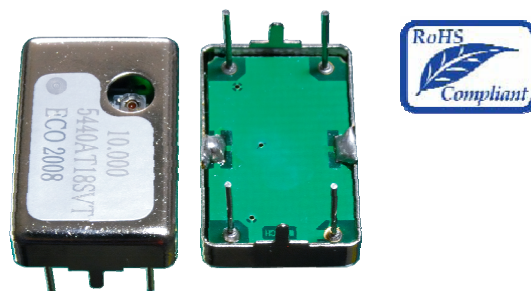


► Features

Temperature Compensated Crystal Oscillator
 5V, 3.3V Operation
 Adjustable Frequency
 HCMOS Output or Clipped Sine output
 AT-Cut Crystal
 Fund, 3rd Oscillation Mode.
 -20to70℃, -40to85℃ OPT Range.
 Low RMS Phase Jitter
 RoHS Compliant (pb-Free)

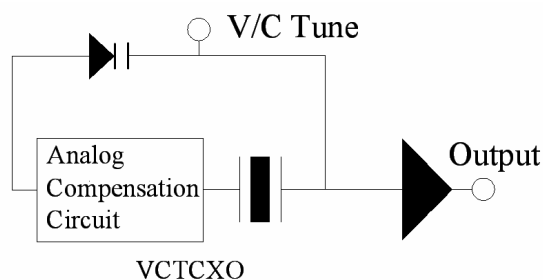


Dimensions(mm) 18.5 x 11.8 x 11max

► Typical Applications

Base Station
 Test Equipment
 Any application requiring an VCTCXO,TCXO
 Cellular Telephony

► Block Diagram



Vc must be applied to Pin #1 on VCTCXO's

Absolute Maximum Ratings(For user guidelines only)

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

Supply Voltage & Consumption.

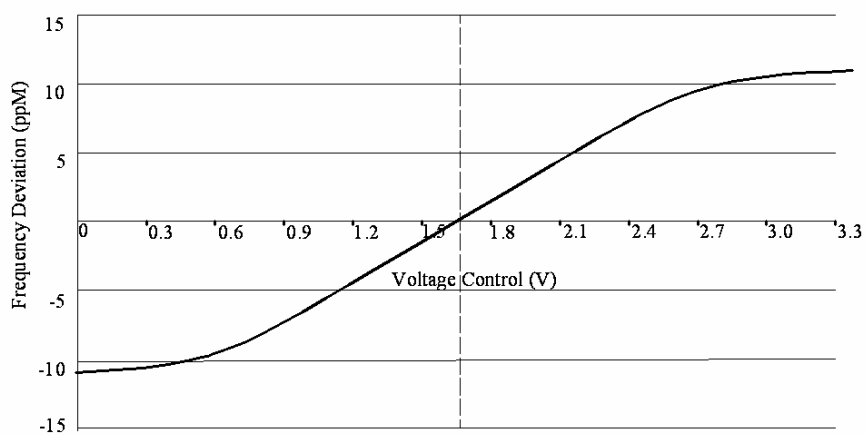
Parameter	Value	Units	Condition
Supply Voltage(Vdd)	5.0V ±5%	DC	
Current Consumption	15	mA Max	Clipped sine
	50	mA Max	CMOS

Supply Voltage(Vdd)	3.3V $\pm 5\%$	DC	
Current Consumption	10	mA Max	Clipped sine
	30	mA Max	CMOS
Start up Time(Ts)	5	mS	Max

Frequency Tuning(Vc) - Option

Parameter	Typical Value	Units	Condition
Vc. Turning Range	0.3 to 3.0	V	Vdd 3.3V
	0.5 to 4.5	V	Vdd 5.0V
Electrical Tuning	± 10	ppM min	Standard ¹
Internal Trimmer	± 3	ppM min	Mechanical
Linearity	± 10.0	%	Max
NorminalCenterVoltage	50%of Vdd ¹	V	
Input impedance	10	Kohm	Min
Tuning slope	Positive		

¹ Other Tuning Range is also available on customer specification.



Typical Tuning Slope for iTHDF3

Frequency Stabilities¹

Parameter	Typical Value	Units	Condition
Vs. Temperature ²	± 1.0	ppM max	0to70℃
	± 2.0	ppM max	-20to70℃
	± 3.0	ppM max	-40to85℃

Vs. Calibration @25℃	±1.0	Ppm max	±2℃
Vs. Vdd	±0.2	ppm max	±5% of Vdd
Vs. Load	±0.2	ppM max	±5% change
Aging 1 st year	±1.0	ppM max	
¹ Vc. condition is 50% of Vdd. ² Other Stability and Temperature range available.			

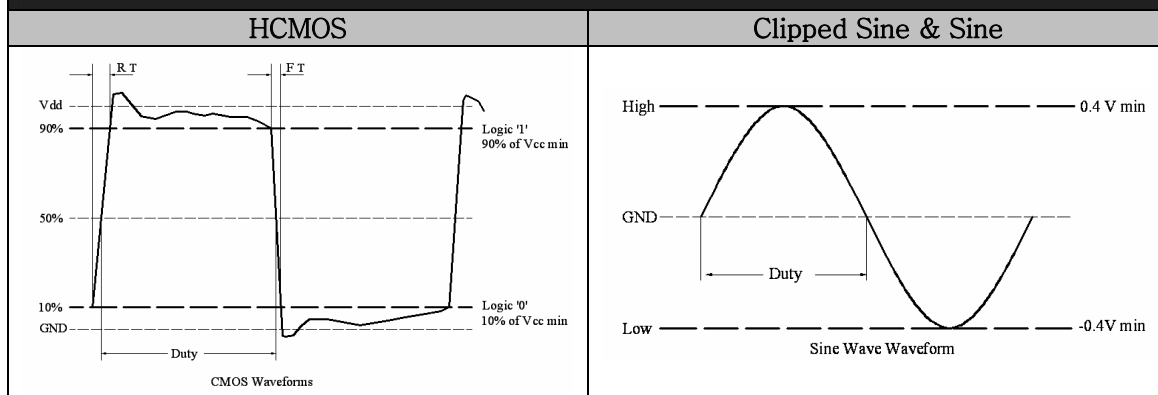
RF output¹

Parameter		Typical Value	Units	Condition
HCMOS	Output Load	15	pF	
	Output Voltage(VOH)	90% of Vdd	V min	
	(VOL)	10% of Vdd	V max	
	Rise(Tr),Fall(Tf) time	5	nS max	10to 90%
	Symmetry	50±10	%	50% of Vdd
SINE	Output Load ²	10	Kohm	
	Output Power	0.8	Vpp min	10Kohm//10pF

¹ About Test Condition Refer to Wave Form

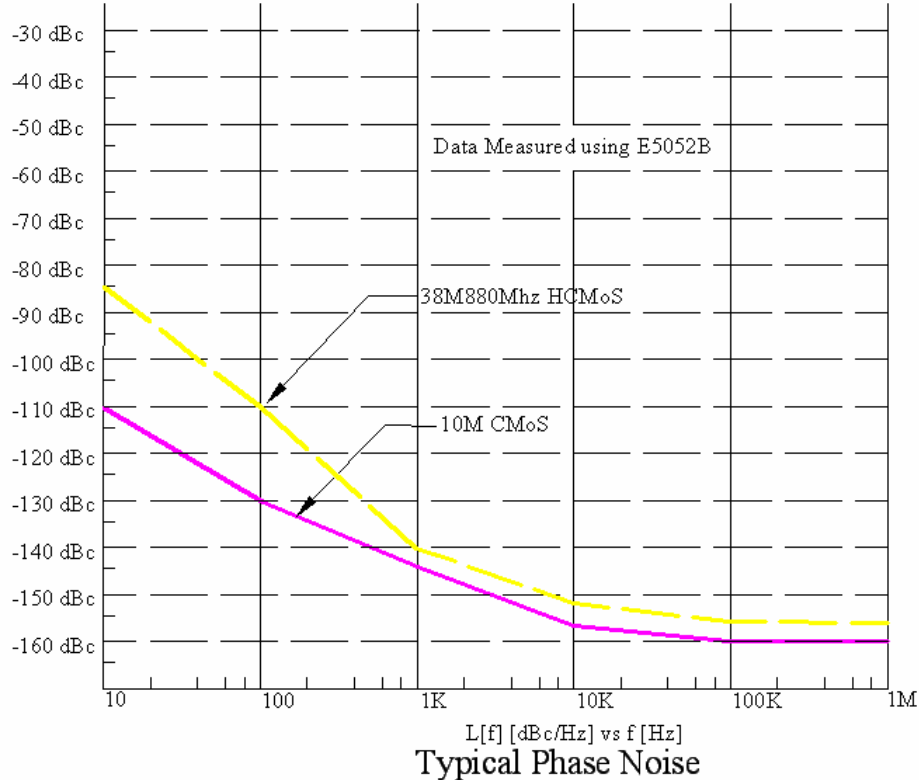
² 50 Ohm Load is also available.

Wave Form



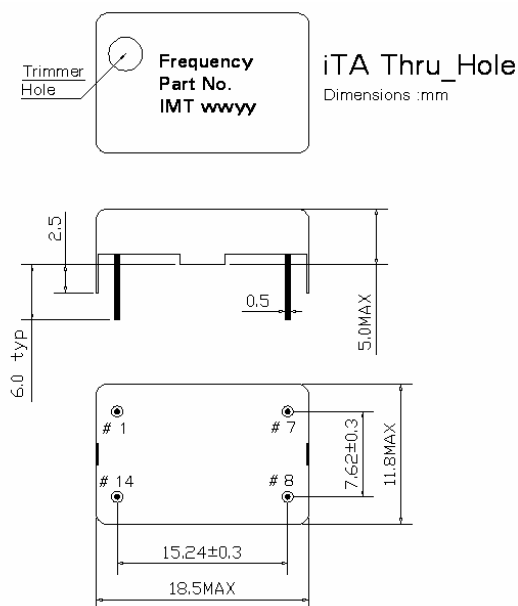
Phase Noise

iTTTA5 10M000, iTTTA5 38M880



Mechanical Dimensions

T183A Thru-Hole



Pin Connection

Pin1 : Voltage Control(Vc) or N/C,
Tri-state

Pin2 : Ground

Pin3 : Output

Pin4 : supply voltage(Vdd)

Code: TA

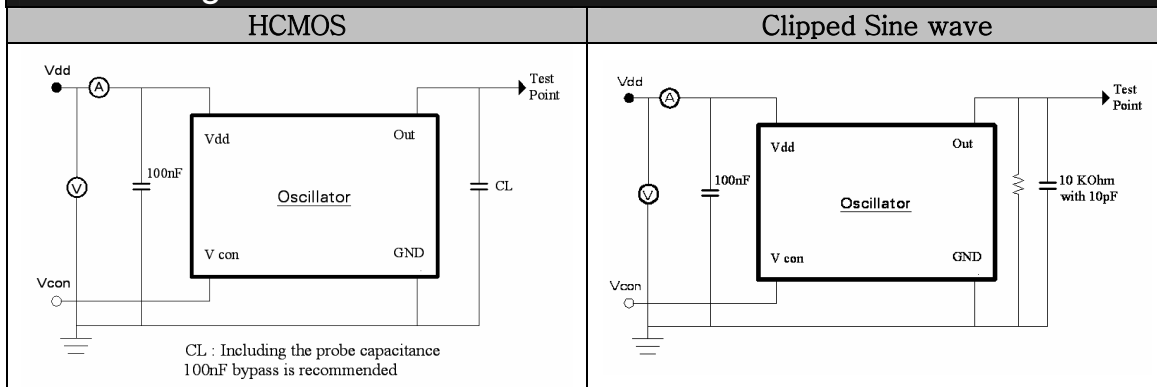
Dimensions: 18.5 X 11.8 X 11

Marking

10.000Mhz
iTTTA5-B10
• IMT wwyy

-Frequency
-Part No.
-week/year

Load Configuration



Note : Recommend to add 100nF bypass Capacitors at Vdd and Vc

Part Numbering Guide & Code ...iTTTA5-B10-10M000-T

iHTTA (HCMOS)¹

iTCTA (Clipped Sinewave)

Logic	Supply voltage	Operating Temperature	Stability	Frequency	Packaging Option
iHTTA	5	B	10	10M000	T
C: SINE H: HCMOS L: LVDS	5:5.0V 3:3.3V	B: 0...70℃ C:-20...70℃ E:-40...85℃	10: ±1.0ppM 25: ±2.5ppM 30: ±3.0ppM	10.000Mhz	T: Tape & Reel B: Bulk

Above example, TCXO, CMOS output, T183A package, 5.0V, -20to 70℃ Temperature range, Temp Stability ±1.0ppM, at 10.000Mhz.

iWHTA (HCMOS)²

iWCTA (Clipped Sinewave)

Logic	Supply voltage	Operating Temperature	Stability	Frequency	Packaging Option
iWHTA	5	B	10	10M000	T
C: SINE H: HCMOS L: LVDS	5:5.0V 3:3.3V	B: 0...70℃ C:-20...70℃ E:-40...85℃	10: ±1.0ppM 25: ±2.5ppM 30: ±3.0ppM	10.000Mhz	T: Tape & Reel B: Bulk

Above example, VCTCXO, CMOS output, T183A package, 5.0V, -20to 70℃ Temperature range, Temp Stability ±1.0ppM, at 10.000Mhz.

¹ iT meaning a Temperature Compensation Crystal Oscillator.

² iW meaning a Voltage Controlled TCXO, has EFC.