

Features

- Femto second integrated phase jitter (300 fs typical , 12 KHz to 20 MHz) .
- Superior phase noise : -145 dBc/Hz at 10 KHz and -150 dBc/Hz at 100 KHz offset .
- High frequency stability oscillators .
- 1.8V, 2.5V or 3.3V supply voltages.



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

Model		" HR " series [Tri-state Function on pad No. 1]						
Output Logic		LVCMOS						
Supply Voltage V _{DD}		1.8 V _{DD} ± 10%	+2.5 V _{DD} ± 10%			+3.3 V _{DD} ± 10%		
Available Frequency Range		1.0 ~ 56.0 MHz		1.0 ~ 56.0 MHz		1.0 ~ 56.0 MHz		
Current Consumption [15pF load]	[1.0 ~ 19.99 MHz]	1.5 mA max.		2.5 mA max		4.0 mA max.		
	[20.0 ~ 39.99 MHz]	3.0 mA max.		3.5 mA max.		5.0 mA max.		
	[40.0 ~ 52.0 MHz]	4.5 mA max.		5.0 mA max.		7.0 mA max.		
Frequency Tolerance	at 25 °C	± 2.0 ppm (max.)						
Frequency Stability	Commercial	(-10°C to +70°C)	enter the desired stability after the code " C " , For example : " C7 " ± 7 ppm over -10°C to +70°C					
	Industrial	(-40°C to +85°C)	enter the desired stability after the code " I " , For example : " I15 " ± 15 ppm over -40°C to +85°C					
Output Logic " High " , " 1 "		V _{DD} - 0.4 (min.)						
Output Logic " Low " , " 0 "		0.1 V (typical) , 0.4 V (max.)						
Load		15 pF						
Rise Time		2.0 n sec. (typical) ; 4.0 n sec. (max.) , 10% → 90% of waveform						
Fall Time		2.0 n sec. (typical) ; 4.0 n sec. (max.) , 90% → 10% of waveform						
Start-up Time		0.6 m sec. (typical) ; 1.0 m sec. (max.)						
Duty Cycle		50% ± 5% (measured at 50% V _{DD})						
Tri-state Function on pad No. 1		Tri-state on pad 1 is standard for HR57 , HR53 and HR32 series.						
Phase Jitter (RMS) [25 MHz , 3.3V]		300 fs (typical) [12 KHz to 20 MHz integrated]						
SSB Phase Noise [25 MHz , 3.3V]	Offset	10 Hz	100 Hz	1 KHz	10 KHz	100 KHz	1 MHz	10 MHz
	dBc / Hz (typical)	-65	-100	-130	-145	-148	-152	-155
Storage Temperature		-55°C to + 150°C						
Aging at Ta=+25°C		± 2 ppm max. for first year						

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

[HR32]	[HR53]	[HR57]
<p>Pin connections : pin 1 : Enable / Disable pin 2 : Ground pin 3 : Output pin 4 : Supply Voltage</p>	<p>Pin connections : pin 1 : Enable / Disable pin 2 : Ground pin 3 : Output pin 4 : Supply Voltage</p>	<p>Pin connections : pin 1 : Enable / Disable pin 2 : Ground pin 3 : Output pin 4 : Supply Voltage</p>