

DATENBLATT / DATASHEET



Specification: QTTC-HC49SMD

Crystal unit: HC-49-SMD

Date: 11.03.2009
ROHS compliance



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

TABLE 1

ENCLOSURE	H/mm	CODE	
HC 49/U-SMD	13,2	31	
	10,6	32	starting with 4 MHz
	9,2	33	starting with 10 MHz

Scale 1:1

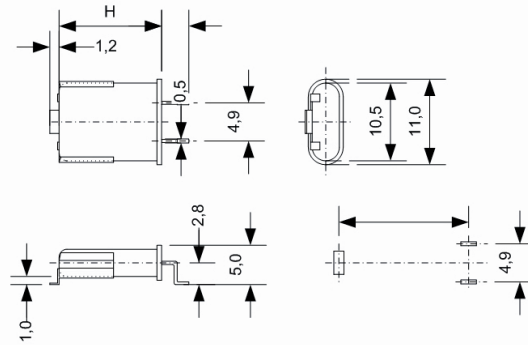


TABLE 2

1,8 ... 250 MHz		UNIT	CONDITION
Frequency range	1,8 - 250	MHz	
Crystal cut	AT		
Enclosure	HC-49-SMD		
Mode	1. 1,8 – 40 MHz 3. 15 – 100 MHz 5. 45 – 160 MHz 7. 100 – 210 MHz 9. 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	1,8 – 4 MHz: < 3,0 pF 4 – 10 MHz: < 5,0 pF 10 – 250 MHz: < 7,0 pF	pF	
Motional capacitance			
Resistance R _R			see table 5
Frequency adjustment			see table 3
Nominal temperature and temp. tolerance			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 NOMINAL TEMPERATURE	FREQUENCY / MHz					CODE
	1,8 ~ 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

NOMINAL TEMPERATURE AND TEMPERATURE TOLERANCE			
Temperature	Code	Temperature tolerance	Code
+40°C	40	± 3°C	C
+50°C	50	± 5°C	E
+55°C	55		
+60°C	60		
+65°C	65		
+70°C	70		
+75°C	75		
+80°C	80		
+85°C	85		
+90°C	90		
+95°C	95		

TABLE 5

MAX. RESISTANCE R _R	MODE	FREQUENCY / MHz	R _{MAX} / Ohm
	1	1,8 – 2,0	500
		2,0 – 3,0	300
		3,0 – 5,0	120
		5,0 – 12	40
		12 – 40	15
	3	10 – 20	30
		20 – 100	22
	5	45 – 55	70
		55 – 160	50
	7	100 – 210	100
		140 – 250	180

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	NOMINAL TEMPERATURE CODE: TABLE 4	SHUNT CAPACITANCE 25: 2,5 PF TABLE 2
	12,800	31	1	32	J1	70C	25

⁽¹⁾ Other specification on request