

# VCTCXO

## PC115B Series

### HCMOS/TTL

### 6PAD SMD PACKAGE

#### \* PART NUMBERING GUIDE

**PC115B - 3H103D5 - 20.000M**

PC115B : without Trimmer  
 PC115BH : with Trimmer  
 Supply Voltage  
 5 : 5.0V  
 3 : 3.3V  
 Output  
 H : HCMOS/TTL  
 Stability vs. Temperature  
 See Table1  
 Frequency  
 M : MHz  
 Pulling Range  
 5 : ± 5 ppm min  
 10 : ±10 ppm min  
 Temperature Range  
 Table2

MECHANICAL DIMENSIONS	ELECTRICAL SPECIFICATION																												
<p>OPTION</p> <p>PIN CONNECTION</p> <p>#1 GND          #2 GND          #3 OUTPUT          #4 GND          #5 V.C          #6 Vcc</p> <p>Recommended Soldering Pattern</p>	<p>Frequency range 1.000KHz to 800.000MHz          All combination of Frequency range Vs. Package type might not be available ,please contact factory.</p> <p>Frequency Stability vs. Temperature ±1.0 ppm to ±5.0ppm          vs. Supply Voltage ±0.2 ppm max / Vdd ± 5%          vs. Load ±0.2 ppm max /15pF ±10%          vs. Aging ±1.0 ppm max/ year</p> <p>Temperature Range Operating See Table 2          Storage -55°C to 125°C</p> <p>Supply Voltage 3.3V ± 5%          5.0V ± 5%</p> <p>Input Current 3.3 V , 5V          1.000KHz ~ 40.000MHz ~ 800.000MHz          15mA max ~ 30mA max ~ 50mA max</p> <p>Output characteristics          HCMOS TTL          Logic "1" 90% Vdd min 2.4V min          Logic "1" 10% Vdd max 0.4V min          Load 15pF 10TTL          Duty Cycle 40/60 40/60          Rise &amp; Fall 10nS max 10nS max</p> <p>Phase Noise (typical) 20MHz offset          -80 dBc / Hz @ 10Hz          -120 dBc / Hz @ 100Hz          -135 dBc / Hz @ 1KHz          -140 dBc / Hz @ 10KHz          -145 dBc / Hz @100KHz</p> <p>Frequency Adjustment ±3ppm min by internal trimmer (OPTION)</p> <p>Voltage Control Characteristics</p> <p>Output Pulling Range (ΔF/ΔV) ±5.0ppm or ±10ppm min          (ΔF/ΔV &gt;±20ppm is available, please contact us)</p> <p>Control Voltage Range 1.65V ± 1.5V ( Vdd : 3.3V ), 2.5V ± 2.0V ( Vdd : 5.0V )</p>																												
OUTPUT WAVEFORM	ENVIROMENTAL & MECHANICAL SPECIFICATION																												
<p>TTL HCMOS</p> <p>"1" Level 2.4V 90%Vdd</p> <p>1.4V 50%Vdd</p> <p>0.4V 10%Vdd</p> <p>"0" Level 0.4V 0.0V</p> <p><math>DUTY(\%) = \frac{T_a}{T_a + T_b} \times 100</math></p>	<p>Shock MIL-STD-883C, Method 2002, Condition B          Vibration MIL-STD-883C, Method 2007, Condition A          Solderability MIL-STD-883C, Method 2003          Seal integrity MIL-STD-883C, Method 1014, Condition C &amp; A2          Marking MIL-STD-202F, Method 215</p>																												
TEST CIRCUIT	TABLE1																												
<p>CL: 15pF(STD)</p> <p>Frequency Counter</p> <p>Oscilloscope</p> <p>Vdd</p> <p>V</p> <p>A</p> <p>V.C</p> <p>CL(Load)</p>	<table border="1"> <thead> <tr> <th>Symbol</th> <th>Stability</th> </tr> </thead> <tbody> <tr><td>05</td><td>±0.5ppm</td></tr> <tr><td>10</td><td>±1.0ppm</td></tr> <tr><td>15</td><td>±1.5ppm</td></tr> <tr><td>20</td><td>±2.0ppm</td></tr> <tr><td>25</td><td>±2.5ppm</td></tr> <tr><td>30</td><td>±3.0ppm</td></tr> <tr><td>35</td><td>±3.5ppm</td></tr> <tr><td>50</td><td>±5.0ppm</td></tr> </tbody> </table>	Symbol	Stability	05	±0.5ppm	10	±1.0ppm	15	±1.5ppm	20	±2.0ppm	25	±2.5ppm	30	±3.0ppm	35	±3.5ppm	50	±5.0ppm										
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