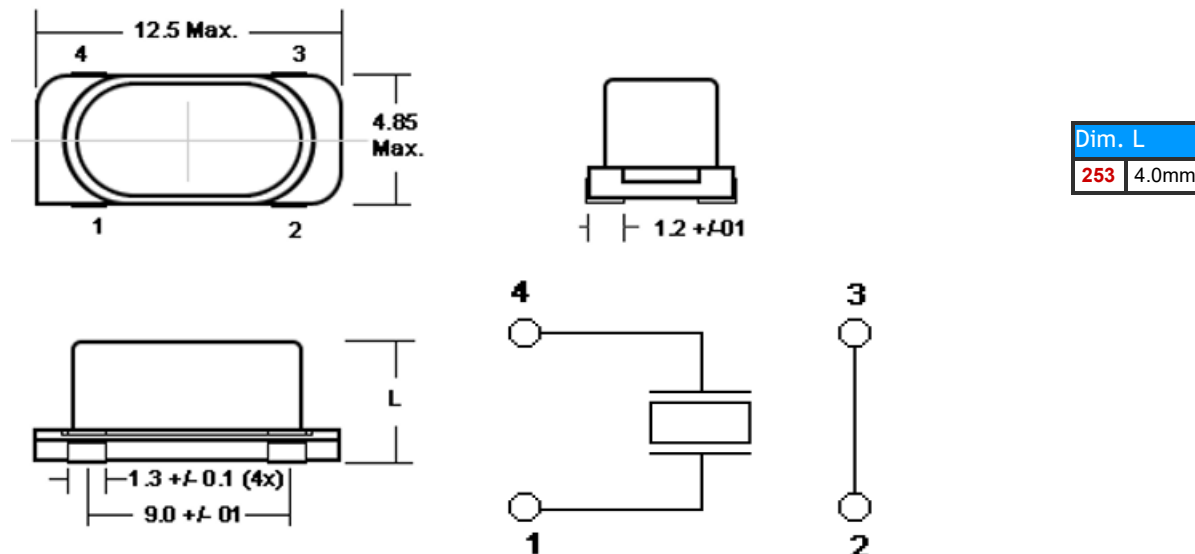
Table 1: Operation Mode and Motional Resistance

Frequency Range	Mode	Ohm Max	Frequency Range	Mode	Ohm Max
3.579545 ~ 4.999	Fundamental/AT	200	15.0 ~ 15.999	Fundamental/AT	60
5.0 ~ 5.999	Fundamental/AT	150	16.0 ~ 23.999	Fundamental/AT	50
6.0 ~ 7.999	Fundamental/AT	120	24.0 ~ 30.999	Fundamental/AT	40
8.0 ~ 8.999	Fundamental/AT	90	24.0 ~ 40.32	Fundamental/BT	40
9.0 ~ 9.999	Fundamental/AT	80	24.576 ~ 29.999	3rd OT/AT	150
10.0 ~ 14.999	Fundamental/AT	70	30.0 ~ 70.0	3rd OT/AT	100

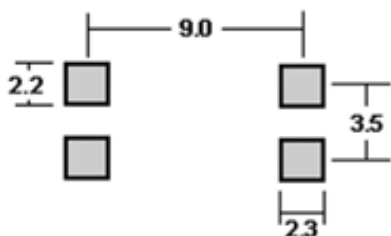
Table 2: Part Numbering Guide

Series Number	Frequency	Load Capacitance	Tolerance @ +25oC	Tolerance Over Temp (oC)	Operating Temp (oC)	Packaging
253	- 12.0M	- 18	- 50	N	W	- TR
HC-49SM 253: L=4.0 (B)	Enter desired standard freq. and enter here e.g. 2.048M for 2.048 MHz OR enter any desire frequency.	Enter desired capacitance here. e.g. -20 for 20pF	Blank * = ± 30 PPM 15 = ± 15 PPM 50 = ± 50 PPM	Blank* = ± 50 PPM G = ± 30 PPM N= ± 100 PPM	S = -20~+70 W = -40~+85	Blank* = Bulk TR = Tape/Reel
<p>NOTE: Deviations on all parameters available. Please consult Oscilent for details.</p> <p>*STANDARDS: "Blank" part number selections indicate standard variables for that particular characteristic.</p>						

Package Dimensions



Solder Pad Layout



Tapes & Reel

