



Data Sheet



Product Category: SMD Quartz Crystal

Series Number	Package	Description	Last Modified
250 ~ 251	HC-49SM	SMD Quartz Crystal	Sept. 01 2004

FEATURES

- Cost effective
- Low profile
- Space saving design
- Tape and Reel
- RoHs / Lead Free compliant



OPERATING CONDITIONS / ELECTRICAL CHARACTERISTICS

PARAMETERS	CONDITIONS	CHARACTERISTICS	UNITS
Frequency Range	f_0	3.000 ~ 85.00	MHz
Frequency Tolerance	Ref @ +25°C	±30 std. (±5 ~ ±100 avail.)	PPM
Temperature Tolerance	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
Shunt Capacitance	C_O	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 (RS)

FREQUENCY RANGE (MHz)	MODE	ohm max.	FREQUENCY RANGE (MHz)	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	3rd OT	100
6.000 ~ 8.000	Fundamental	70	40.000 ~ 75.000	3rd OT	80

TABLE 2 - FREQUENCY - TEMPERATURE TOLERANCE

Cutting	Temperature Range	Tolerance (PPM)					
		±5.00	±10.0	±15.0	±20.0	±30.0	±50.0
AT	0 ~ +50°C	x	x	x	x	x	x
	-10 ~ +60°C		x	x	x	O	x
	-20 ~ +70°C			x	x	x	O
	-30 ~ +80°C				x	x	x

x	available
O	recommended

24.000(F)	Std.	-	-	Std.	-	Std.	Std.	-
24.00014 (F)	-	-	-	-	-	Std.	-	-
40.00 (OT)	-	-	-	-	-	Std.	-	-
40.32 (OT)	-	-	-	-	-	-	Std.	-
FREQUENCY (MHz)	Series	12	13	16	17	18	20	32
	LOAD (pF)							
F = Fundamental OT = 3RD Overtone								
NOTE: Other frequencies and load capacitance available. Please consult Oscilent for part numbers.								

Oscilent Corporation - CALL **949.252.0522**

Series No.: [250 to 251](#)

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