QEHC49U

HC49U Crystal – Through Hole packaged

Frequency and Electrical Characteristics

Parameter	Min.	Typ.	Max.	Unit	Test condition / Description
Nominal frequency (Fn)	1.8432		125	MHz	
Calibration tolerance			±10 to ±50	ppm	Frequency at 25°C ± 2°C and specified load capacitance
Operating temperature range		-20 to +70	-40 to +85	°C	Refer to ordering information
Storage temperature range	-40		85	°C	
Frequency stability over temperature			±10 to ±50	ppm	Referenced to frequency reading at 25°C and the specified load capacitance
Long-term stability (Ageing)			±5	ppm	Frequency drift over 1 year at 25°C
Shunt capacitance (C_O)			7.0	pF	
Load capacitance (C_L)	10		32 or series	pF	Refer to ordering information
Drive level		100	500	µW	
Equivalent series resistance (ESR)					Mode of vibration:
1.843 to 1.999			650	Ω	Fundamental (AT-cut)
2.000 to 2.999			500	Ω	Fundamental (AT-cut)
3.000 to 3.499			250	Ω	Fundamental (AT-cut)
3.500 to 3.999			150	Ω	Fundamental (AT-cut)
4.000 to 4.999			100	Ω	Fundamental (AT-cut)
5.000 to 5.999			80	Ω	Fundamental (AT-cut)
6.000 to 7.999			50	Ω	Fundamental (AT-cut)
8.000 to 12.999			35	Ω	Fundamental (AT-cut)
13.000 to 35.000			25	Ω	3rd overtone (AT-cut)
24.000 to 29.999			60	Ω	3rd overtone (AT-cut)
30.000 to 79.999			40	Ω	3rd overtone (AT-cut)
80.000 to 125.000			90	Ω	5th overtone (AT-cut)
Insulation resistance (IR)	500			MΩ	100 V ±15 V at 25°C

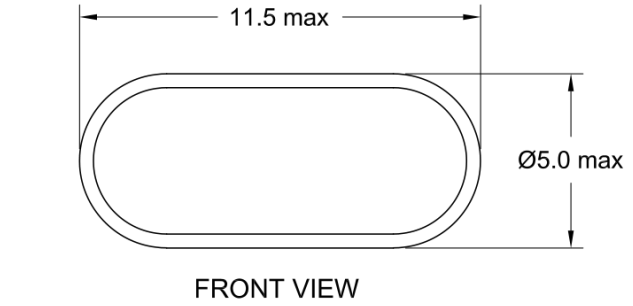
Environmental Specifications

Parameter	Test condition / Description
Mechanical vibration	10g, Frequency: 10Hz ~ 2KHz according to standard CEI 68-2-63
Shock	100g, 6ms according to standard CEI 68-2-27

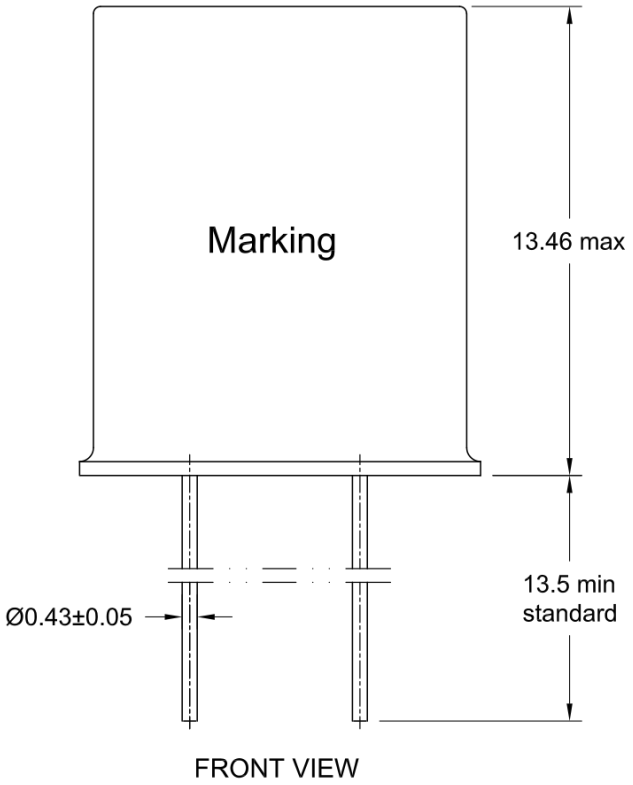
Order Part Example – QEHC49U.1.30.HQ.50.16 / 25.000MHz

Parameter	Package type	Vibration mode	Frenquency tolerance	Operating temperature range	Frenquency stability	Load capacitance	Nominal Frenquency (MHz)
Code	QEHC49U	1	30	HQ	50	16	25.000MHz
Decode	QEHC49U = HC49U (Through Hole Package)	1 = Fundamental 3 = 3rd overtone 5 = 5th overtone	10 = ±10ppm 30 = ±30ppm 50 = ±30ppm	D = -40°C F = -30°C H = -20°C L = 0°C Q = +70°C T = +85°C	10 = ±10ppm 30 = ±20ppm 50 = ±30ppm	16 = ±16pF	Please enter the nominal frequency

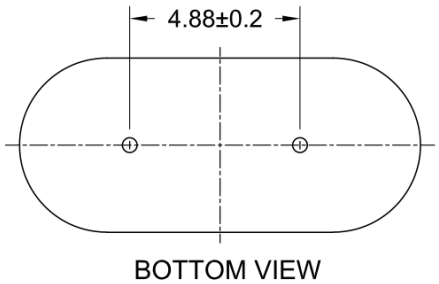
Model Outline, Recommended Pad Layout and Marking



FRONT VIEW



FRONT VIEW



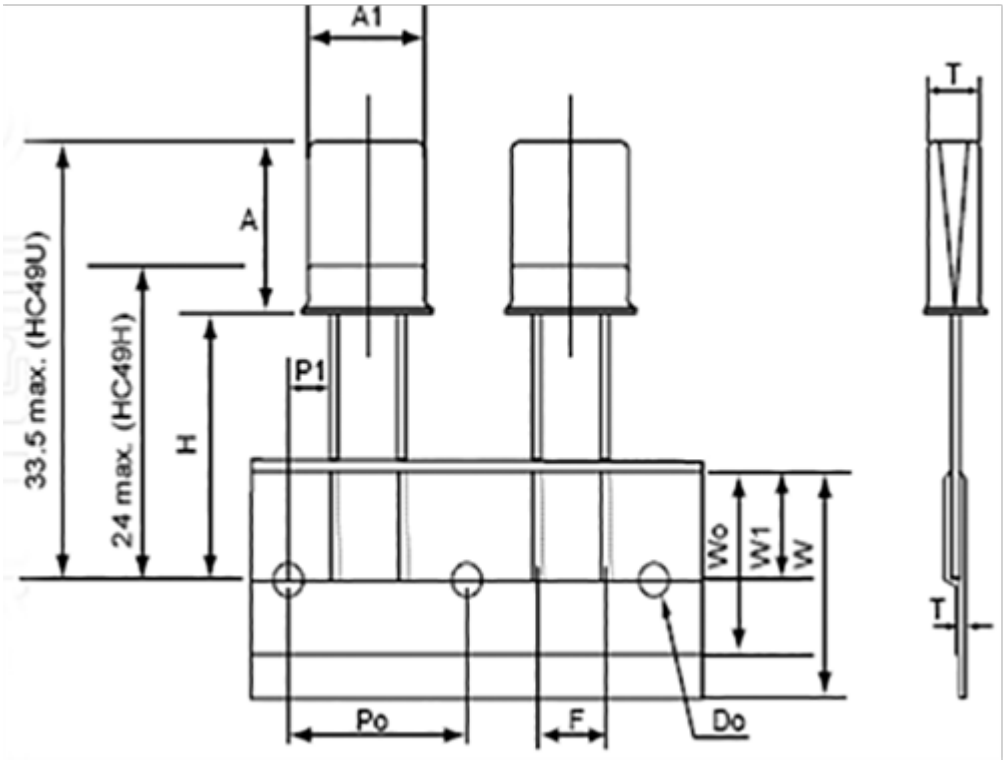
BOTTOM VIEW

Marking	Example: QEHC49U.1.30.HQ.30.16 / 8MHz
Line 1	104300 (Material ID / 6 digits)
Line 2	8.0000 (Frequency in MHz)
Line 3	Date Code (YYWW) – Production code

NOTE: Dimensions are in millimetre.

Packaging

TAPE DETAILS:



Parameter	Code	Dimension	Tolerance
Product size	A_1 x A	11.05x13.46 max	
Product thickness	T	4.65 max	
Feed hole location	P_1	3.81	± 0.7
Feed hole pitch	P_0	12.7	± 0.3
Lead span	F	5.0	± 0.5
Tape width	X	18.0	± 1.0
Cover tape width	W_0	12.7	± 1.0
Tolerance of leading hole	W_1	9.0	± 0.5
Masking tape location	H	20.0	± 0.5
Feed hole diameter	D_0	4.0	± 0.2
Tape thickness	t	0.6	± 0.2