

DATENBLATT / DATASHEET

Specification: QTC-HC48U

Crystal unit: HC-48/U

Date: 11.03.2009
ROHS compliance



Metal housing: Resistance weld
Inert gas N₂/H₂
Laser engraving

TABLE 1

ENCLOSURE	H/mm	CODE
HC 48/U	19,8	70

Scale 1:1

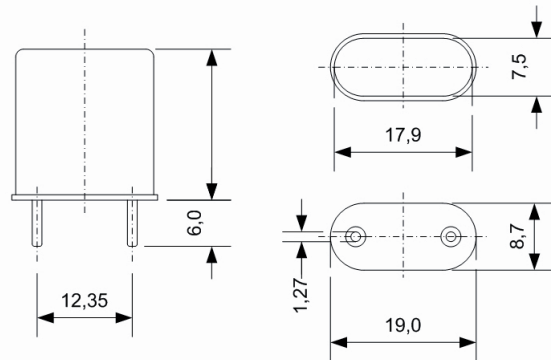


TABLE 2

0,8 ... 250 MHz		UNIT	CONDITION
Frequency range	0,8 - 250	MHz	
Crystal cut	AT		
Enclosure	HC-48/U		
Mode	0,8 – 40 MHz 15 – 100 MHz 45 – 160 MHz 100 – 210 MHz 140 – 250 MHz		Fundamental mode 3 rd overtone 5 th overtone 7 th overtone 9 th overtone
Load capacitance	10 – 60 pF or Series	pF	
Shunt capacitance	0,8 – 4 MHz: < 3,0 pF 4 – 10 MHz: < 5,0 pF 15 – 250 MHz: < 7,0 pF	pF	
Motional capacitance			
Resistance R _r			see table 5
Frequency adjustment			see table 3
Frequency stability over temperature			see table 4
Aging 1 st year	< 2,0 – 3,0	ppm	
Shock	100g / 6ms		
Vibration	10 g _{SS} / 1,5 mm _{SS} 50 – 500 Hz		
Δf / f	< 5	ppm	
ΔR/R	< 20%		



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TABLE 3

FREQUENCY ADJUSTMENT AT +25°C ± 2 °C	FREQUENCY / MHz					CODE
	0,8 ~ 40	15 ~ 100	45 ~ 160	100 ~ 210	140 ~ 250	
Mode	1	3	5	7	9	
Frequency adjustment / ppm	± 3	± 3	± 3			C1
	± 5	± 5	± 5	± 5	± 5	E1
	± 10	± 10	± 10	± 10	± 10	J1
	± 20	± 20	± 20	± 20	± 20	B2
	± 50	± 50	± 50	± 50	± 50	H2

TABLE 4

FREQUENCY STABILITY OVER TEMPERATURE RELATED TO +25 °C		FREQUENCY DEVIATION / ppm							
		± 3	± 5	± 7	± 10	± 20	± 25	± 30	± 50
0,8 ... 1,6 MHz: +									
1,6 ... 5,0 MHz: x									
5,0 ... 250 MHz: o									
Temperature range	Code	03	05	07	10	12	13	14	20
0 ... + 50°C	B	o	xo	xo	xo	+xo	+xo	+xo	+xo
-10 ... + 60°C	H	o	xo	xo	xo	+xo	+xo	+xo	+xo
-20 ... + 70°C	M		o	xo	xo	+xo	+xo	+xo	+xo
-30 ... + 80°C	R			o	xo	xo	xo	+xo	+xo
-40 ... + 90°C	U				o	xo	xo	xo	+xo
-55 ... + 105°C	W						o	xo	+xo
-55 ... + 125°C	X							o	xo

TABLE 5

MAX. RESISTANCE R _R	MODE	FREQUENCY / MHz	R _{MAX} / Ohm
	1	0,8 – 1,0	600
		1,0 – 1,3	400
		1,3 – 1,6	200
		1,6 – 3,0	150
		3,0 – 6,0	80
		6,0 – 15	40
		15 – 40	30
	3	15 – 100	30
		5	45 – 160
	7	100 – 210	100
		9	140 – 250

ORDERING CODE ⁽¹⁾	FREQUENCY [MHz]	ENCLOSURE CODE: TABLE 1	MODE: 1: FUND. 3,5,7,9: OT TABLE 2	LOAD CAP. : 00: SERIES 32: 32 PF TABLE 2	ADJ. TOLERANCE CODE: TABLE 3	TEMP. RANGE CODE: TABLE 4	FREQ. STAB. OVER TEMP. CODE: TABLE 4	SHUNT CAPACITANCE 35: 3,5 PF TABLE 2
	12,800	70	1	32	J1	M	10	35

⁽¹⁾ Other specification on request