



## QEHC49H3

HC49/S Crystal – Through Hole packaged  
*Specification (Rev-D)*

---

■ Electrical Characteristics .....	P01
■ ESR vs. frequency range and Mode of vibration .....	P01
■ Mechanical Characteristics .....	P01
■ Ordering Information .....	P02
■ Radial taping specification .....	P02

# QEHC49H3

HC49/S Crystal – Through Hole packaged  
Specification (rev-D)

June 29<sup>th</sup>, 2006

## Electrical Characteristics

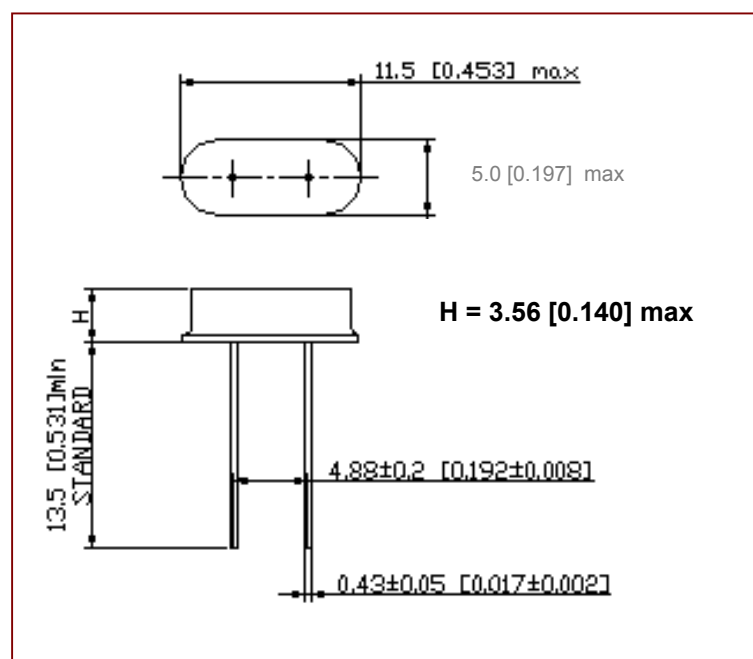
Electrical Parameters	Unit	Minimum	Typical	Maximum	Test conditions
Frequency range	MHz	3.200		66.000	
Frequency Tolerance (at 25°C)	± ppm	10	30	50	Refer to Ordering Information
Temperature Stability	± ppm	10	30	50	Refer to Ordering Information
Operating Temperature Range	°C		-20/+70	-40/+85	Refer to Ordering Information
Storage temperature range	°C	-40		+85	
Shunt capacitance $C_0$	pF			7.0	
Load capacitance	pF	10pF ~ 32pF or series			Refer to Ordering Information
Drive level	μW		100	500	
Aging (First Year)	± ppm			5	Ref at 25°C
Insulator resistance	MΩ	500			At 100V <sub>DC</sub>

Customized specification upon request

## ESR vs. frequency range and Mode of vibration

Frequency range (MHz)	Mode of vibration	Max ESR (Ω)	Frequency range (MHz)	Mode of vibration	Max ESR (Ω)
3.200 to 4.499	Fund.	150	9.000 to 9.999	Fund.	60
4.500 to 5.999	Fund.	120	10.000 to 12.999	Fund.	50
6.000 to 6.999	Fund.	100	13.000 to 30.000	Fund.	40
7.000 to 7.999	Fund.	90	30.000 to 66.000	3rd	80
8.000 to 8.999	Fund.	80			

## Mechanical Characteristics



Marking for QEHC49H3	
Frequency in MHz (6 digits)	
On top	

Mechanical conditions	
Vibration	10g, 10Hz to 2KHz according to standard CEI 68-2-63
Shocks	100g, 6ms according to standard CEI 68-2-27

**Note 1 :** QEHC49H3 is fully RoHS compliant.

# QEHC49H3

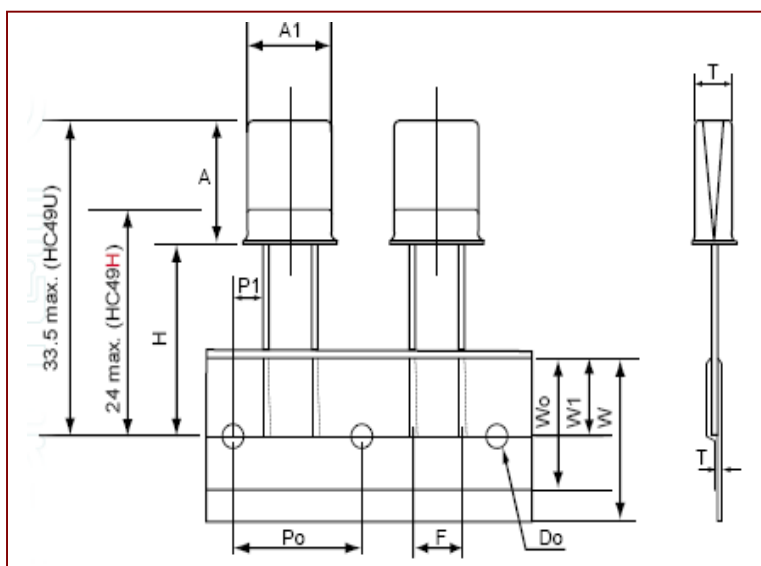
HC49/S Crystal – Through Hole packaged  
Specification (rev-D)

June 29<sup>th</sup>, 2006

## Ordering Information

Part numbering system						
QEHC49H3	1	30	HQ	50	16	25.000MHZ
↓	↓	↓	↓	↓	↓	↓
Package type	Vibration mode	Frequency tolerance	Operating temperature range	Frequency stability	Load Capacitance	Nominal Frequency (MHz)
QEHC49H3 : HC49/S Through Hole packaged	1 = Fundamental 3 = 3 <sup>rd</sup> Overtone 5 = 5 <sup>th</sup> Overone	10=±10ppm 30=±30ppm 50=±30ppm	D=-40°C F= -30°C H=-20°C J=-10°C L=0°C M=+50°C N=+55°C O=+60°C Q=+70°C T=+85°C	10=±10ppm 30=±20ppm 50=±30ppm	16=16pF Please, enter the value of load capacitance	Please enter the nominal frequency

## Radial taping specification



Item	Symbol	Dimensions
Product size	A1 x A	11.05x13.46 max
Product thickness	T	4.65 max
Feed hole location	P1	3.81±0.7
Feed hole pitch	P <sub>0</sub>	12.7±0.3
Lead span	F	5.0±0.5
Tape width	X	18.0±1.0
Cover tape width	W <sub>0</sub>	12.7±1.0
Tolerance of leading hole	W1	9.0±0.5
Masking tape location	H	20.0±0.5
Feed hole diameter	D <sub>0</sub>	4.0±0.2
Tape thickness	t	0.6±0.2