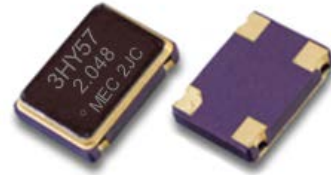


HY

Wide Operating Temperature
Over -40°C to +125°C
SMD
LVC MOS
1.8V
2.5V
3.3V
Min.
1.25 MHz
Max.
50.0 MHz

Features

- Femto second RMS phase jitter. 150 fs typical (12 KHz ~ 20 MHz)
- Superior phase noise: -155 dBc/Hz at 10 KHz and -160 dBc/Hz at 100 KHz offset
- Wide Operating Temperature range from -40°C to +125°C



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

Model [Output Logic]		" HY " series [LVC MOS]							
Type		HY32		HY53		HY57			
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		1.25 ~ 50.0 MHz							
Supply Voltage (V _{DD})		1.8 V _{DD} ± 10%		+2.5 V _{DD} ± 10%		+3.3 V _{DD} ± 10%			
Supply Voltage Code		" 18 "		" 25 "		" 3 "			
Current Consumption [15pF load]	1.25 ~ 19.99 MHz	2.0 mA Max.		3.0 mA Max.		4.0 mA Max.			
	20.0 ~ 50.00 MHz	4.0 mA Max.		5.0 mA Max.		6.0 mA Max.			
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 " K50 " ± 50 ppm over -40°C to +125°C		
		Commercial (-10°C to +70°C)		A	B	C			
		Industrial (-40°C to +85°C)		D	E	F			
		Car Grade (-40°C to +125°C)			K50	K100			
Rise Time (Tr) / Fall Time (Tf)		10 n sec. (max.)							
		Measured between 10% ↔ 90% of wave form (CL = 15pF)							
Load		15 pF							
Start-up Time		5.0 m sec. (max.)							
Duty Cycle		Standard: 50% ± 10%; Option: 50% ± 5%. Please add "-S" at the end of the part number for ± 5% .							
Output Enable Function on pad 1		When 70% of V _{DD} (min.) to Enable Output.							
		When 30% of V _{DD} (max.) to Disable Output.							
Phase Jitter (RMS) [26 MHz , 3.3V]		150 fs (typical) [12 KHz to 20 MHz integrated]							
SSB Phase Noise [26 MHz , 3.3V]	Offset	10 Hz	100 Hz	1 KHz	10 KHz	100 KHz	1 MHz	5 MHz	
	dBc / Hz (typical)	-94	-127	-142	-156	-161	-163	-163	
Storage Temperature		-65°C to + 150°C							
Aging at Ta=+25°C		± 2 ppm max. for first year							

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

[HY32]	[HY53]	[HY57]
Pin connections : pin 1 : Enable / Disable pin 2 : Ground pin 3 : Output pin 4 : Supply Voltage	Pin connections : pin 1 : Enable / Disable pin 2 : Ground pin 3 : Output pin 4 : Supply Voltage	Pin connections : pin 1 : Enable / Disable pin 2 : Ground pin 3 : Output pin 4 : Supply Voltage

Part Number Format and Examples

	[1]	[2]		[3]	[4]		[5]
	Supply Voltage	Holder Type	-	Frequency Stability	T	-	Center Frequency
Examples	(1)	18	SWO	-	B	T	25.000
	(2)	5	H14	-	C30	-	10.000
	(3)	3	HDK5761	-	E	-	156.250
	(4)	3	HY32	-	K100	T	50.000

Ex (1) : 18SWO - BT - 25.000 [1.8V, SWO type, ±50ppm from -10°C to 70°C, Tri-state, 25.000MHz,]

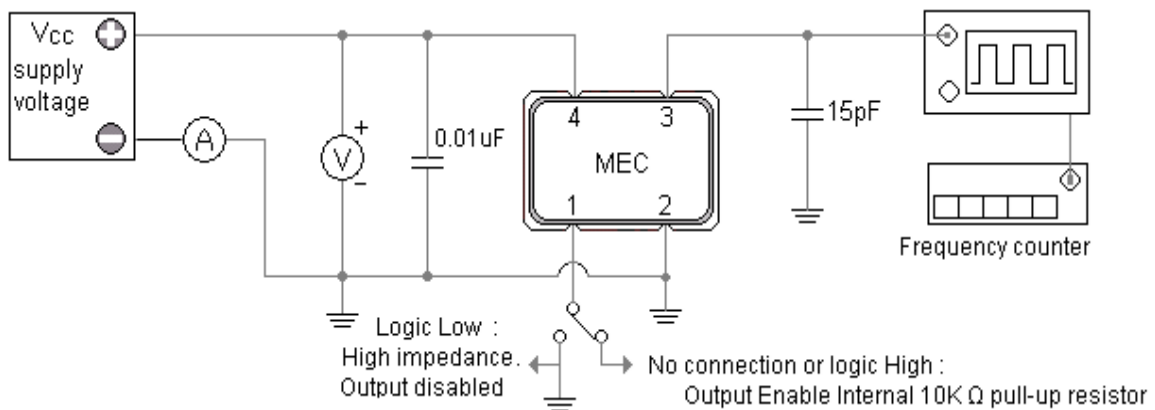
Ex (2) : 5H14 - C30 - 10.000 [5.0V, H14 type, ±30ppm from -10°C to 70°C, 10.000MHz]

Ex (3) : 3HDK5761 - E - 156.250 [3.3V, (HDK576 type, Tri-state on pin 1), ±50ppm from -40°C to 85°C, 156.250MHz]

Ex (4) : 3HY32 - K100T - 50.000 [3.3V, HY seires 3225 type, ±100ppm from -40°C to 125°C, OE, 50.000MHz]

[1]	Supply voltage, " 1 " for +1.0V ; " 12 " for +1.2V ; " 18 " for +1.8V ; " 25 " for +2.5V ; " 28 " for +2.8V ; " 3 " for +3.3V ; " 5 " for +5.0V	
[2]	Holder Type	
[3]	-10°C ~ 70 °C	" A " ± 25ppm ; " B " ± 50ppm ; " C " ± 100ppm ; If non-standard please enter the desired stability after " C ", example " C15 " : represents ±15ppm over -10 to +70°C
	-40°C ~ 85 °C	" D " ± 25ppm ; " E " ± 50ppm ; " F " ± 100ppm ; If non-standard please enter the desired stability after " I ", example " I30 " : represents ± 30ppm over -40 to +85°C
	-40°C ~ 125 °C	" K50 " ± 50ppm ; " K100 " ± 100ppm
[4]	" T " for Tri-state , Leave this space blank if no connection on pin 1 or pad 1 .	
[5]	Frequency in MHz	
	Assigned by Mercury if customer spec , (1) : S ---- duty cycle ± 5% , ex : " - S " ; (2) : 50p ---- output load 50pF , ex : " - 50p "	

T T L / HCMOS Square Wave Test Circuit



T T L / HCMOS Output Wave Form

