

## Datasheet

# SX5CTG HCMOS SURFACE MOUNT TEMPERATURE COMPENSATED CRYSTAL CLOCK OSCILLATOR

## FEATURES

5.0 x 3.2 x 1.65 mm

- Miniature package
- High precision for -40° to +85°C, ± 0.28 ppm
- ± 0.14 ppm -20° to +70°C
- Applications: Femtocell, Base stations, Stratum 3, ...



Item	Specification																									
Frequency Range	10.0 MHz to 40.0 MHz																									
Standard Frequency	10.000 ; 12.800 ; 19.200 ; 20.000 ; 26.000																									
Output Logic	CMOS																									
Supply Voltage Vdd (see options)	+3.3 V ±5%      +5.0 V ±5%																									
Supply Current Idd	6.0 mA max.																									
Frequency Tolerance	±2.0 ppm max. at 25°C ±2°C (one hour after reflow)																									
Frequency Stability vs Temperature (see options)	<table border="1"> <thead> <tr> <th></th> <th>±0.14 ppm</th> <th>±0.28 ppm</th> <th>±0.37 ppm</th> <th>±0.50 ppm</th> </tr> </thead> <tbody> <tr> <td>0° to +50°C</td> <td>o</td> <td>o</td> <td>o</td> <td>o</td> </tr> <tr> <td>-10° to +60°C</td> <td>o</td> <td>o</td> <td>o</td> <td>o</td> </tr> <tr> <td>-20° to +70°C</td> <td>o</td> <td>o</td> <td>o</td> <td>o</td> </tr> <tr> <td>-40° to +85°C</td> <td>x</td> <td>o</td> <td>o</td> <td>o</td> </tr> </tbody> </table> <p>o = available      ◊ = please contact us      x = not available</p>		±0.14 ppm	±0.28 ppm	±0.37 ppm	±0.50 ppm	0° to +50°C	o	o	o	o	-10° to +60°C	o	o	o	o	-20° to +70°C	o	o	o	o	-40° to +85°C	x	o	o	o
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Frequency Stability vs Aging	±1.0 ppm max. per year at 25°C																									
Frequency Stability vs Voltage Change	±0.2 ppm max., for a ±5% input voltage change																									
Frequency Stability vs Load Change	±0.2 ppm max., for a ±10% load condition change																									
Output Level	VOH ≥ 0.9 Vdd      VOL ≤ 0.1 Vdd																									
Output Load	15 pF																									
Symmetry	45 / 55%																									
Rise Time / Fall Time Fr / Ff	10 ns max.																									
Start-up Time	2.0 ms max.																									
Phase Noise	<table border="1"> <thead> <tr> <th>Offset / dBc / Hz</th> <th>100 Hz</th> <th>1 kHz</th> <th>10 kHz</th> </tr> </thead> <tbody> <tr> <td>(typical)</td> <td></td> <td></td> <td></td> </tr> <tr> <td>12.800 MHz</td> <td>-125 dBc / Hz</td> <td>-145 dBc / Hz</td> <td>-150 dBc / Hz</td> </tr> </tbody> </table>	Offset / dBc / Hz	100 Hz	1 kHz	10 kHz	(typical)				12.800 MHz	-125 dBc / Hz	-145 dBc / Hz	-150 dBc / Hz													
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Tri-state function (see options)	<table border="1"> <tbody> <tr> <td>pin #1 = high or open</td> <td>pin #3 ==&gt; oscillation</td> </tr> <tr> <td>pin #1 = low</td> <td>pin #3 ==&gt; high impedance</td> </tr> </tbody> </table>	pin #1 = high or open	pin #3 ==> oscillation	pin #1 = low	pin #3 ==> high impedance																					
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Packing Unit	1000 pcs / reel																									
Soldering Condition	260°C, 10 sec x2 max																									

Customer specifications on request

## OPTIONS & ORDERING INFORMATION

### SX5CTG

.....	.....	.....	.....	.....	..... MHz
Supply Voltage	Operating Temp. *	Temperature Stability *	Tri-state Function	Package type	Frequency in MHz
<b>33</b> = +3.3V	<b>C</b> = 0° / +50°C	<b>0.14</b> = ±0.14 ppm	<b>E1</b> = Tri-state at pin #1	<b>4P</b> = 4-pad version	Please specify the frequency in MHz
<b>50</b> = +5.0V	<b>D</b> = -10° / +60°C	<b>0.28</b> = ±0.28 ppm	<b>F</b> = No Tri-state		
	<b>F</b> = -20° / +70°C	<b>0.37</b> = ±0.37 ppm			
	<b>K</b> = -40° / +85°C	<b>0.50</b> = ±0.50 ppm			

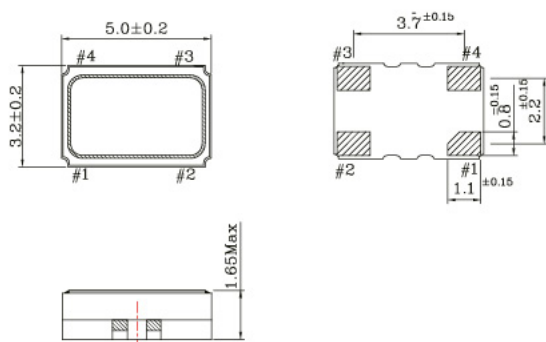
(\*) Note : Not all combinations are possible, please consult us.

Rev. 09-2012

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CRYSTAL CLOCK OSCILLATOR

**OUTLINE DIMENSIONS**



**Pin Connections**

#1 : NC or E/D

#2 : GND

#3 : Output

#4 : Vdd