

Package	Description
HC-49	SMD Quartz Crystal

Features

- Cost Effective
- Low Profile
- Space saving design
- Tape and Reel
- RoHs/ Lead Free compliant



Electrical Characteristics

Parameter	Conditions	Characteristics	Units
Frequency Range	f_0	3.000 - 85.00	MHz
Frequency Tolerance	Ref @ +25°C	±30 std. (±5 ~ ±100 avail.)	PPM
Temperature Stability	T_L	±50 std. (See Table 2)	PPM
Operating Temperature	T_{OPR}	-10 ~ +60 std. (See Table 2)	°C
Storage Temperature	T_{STG}	-55 ~ +125	°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	20.0 std. (8 - 50 and Series avail.)	pF
Drive Level	D_L	0.1 - 1.0	mW
Aging (First Year)	@ +25°C	±5.0	PPM/Y
Insulation Resistance	I_R	500 (DC100 ±10V) min.	Mohm

Table 1: Operation Mode and Motional Resistance

Frequency Range	Mode	Ohm Max	Frequency Range	Mode	Ohm Max
3.000 - 3.500	Fundamental	300	8.000 - 10.000	Fundamental	60
3.500 - 3.800	Fundamental	150	10.000 - 12.000	Fundamental	50
3.800 - 4.100	Fundamental	120	12.000 - 28.000	Fundamental	40
4.100 - 5.000	Fundamental	100	28.000 - 33.500	Fundamental	50
5.000 - 6.000	Fundamental	80	26.000 - 40.000	3 rd OT	100
6.000 - 8.000	Fundamental	70	40.000 - 75.000	3 rd OT	80

Table 2: Frequency - Temperature Stability

Cutting	Temperature Range	Tolerance (PPM)					
		±5.00	±10.00	±15.00	±20.00	±30.00	±50.00
AT	Fundamental	X	X	X	X	X	X
	Fundamental		X	X	X	O	X
	Fundamental			X	X	X	O
	Fundamental				X	X	X
	Fundamental					X	X

Note: Consult factory for available frequencies

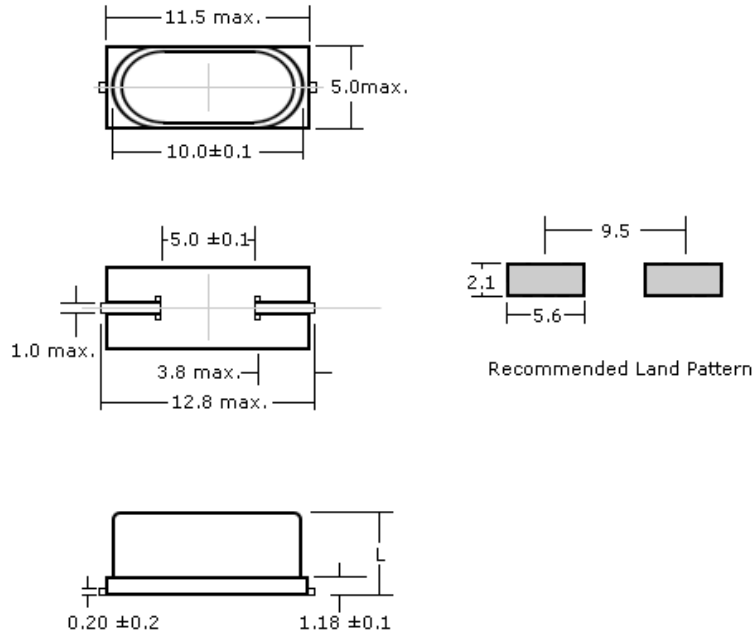
X	Available
O	Recommended

Part Numbering Guide

Series Number	Frequency	Load Capacitance	Tolerance @ +25oC	Tolerance Over Temp (oC)	Operating Temp (oC)	Packaging**
250	- 12.0M	- SR	- 05	K	P	- TR
HC-49SM 250: L=4.2 251: L=3.2	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 or Enter SR for Series.	Blank * = ±30 PPM or Fill in E.G 05 = ±5 PPM 25 = ±25 PPM Avail. = ±5 - ±100	Blank* = ±50 PPM G = ±30 PPM H= ±20 PPM K = ±15 PPM L = ±10 PPM M= ±5 PPM N= ±100 PPM	P = 0-+50 R = -10-+60 S = -20-+70 T = -30-+80 W = -40-+85	Blank* = Bulk TR = Tape/Reel

NOTE: Deviations on all parameters available. Please consult Oscilent for details.
***STANDARDS:** "Blank" part number selections indicate standard variables for that particular characteristic.

Package Dimensions



Dim. L	
250	4.2mm
251	3.2mm

Tape & Reel

- 1000 pieces per reel
- Compliant to EIA-481
- All Dimensions in Millimeters

