

HG __

Low Power

CMOS

Thru-Hole

3.3 V

5.0 V

Min.

Max.

12 V

15 V

1 Hz

160 KHz

Features

- Frequency range in the Hz and KHz range using a tuning fork crystal
- Current consumption in the micro Amp (μ A) range
- HG__ such as 32.768 KHz, provides a time base for a Real Time Clock
- Low current consumption
- Suitable for battery-operated devices such as data logging and portable test equipment



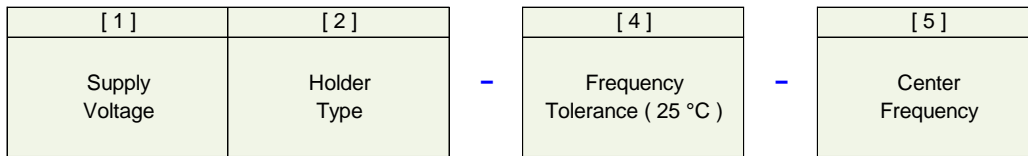
General specifications of all available packages , at Ta=+25°C , CL=15pF

Model	HG __	
Input Voltage (V_{DD})	+3.3V D.C.±5%	+5.0V D.C.±10%
Frequency Range	1Hz to 160KHz	
Output Wave Form	CMOS (square wave)	
Frequency Tolerance (at 25°C)	± 10 ppm (Tolerance Code is " P ")	± 50 ppm (Tolerance Code is " B ")
	± 25 ppm (Tolerance Code is " A ")	± 100 ppm (Tolerance Code is " C ")
Frequency Stability ⁽¹⁾	-100 ppm (typ.) over 0°C to +70°C	
	-160 ppm (typ.) over -40°C to +85°C	
Current Consumption	26 μ A (typ.)	45 μ A (typ.)
Output Logic High " 1 "	2.97 V (min.)	4.5 V (min.)
Output Logic Low " 0 "	0.33V (max.)	0.5 V (max.)
Rise Time (T_r) & Fall Time (T_f)	0.5 μ sec (typ.) ; 1.0 μ sec. (max.)	25 μ sec (typ.) ; 50 μ sec. (max.)
Fan-out	2 CMOS gates	
Start-up Time	450 m Sec.(max.)	
Duty Cycle	50%±5% (typ.) ; 50%±10% (max.)	
Storage Temperature	-50°C to 100°C	
Aging	±5 ppm per year (max.)	

Outline Dimensions (Unit : mm)

HG14	HG8
<p>4-\varnothing1.8 glass stand-off</p> <p>Pin Connections : Pin 1 : (1) No connection (2) Output disabled when low Pin 7 : Ground Pin 8 : Output Pin 14 : Supply voltage</p>	<p>3-\varnothing1.6 glass stand-off</p> <p>Pin Connections : Pin 1 : (1) No connection (2) Output disabled when low Pin 4 : Ground Pin 5 : Output Pin 8 : Supply voltage</p>

Part Number Format and Example



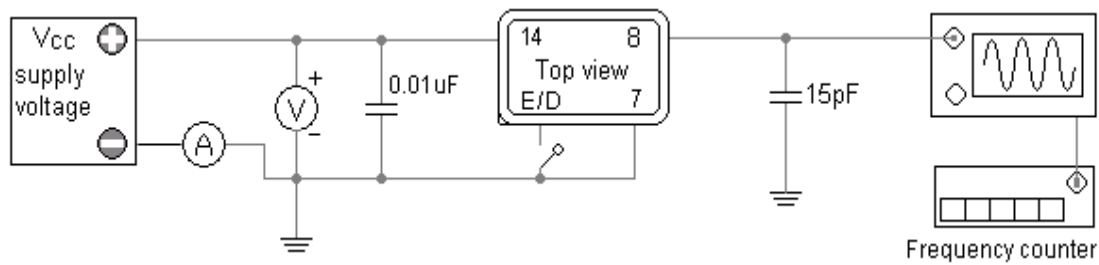
Example	(1)	3	HG14	-	P	-	32.768K
	(2)	5	HG8	-	A	-	25.600K

Ex (1) : **3HG14 - P - 32.768K** [+3.3V input voltage , Full size package 4 pins , Dip type , ±10 ppm frequency tolerance , 32.768 KHz]

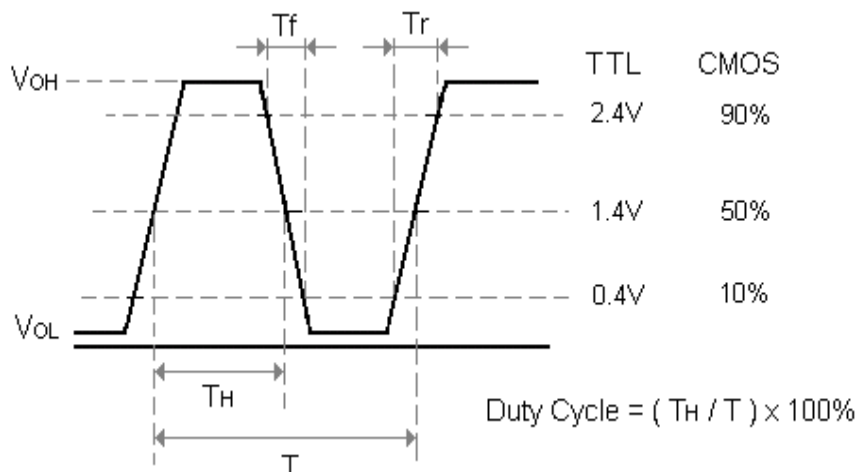
Ex (2) : **5HG8 - A - 25.600K** [+5.0V input voltage , Half size package 4 pins , Dip type , ±25 ppm frequency tolerance, 25.600 KHz]

[1]	Supply voltage	" 33 " for +3.3V ; " 5 " for +5.0V			
[2]	Holder Type	" 8 " Half size DIP (12.8 * 12.8) ; " 14 " Full size DIP (20.2 * 12.8)			
[3]	Frequency	± 10 ppm (Code is " P ")	± 25 ppm (Code is " A ")	± 50 ppm (Code is " B ")	± 100 ppm (Code is " C ")
[4]	Center Frequency				

T T L / HCMOS Square Wave Test Circuit



T T L / HCMOS Output Wave Form



Related Mercury Products :

- “ HA ” Series, at 32.768KHz, uses an AT-cut crystal to achieve ±25, ±50 or ±100 ppm frequency stabilities over both commercial or industrial temperature ranges with a low 75 µA current consumption at +3.3V.
- “ M572T ” Series TCXO & “VM572T” Series VCTCXO, are also available at a frequency of 32.768KHz. They are both temperature compensated and they can achieve a frequency stability of ±1.0~±2.5 ppm over commercial or industrial temperatures, with a current consumption of 3.5 mA at +3.3V.