SPECIFICATION OF HDVCXO

Ceramic SMD VCXO

Voltage Control Crystal Oscillators



Application

- High Speed Serial interface
- Networking Clock and data recovery
- SONET/SDH Test and measurement
- Single board Computer and Embedded
- FPGA/ASIC clock generation

Features / Options

- Frequency range: 10 to 1500 MHz (option)
- 3.3, and 2.5 V supply options
- Commercial or Industrial temperature
- Multiple frequencies from 1 package (option)
- Standard package and pin out
- Pb-free/RoHS-compliant

Standard Specification

(Nominal frequency referenced to frequency at 25℃±2℃)

Logic Family		HCMOS	LVPECL	LVDS
Frequency Stability		±20ppm , ±25ppm , ±50ppm		
Operating Temp.Range		-20℃ to +70℃, -40℃ to +85℃		
Storage Temp.Range		-40℃ to +100℃		
Control Voltage (Vc)		1.65V±1.65V at Vdd 3.30V , 1.25V±1.25V at Vdd 2.50V		
Frequency Deviation, Absolute Pull Range(APR)		±50ppm Min, ±100ppm Min		
Output levels	High Level (VOH)	0.9 Vdd	N/A	N/A
	Low Level (VOL)	0.1 Vdd	Vdd-1.42V Min to Vdd-1.25V Max	1.2V typ (1.125V Min to 1.175V Max)
	Voltage Swing (VOD)	N/A	1.1V Min to 1.9V Max	0.7V typ (0.5V Min to 0.9V Max)
Symmetry		45% to 55%	45% to 55%	45% to 55%
Jitter	Period Jitter	3pS typ(RMS) 20pS typ(Pk-Pk)	3pS typ(RMS) 20pS typ(Pk-Pk)	3pS typ(RMS) 20pS typ(Pk-Pk)
	Phase Jitter (RMS) at 12kHz to 20MHz	3pS Max	1pS Max	1pS Max
PACKAGE	7.0mm × 5.0mm	See below for Parts Number Guide		
	5.0mm × 3.2mm			
Frequency Range(MHz)		10 MHz to 225MHz	10 MHz to 1500MHz	10 MHz to 1500MHz
Input Voltage		+ 3.3 Vdc ± 10% + 2.5 Vdc ± 10%	+ 3.3 Vdc ± 10% + 2.5 Vdc ± 10%	+ 3.3 Vdc ± 10% + 2.5 Vdc ± 10%
Input Current		25mA typ, 50mA Max	25mA typ, 50mA Max	25mA typ, 50mA Max
Rise & Fall Time		1nS Max	350 pS Max	350 pS Max
Output Load		15pF	50 Ω to VDD – 2.0 V	100 Ω

Parts Number Guide

Classification	Description									
Example	3	1	H	-	5	1	S	E	--	125.000000 MHz (Frequency)
Supply Voltage	3									3.3Volt
	2									2.5Volt
STABILITY		1								± 50ppm Max at 0℃to +70℃
		A								± 25ppm Max at 0℃to +70℃
		B								± 50ppm Max at -40℃to +85℃
Logic Family Temperature Range			H							HCMOS
			P							PECL
			D							LVDS
CONTROL VOLTAGE (VC)					6					±1.65V at VC=1.65V
					7					±1.25V at VC=1.25V
Frequency Deviation (Pullability)						1				± 50ppm Min
						2				± 100ppm Min
SIZE							S			7.0mm × 5.0mm
							V			5.0mm × 3.2mm
Tri-state option								E		VC Pin1, Tri-state Pin 2

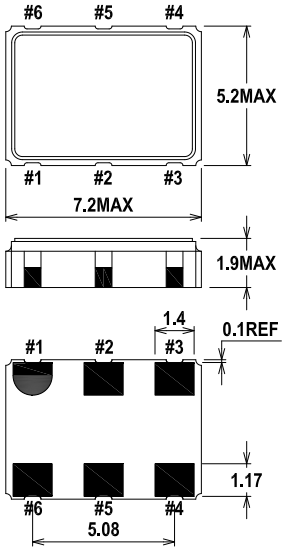
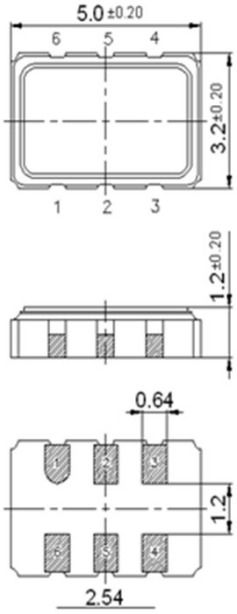
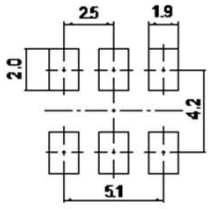
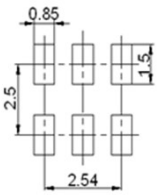
All specifications are subject to change without notice

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Voltage Control Crystal Oscillators

ONELIGHT ELECTRONICS CO.,LTD

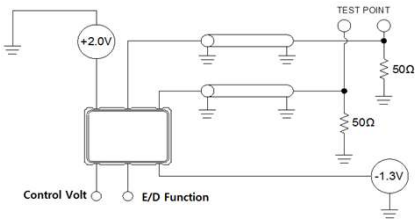
◈ Dimension(mm)

	7.0mm × 5.0mm PKG.	5.0mm × 3.2mm PKG.
Package Dimension		
Recommended Land Pattern		

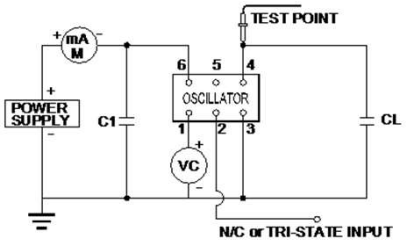
◈ Pin Connection

Pin No.	Pin Functions
#1	Control Vltage
#2	Tri-State
#3	GND
#4	Output
#5	Output or N/C
#6	Vdd

◈ Test Circuit

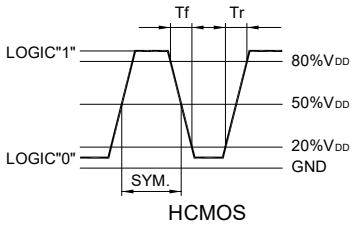


PECL / LVDS

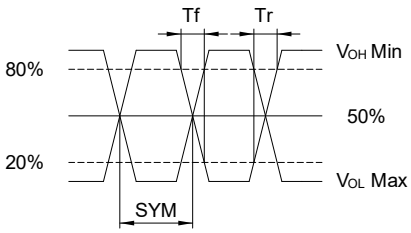


HCMOS

◈ Output Waveform

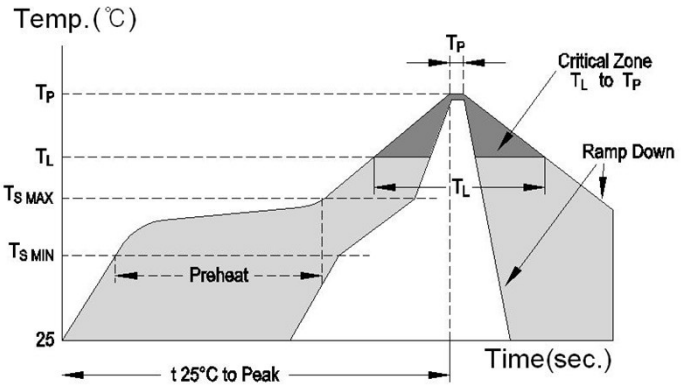


HCMOS



PECL / LVDS

◈ IR/Convection Reflow Profile



Ramp-up rate (T_{SMAX} to T_P)	3℃ / second MAX
Preheat temperature (T_{SMIN} to T_{SMAX})	150 to 180℃
Preheat time	60 to 120 seconds
Time above temperature (T_L)	217℃ , 60 second
Peak temperature (T_P)	260℃ MAX , 10sec MAX
Ramp-down rate	4℃ / sec MAX
Time 25℃ to peak temperature	6 minutes MAX

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