iXTD7 Series Oscillator

HCMOS SMD Ceramic Package XO | Freq : 1Mhz to 155Mhz

Features

HCMOS Output

5.0, 3.3V, 2.5V, 1.8 Operation

Surface Mount Package

Tri-state

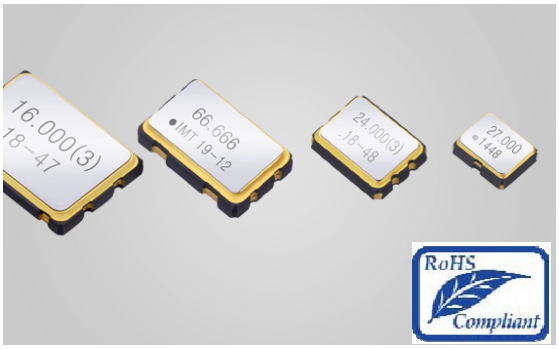
AT-Cut Crystal

Fund, 3rd Oscillation Mode.

0to70℃, -40to85℃ OPT Range.

Low RMS Phase Jitter

RoHS Compliant (pb-Free)



Dimensions(mm) **5.0 x 7.0 x 1.8max**

5.0 x 3.2 x 1.3max

3.2 x 2.5 x 1.0max

2.5 x 2.0 x 1.0max

Absolute Maximum Ratings(*For user guidelines only*)

Parameter	Maximum Value	Units	Condition
Supply voltage(Vdd)	7	Vdc	Depending on Vdd
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)	1.8V ±5%	DC	
Current Consumption	20	mA Max	HCMOS
Supply Voltage(Vdd)	2.5V ±5%	DC	
Current Consumption	20	mA Max	HCMOS
Supply Voltage(Vdd)	3.3V ±5%		
Current Consumption	30	mA Max	HCMOS
Supply Voltage(Vdd)	5.0V ±5%	DC	
Current Consumption	40	mA Max	HCMOS
Start up Time(Ts)	5	mS	Max

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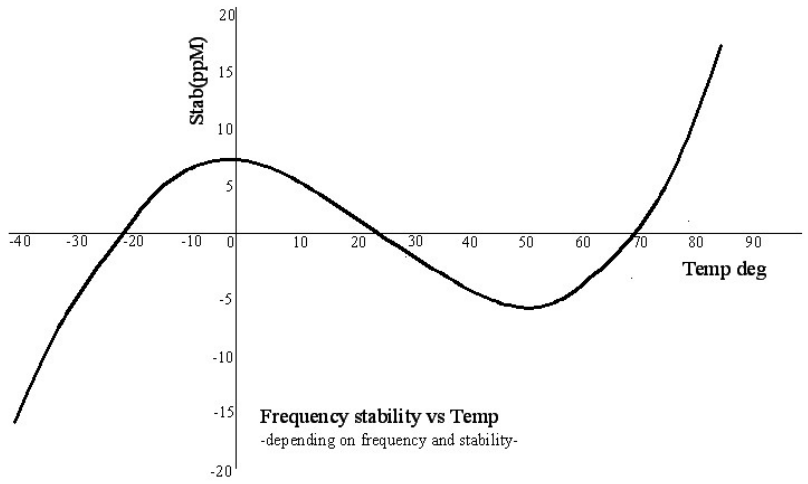
Frequency Stabilities[1]

Parameter	Typical Value	Units	Condition
Vs. Temperature	±10	ppM max	0to70℃
	±25	ppM max	-40to85℃
Vs. Calibration @25℃	±10	ppm max	±2℃
Vs. Vdd	±1	ppm max	±5% of Vdd
Vs. Load	±0.3	ppM max	±5% change
Aging 1st year	±2	ppM max	
Overall Stability	±15	ppM max	0to50℃
(includes temperature	±25	ppM max	-20to70℃
And initial accuracy)	±50	ppM max	-40to85℃



Frequency stability vs Temp
-depending on frequency and stability-

RF output[1]

Parameter		Typical Value	Units	Condition
HCMOS	Output Load	15	pF	
	Rise(Tr),Fall(Tf) time	10	nS max	10to 90%
	Output Level High	10%Vdd	V min	VOH
	Output Level Low	90%Vdd	V max	VOL
	Symmetry	50±10	%	50% of Vdd

[1] About Test Condition Refer to Wave Form

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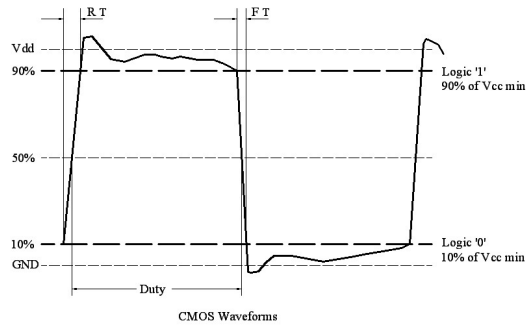
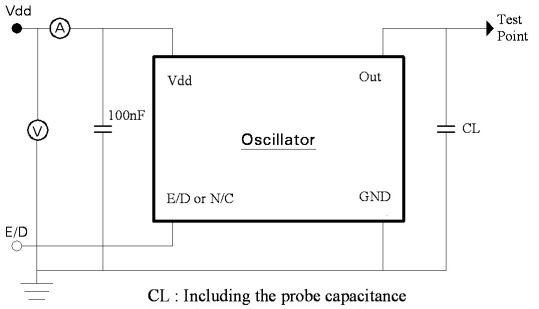
Wave Form & Load Configuration

Wave Form



CMOS Waveforms

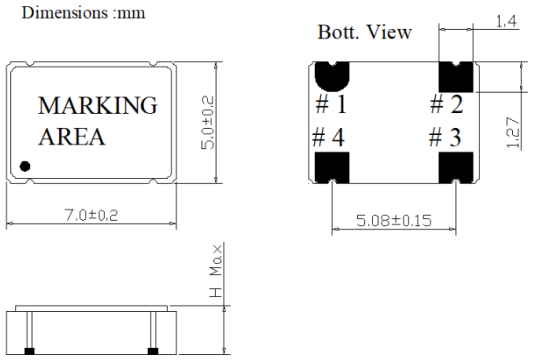
Load



CL : Including the probe capacitance
100nF bypass is recommended

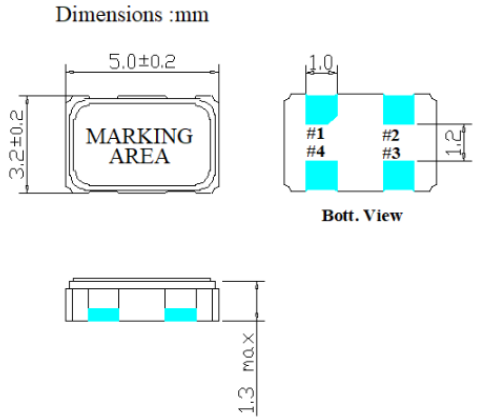
Mechanical Dimensions

D7 Ceramic 5mm x 7mm for Cmos



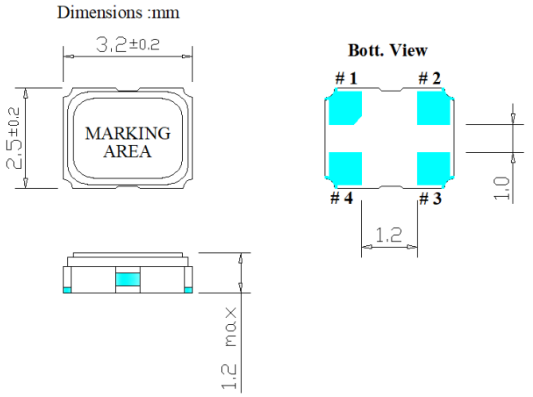
Code:D7	5.0 x 7.0 x 1.8max

D5 Ceramic 5mm x 3.2mm for Cmos



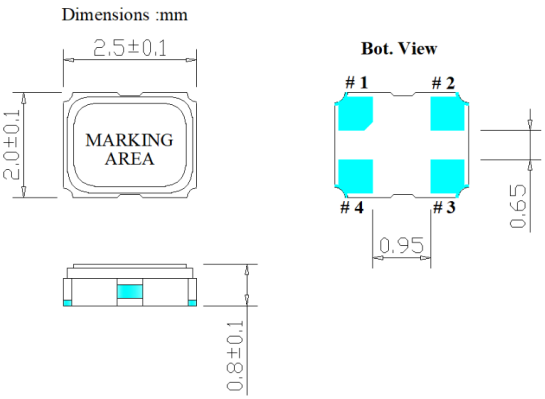
Code : D5	3.2 x .5.0 x 1.3max

D3 Ceramic 2.5mm x 3.2mm for Cmos



Code:D3	2.5 x 3.2 x 1.2max

D2 Ceramic 2.0mm x 2.5mm for Cmos



Code : D2	2.0 x 2.5 x 1.0max

Pin1: E/D or N/C, Pin2: Gnd, Pin3: Output, Pin4 : Vdd

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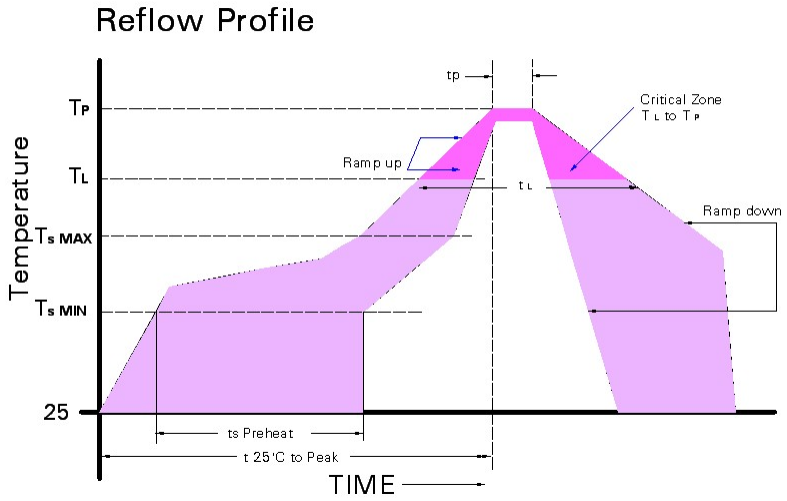
Marking

32.000Mhz	-Frequency
iXHD73-EC0	-Part No.
● IMT wwyy	-week/year

Recommended Reflow Profile



Note: Temperatures refer to body of device.
Oscillators must be on the top side of the PCB during the reflow process.

Ts max to TL (Ramp-up rate)	3℃/second max
Preheat -Temperature Min(Ts min) -Temperature Typical(Ts TYP) -Temperature Max(Ts Max) -Time(ts)	150℃ 175℃ 200℃ 60-180 Seconds
Ramp-up Rate(TL to TP)	3℃/Second max
Time Maintained Above-Temperature(TL) -Time(TL)	217℃ 60-150 Seconds
Peak Temperature(Tp)	250℃ Max for 10 seconds Max
Target Peak Temperature(Tp Target)	240℃
Time within 5℃of actual peak(tp)	20-40 seconds
Ramp-down Rate	6℃/second max
Time 25℃ to peak Temperature	8 minutes max

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Part Numbering Guide & Code …iXHD73-EC0-32M000-T

iX*H*D7 (HCMOS)

Logic	Supply voltage	Operating Temperature	Stability	Frequency	Packaging Option
iX*H*D7	3	E	C0	32M000	T
P: LVPECL H: HCMOS L: LVDS	5:5.0V 3:3.3V 2:2.5V 1:1.8V	A: 0…50℃ B: 0…70℃ E:-40…85℃	A5: ±15ppM B5: ±25ppM E0: ±50ppM	32.000Mhz	T: Tape & Reel B: Bulk
Above example, Crystal Oscillator, HCMOS output, SMD package, 3.3V, -40to 85℃ Temperature range, Overall ±30ppM, at 32.000Mhz.					

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