

► Features

Voltage Controlled Crystal Oscillator

HCMOS Output TTL Output

or Sine Wave output

Hermetic Through Hole Package

AT-Cut Crystal

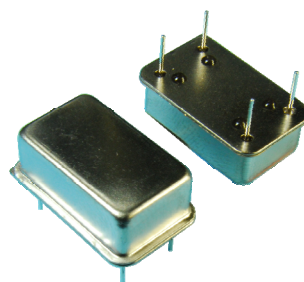
Tight Stability

Fund, 3rd Oscillation Mode.

-20to70°C, -40to85°C OPT Range.

Low RMS Phase Jitter

RoHS Compliant (pb-Free)



Dimensions(mm) 20.8 x 13.2 x 7.0max

20.8 x 13.2 x 5.1max

► Typical Applications

Switching

Base Station

Test Equipment

SONET

Ethernet

Fiber Channel

Any application requiring an VCXO

► Standard Frequency

2.048, 10, 13, 16.384, 32.768, 38.880, 51.840,
61.440, 64.000, 74.1758, 74.250, 77.760, 80.000,
100.000, 122.880, 125, 155.520, 156.250, 184.320,
245.760, 250Mhz

Absolute Maximum Ratings *(For user guidelines only)*

Parameter	Maximum Value	Units	Condition
Supply voltage(Vdd)	7	Vdc	
Operating Temperature	-40 to 85	°C	
Storage Temperature	-50 to 120	°C	Max
ESD Sensitivity	1	kV	HBM

Supply Voltage & Consumption.

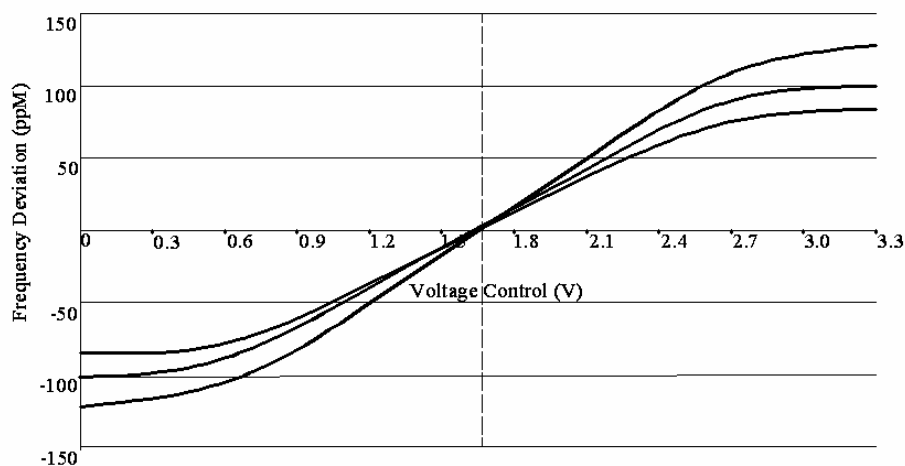
Parameter	Value	Units	Condition
Supply Voltage(Vdd)	5.0V ±5%	DC	
Current Consumption	40	mA Max	HCMOS
	30	mA Max	Sine wave

Supply Voltage(Vdd)	3.3V ±5%	DC	
Current Consumption	30	mA Max	HCMOS
	20	mA Max	Sine wave
Start up Time(Ts)	10	mS	Max

Frequency Tuning(Vc), Input--pin #1

Parameter	Typical Value	Units	Condition
Vc. Turning Range	0V to Vdd	V	
Pulling	±100	ppM min	≤40Mhz
	±75	ppM min	≥40Mhz
Linearity	±10.0	%	Max
NorminalCenterVoltage	50%of Vdd ¹	V	
Modulation Bandwidth	10	Khz	Min
Input impedance	10	Kohm	Min
Tuning slope	Positive		

¹ Other Center voltage is also available on your request.

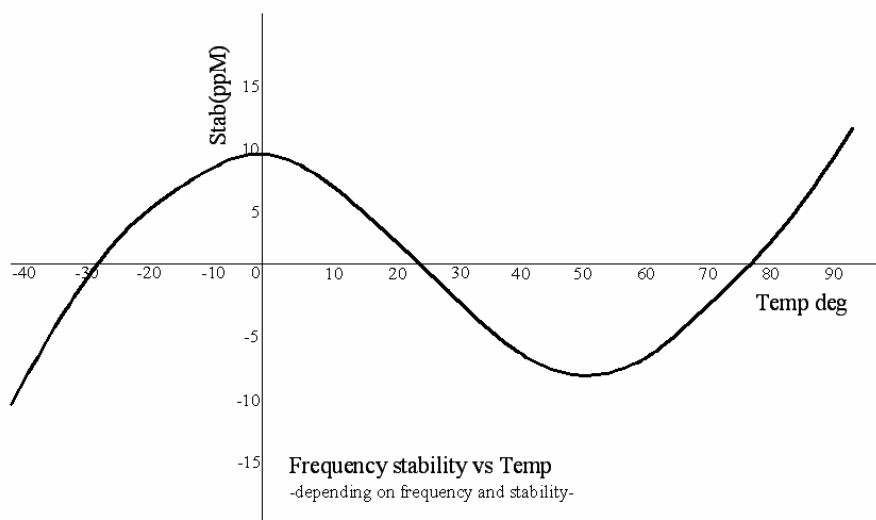


Typical Tuning Slope for iVHDF3
-depending on frequency and stability-

Frequency Stabilities¹

Parameter	Typical Value	Units	Condition
Vs. Temperature	±15	ppM max	-20to70°C
	±30	ppM max	-40to85°C
Vs. Calibration @25°C	±10	ppm max	±2°C
Vs. Vdd	±2	ppm max	±5% of Vdd
Vs. Load	±0.3	ppM max	±5% change
Aging 1 st year	±2	ppM max	

¹ Vc. condition is 50% of Vdd.

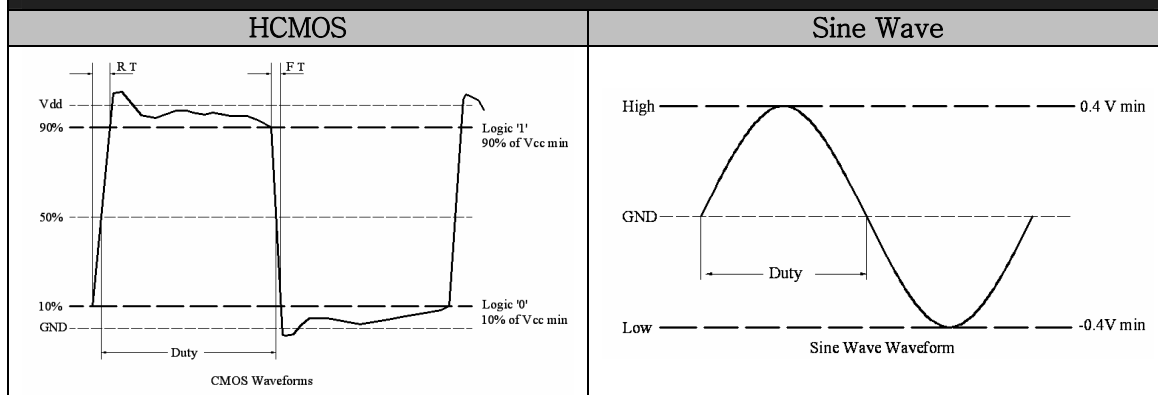


RF output¹

	Parameter	Typical Value	Units	Condition
HCMOS	Output Load	15	pF	
	Rise(Tr),Fall(Tf) time	5	nS max	10to 90%
	Symmetry	50±10	%	50% of Vdd
S-Wave	Output Load	50	Ohm	
	Output Level	0	dBm Min	Into Spectrum
	Symmetry	50±5	%	50% of Vdd

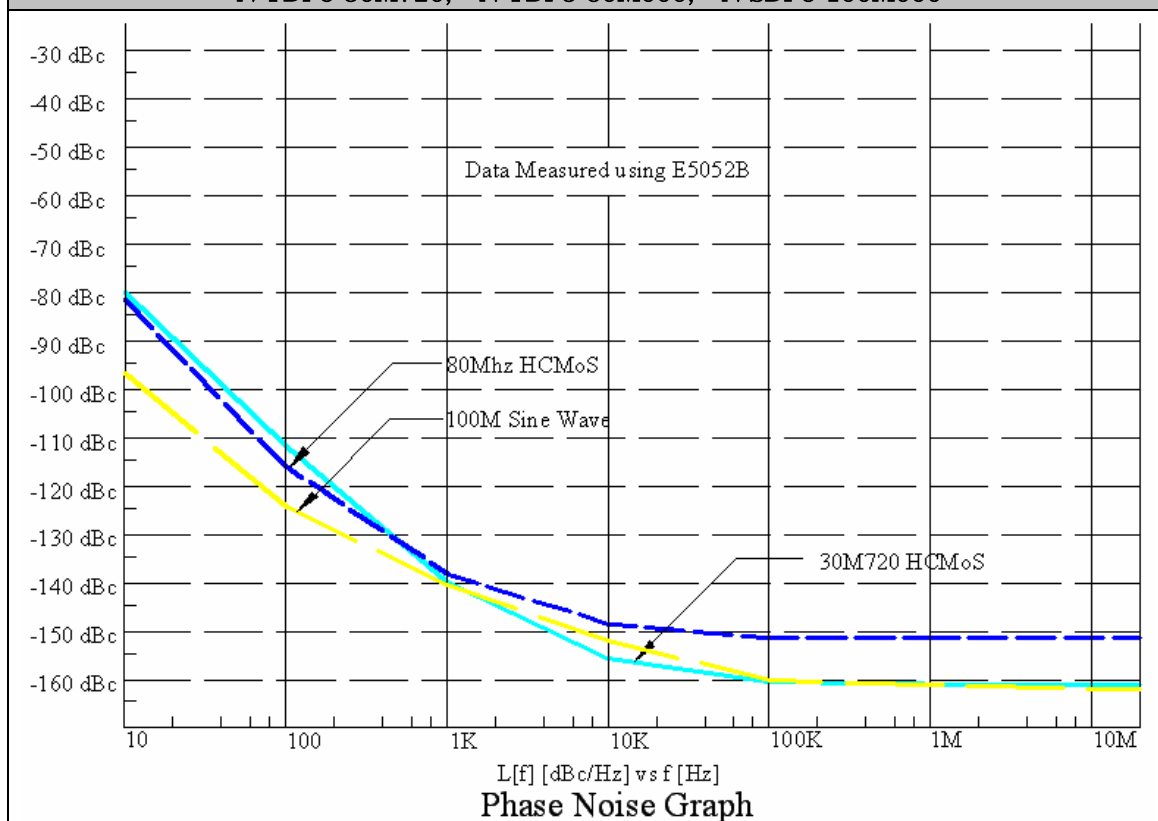
¹ About Test Condition Refer to Wave Form

Wave Form



Phase Noise

iVTDF5 30M720, iVTDF3 80M000, iVSDF5 100M000

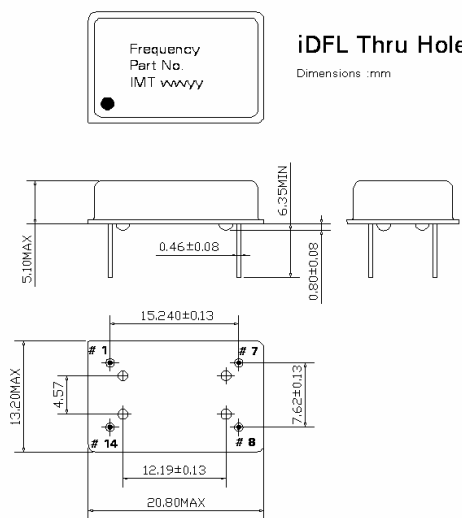
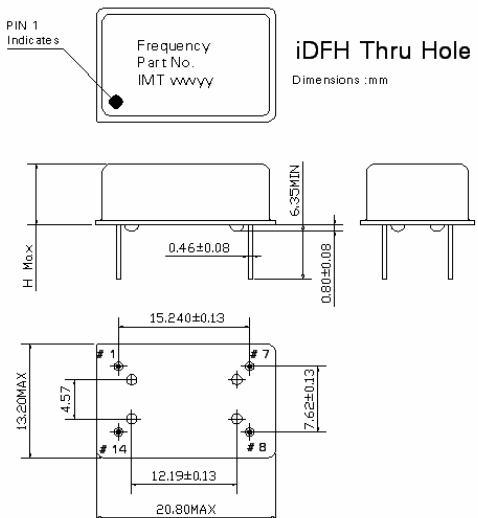


Phase jitter [Band range 12Khz to 20Mhz]

Frequency(Hz)	Value (fS RMS)	Frequency(Hz)	Value (fS RMS)
30M720	170	100M00	120
80M000	152	622M080	146

RMS Jitter is integrated Using E5052B Phase Noise Measurement Equipment

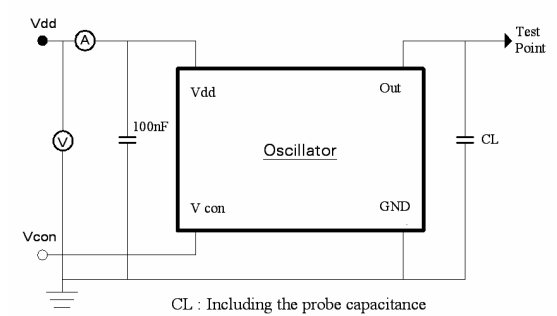
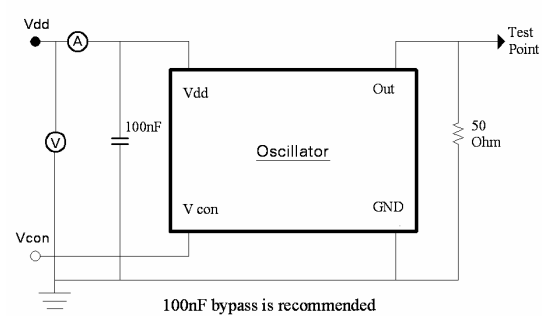
Mechanical Dimensions

DF 4pin 5.1 mm for HCMOS		DF 4pin 7.0mm for HCMOS, Sine Wave	
 <p>iDFL Thru Hole Dimensions :mm</p>		 <p>iDFH Thru Hole Dimensions :mm</p>	
Code:DFL	Dimensions: 20.8X 13.2X 5.1 max	Code:DFH	Dimensions: 20.8 X 13.2 X 7.0 max
Pin Connections		Pin Connection	
Pin1 : Voltage Control(Vc) Pin7 : Ground Pin8 : Output Pin14 : supply voltage(Vdd)			

Marking

100.00Mhz	-Frequency
iVHDF3-ECO	-Part No.
● IMT wwyy	-week/year

Load Configuration

HCMOS	Sine Wave
 <p>CL : Including the probe capacitance 100nF bypass is recommended</p>	 <p>100nF bypass is recommended</p>
Note : Recommend to add 100nF bypass Capacitors at Vdd and Vc	

Part Numbering Guide & Code ...iVSDF5-CA5-100M000-B

iVHDF (HCMOS)

iVSDF (Sine Wave)

Logic	Supply voltage	Operating Temperature	Stability	Frequency	Packaging Option
iVSDF	5	C	A5	100M000	B
P: LVPECL H: HCMOS L: LVDS	5:5.0V 3:3.3V	B: 0...70°C C: -20...70°C E: -40...85°C	A0: ±10ppM A5: ±15ppM C0: ±30ppM E0: ±50ppM	155.520Mhz	T: Tape & Reel B: Bulk
Above example, Voltage controlled, SineWave output, Dip14 package, 5.0V, -20to 70°C Temperature range, Overall ±15ppM, at 100.000Mhz.					