

HJ

Ultra low phase noise

RMS Phase Jitter 48 fsec

SMD

LVC MOS

1.8 V

2.5 V

3.3 V

Min.

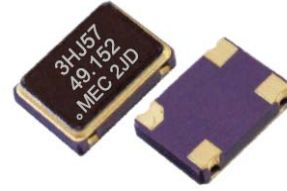
20 MHz

Max.

50 MHz

Features

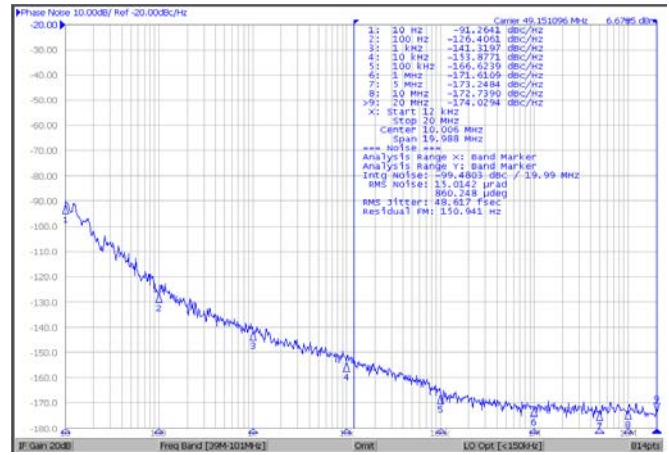
- The HJ series is ultra low phase noise crystal oscillators.
- Compared with standard oscillator, Mercury's HJ series has much better phase noise and jitter. HJ series with output frequency 49.152MHz has phase jitter 48 fsec (RMS, 12 KHz to 20 MHz) when V_{DD} at 3.3V.



RoHS Compliance

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

Model [Output Logic]	" HJ " series [LVC MOS]								
Type	HJ32	HJ53	HJ57						
Dimensions	3.2 * 2.5 * 1.0 mm	5.0 * 3.2 * 1.2 mm	7.0 * 5.0 * 1.4 mm						
Available Frequency Range	20.0 ~ 50.0 MHz	20.0 ~ 50.0 MHz	20.0 ~ 50.0 MHz						
Supply Voltage V _{DD}	1.8 V _{DD} ± 10%	+2.5 V _{DD} ± 10%	+3.3 V _{DD} ± 10%						
	Voltage code is " 18 "	Voltage code is " 25 "	Voltage code is " 3 "						
Current Consumption	3 mA (typical) ; 5 mA (max.)	4.7 mA (typical) ; 7 mA (max.)	7 mA (typical) ; 10 mA (max.)						
Output Logic " High " , " 1 "	1.62 V (min.)	2.25 V (min.)	2.97 V (min.)						
Output Logic " Low " , " 0 "	0.18 V (max.)	0.25 V (max.)	0.33 V (max.)						
Rise Time (Tr) / Fall Time (Tf)	5.0 ns (typical) ; 10 ns (max.)	2.0 ns (typical) ; 10 ns (max.)	1.5 ns (typical) ; 10 ns (max.)						
	Measured between 10 % ↔ 90 % of V _{DD} (CL = 15 pF)								
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 " I " For example : " C20 " ± 20 ppm over -10°C to +70°C ; " I30 " ± 30 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					
Supply Voltage vs Freq. Sensitivity	± 1.0 ppm (max.)								
Load	15 pF (CMOS)								
Start-up Time	0.8 m sec. (typical)								
	5.0 m sec. (max.)								
Duty Cycle	50% ± 5% (measured at 50% V _{DD})								
Tri-state Function on pad No. 1	High Enable								
Enable / Disable Time	Enable : 1 m sec. (max.)								
	Disable : 201 n sec. (max.)								
Storage Temperature	-55°C to + 150°C								
Aging at Ta=+25°C	± 3 ppm max. first year								
	± 2 ppm max. per year thereafter								
RMS Jitter [49.152MHz , 3.3V]	48 fsec (typical) [12KHz to 20MHz]								
SSB Phase Noise [49.152MHz , 3.3V]	Offect	10 Hz	100 Hz	1 KHz	10 KHz	100 KHz	1 MHz	10 MHz	20 MHz
	dBc/Hz	-91	-126	-141	-153	-166	-171	-172	-174



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

[HJ32]	[HJ53]	[HJ57]
<p>Pin connections :</p> <p>pin 1 : Enable / Disable pin 2 : Ground pin 3 : Output pin 4 : Supply Voltage</p>	<p>Pin connections :</p> <p>pin 1 : Enable / Disable pin 2 : Ground pin 3 : Output pin 4 : Supply Voltage</p>	<p>Pin connections :</p> <p>pin 1 : Enable / Disable pin 2 : Ground pin 3 : Output pin 4 : Supply Voltage</p>