

True Sine Wave Clock Oscillators [HS series]

HS _ _

True Sine Wave

Thru-Hole

3.3V

5.0V

Min.

10 MHz

Max.

160 MHz

Features

- High purity and low total harmonic distortion. Ideal for audio modulation applications.
- For VCXOs with a Sine Wave output, please refer to "GS" series

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



Model	" HS " series				
Package Dimensionss , unit : mm	Thru - Hole HS14 (20.2 * 12.8 * 6.8)			Gull - Wing HS24 (20.2 * 12.8 * 7.8)	
Output Waveform	True Sine Wave				
Output Load	50Ω. (Internally AC coupled)				
Supply Voltage (V _{DD})	+3.3V ± 10%			+5.0V ± 10%	
Frequency Range	10.000 ~ 160.000 MHz			10.000 ~ 156.250 MHz	
Output Level	Standard: +3.0 dBm (min.) Tolerance: ± 1 dBm Maximum Power: +7 dBm (User to specify)			Standard: +5.0 dBm (min.) Tolerance: ± 1 dBm Maximum Power: +13 dBm (User to specify)	
Current Consumption	10 MHz : 9 mA (typ.)			10 MHz : 18 mA (typ.)	
	100 MHz : 18 mA (typ.)			100 MHz : 34 mA (typ.)	
	150 MHz : 19 mA (typ.)			150 MHz : 36 mA (typ.)	
Harmonics	< - 30dBc (frequency dependent)			< - 25dBc (frequency dependent)	
Start-up Time	5.0 msec. (max.)				
Storage Temperature	-50°C to +125°C				
Aging at Ta=+25°C	± 5 ppm per year (max.)				
Pin 1 option	OE Function ; No OE Function option				
Output Enable / Disable Function (OE Function)	70% of V _{DD} (min.) to enable output.				
	30% of V _{DD} (max.) to disable output.				
Frequency Stability 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 " F " represents .
	Commercial -20°C to +70°C	A	B	C	For example : " C20 " : ± 20 ppm over -20°C to +70°C
	Industrial -40°C to +85°C	D	E	F	" F30 " : ± 30 ppm over -40°C to +85°C

Outline Dimensions (Unit : mm) , Suggested pad Layout for SMDs

[HS14]	[HS24]
Top View Side View Bottom View 4-Ø1.8 glass stand-off Pad Connections : Pad 1 : (1) No Connection (2) OE Function Pad 7 : Ground Pad 8 : Output Pad 14 : Supply Voltage	Top View Side View Bottom View 4-Ø1.8 glass stand-off Pad Connections : Pad 1 : (1) No Connection (2) OE Function Pad 7 : Ground Pad 8 : Output Pad 14 : Supply Voltage

True Sine Wave Clock Oscillators [HS series]

Part Number Format and Example

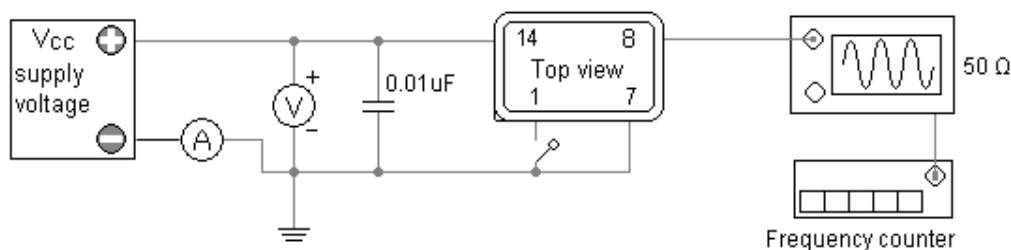
	[1]	[2]		[3]	[4]		[5]		[6]
	Supply Voltage	Holder Type	-	Frequency Stability	Pin 1 option	-	Center Frequency	-	Output Power [HS series only]
Example	3	HS14	-	A		-	100.000	-	5
	5	HS24	-	D	T	-	24.000	-	10

Ex(1) : **3HS14 - A - 100.000 - 5** [+3.3V , True Sine wave , $\pm 25\text{ppm}$ from -20°C to 70°C , No OE Function , 100.000MHz , Output power is 5dBm $\pm 1\text{dB}$]

Ex(2) : **5HS24 - DT - 24.000 - 10** [+5.0V , True Sine wave , $\pm 25\text{ppm}$ from -40°C to 85°C , OE Function , 24.000MHz , Output power is 10dBm $\pm 1\text{dB}$]

[1]	Supply voltage , " 3 " for +3.3V ; " 5 " for +5.0V	
[2]	Holder Type	
[3]	$-20^{\circ}\text{C} \sim 70^{\circ}\text{C}$	" A " $\pm 25\text{ppm}$; " B " $\pm 50\text{ppm}$; " C " $\pm 100\text{ppm}$; If non-standard please enter the desired stability after " C " , for example " C15 " : represents $\pm 15\text{ppm}$ over -20 to $+70^{\circ}\text{C}$
	$-40^{\circ}\text{C} \sim 85^{\circ}\text{C}$	" D " $\pm 25\text{ppm}$; " E " $\pm 50\text{ppm}$; " F " $\pm 100\text{ppm}$; If non-standard please enter the desired stability after " F " , for example " F20 " : represents $\pm 20\text{ppm}$ over -40 to $+85^{\circ}\text{C}$
[4]	" T " for Pin 1 option , Leave this space blank if no connection on pad 1.	
[5]	Frequency in MHz	
[6]	Output power in dBm	

HS - series test circuit



True Sine Waveform

