

HK

Ultra Low Current

Thru-Hole

SMD

CMOS

1.8V

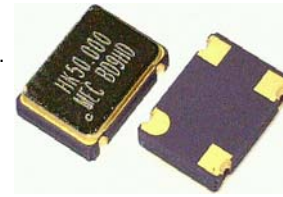
2.5V

3.3V

Min.
1.01KHzMax.
200MHz

Applications

- Designed for hand-held consumer electronic devices requiring a low current consumption .
- Less than 1.7 mA current consumption for 27 MHz at 1.8V and less than 2 uA at disabled mode .
- Phase noise is -130 dBc/Hz at 10 KHz offset .
- 1.8 V, 2.5V or 3.3V supply voltage



RoHS Compliance

General specifications of all available packages , at Ta=+25°C , CL=15pF

Model		HK53			HK57			
Frequency Range		0.37 ~ 50.0 MHz			0.25 ~ 50.0 MHz			
Input Voltage Range (V _{DD})		+1.8 V ± 10%	+2.5 V ± 10%	+3.3 V ± 10%	+1.8 V ± 10%	+2.5 V ± 10%	+3.3 V ± 10%	
Output Voltage High " 1 " (V _{OH})	10% ↔ 90% of the wave form	+ 1.4 V (min.)	+ 2.0 V (min.)	+ 2.4 V (min.)	+ 1.4 V (min.)	+ 2.0 V (min.)	+ 2.4 V (min.)	
Output Voltage Low " 0 " (V _{OL})		+ 0.2 V (max.)	+ 0.3 V (max.)	+ 0.4 V (max.)	+ 0.2 V (max.)	+ 0.3 V (max.)	+ 0.4 V (max.)	
Current Consumption mA , (typical)	10.000 MHz	- - -	- - -	- - -	0.7 mA	1.0 mA	1.5 mA	
	13.500 MHz	- - -	- - -	- - -	0.9 mA	1.3 mA	1.9 mA	
	16.000 MHz	1.1 mA	1.6 mA	2.2 mA	1.1 mA	1.6 mA	2.2 mA	
	20.945 MHz	1.4 mA	1.9 mA	2.6 mA	1.4 mA	1.9 mA	2.6 mA	
	25.000 MHz	1.6 mA	2.2 mA	3.1 mA	1.6 mA	2.2 mA	3.1 mA	
	27.000 MHz	1.7 mA	2.4 mA	3.3 mA	1.7 mA	2.4 mA	3.3 mA	
	30.000 MHz	2.0 mA	2.8 mA	3.8 mA	2.0 mA	2.8 mA	3.8 mA	
	38.000 MHz	2.3 mA	3.3 mA	4.5 mA	2.3 mA	3.3 mA	4.5 mA	
	50.000 MHz	2.7 mA	4.0 mA	5.0 mA	2.7 mA	4.0 mA	5.0 mA	
Rise Time (Tr) / Fall Time (Tf)		4 n sec. (typical) when measured from (10% V _{DD} ↔ 90% V _{DD})						
Fanout (Drive Capability)		12 mA (typical)						
Duty Cycle (at 50% of wave form)		50% ± 5% . measured at +1.4V VD.C.						
Start -up Time (Ts)		10 m sec. (typical) ; V _{DD} reaches 1.62 V						
Load		15 pF						
Voltage Sensitivity		± 0.8 ppm (typical) with 10% variation of V _{DD}						
Frequency Stability ⁽¹⁾ Codes		Frequency Stability over Operating Temperature Range			± 25 ppm	± 50 ppm	± 100 ppm	If non-standard , please enter the desired stability after the " C " or " I " . For example : " C20 " ± 20 ppm over -10°C to +70°C ; " I20 " ± 20 ppm over -40°C to +85°C
		Commercial (-10°C to +70°C)			A	B	C	
		Industrial (-40°C to +85°C)			D	E	F	
Storage Temperature		- 50°C to 100°C						
Aging		± 5 ppm per year (max.)						
Tri-state Function on pad No. 1		When connected to ground : Output is disabled (oscillator is off) When not connected or connected to logic high : Clock output Disable time is 10 m sec. (typical) Enable time (when ground is removed from pad 1) is 10 m sec. max.						

Note : ⁽¹⁾ Inclusive of 25°C tolerance , operating temperature range , ±10% input voltage variation , load change , aging , shock and vibration.

Outline Dimensions (Unit : mm) , Suggested pad Layout for SMDs [Please check the hold type and part No. with page 3 .]

[HK53]	[HK57]
Land Pattern (reference) Pad Connections : Pad 1 : Enable / Disable Pad 2 : Ground Pad 3 : Output Pad 4 : Supply Voltage	Land Pattern (reference) Pad Connections : Pad 1 : Enable / Disable Pad 2 : Ground Pad 3 : Output Pad 4 : Supply Voltage

Mercury www.mercury-crystal.com