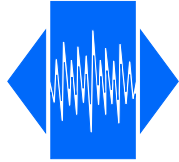


# VTX 5S-STR3

STRATUM-III, high reliable,  
Temperature compensated (VC)TCXO

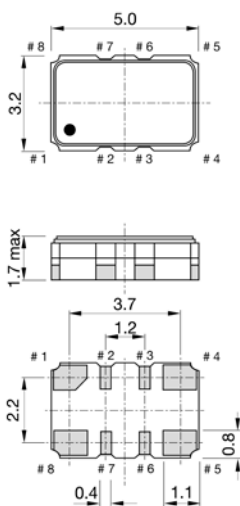


<b>Frequency range</b>	<b>5.000 ~ 40.000 MHz</b>		
Standard frequencies (fundamental)	5, 10, 12, 12.8, 13, 14.4, 16, 16.384, 19.2, 19.44, 20, 24, 25, 26, 32, 38.88 and 40 MHz		
Frequency stability:	≤ ±4.6 ppm	overall	(Note #1)
vs. temperature referenced to (F <sub>MAX</sub> +F <sub>MIN</sub> )/2	≤ ±0.28 ppm	over -40 to +85 °C	(*)
Holdover stability	≤ ±0.37 ppm	over 24 hours	(Note #2)
vs. aging @ +40 °C	≤ ±1.0 ppm ≤ ±3.5 ppm	1 <sup>st</sup> year 20 years	
Frequency tolerance ex. factory	0 ~ +1.0 ppm	@ +25 °C	
Supply voltage (nominal value ±5 %)	+2.8 V, +3.3 V or +5.0 V		(*)
Output signal	Clipped sine wave	(LV)CMOS	(*)
Output level	> 0.8 V <sub>p-p</sub>	V <sub>OH</sub> > 0.9*V <sub>CC</sub> / V <sub>OL</sub> < 0.1*V <sub>CC</sub>	
Output load	10 kΩ // 10 pF	15 pF Max.	
Current consumption, depending on frequency	1.5 ~ 4 mA	2 ~ 7 mA	
Electronic Frequency Control (EFC)	ΔF = ±5 to ±10 ppm	positive slope	(*)
Control voltage (Vc)	+1.50 V ±1.0 V for 3.3 V	+2.50 V ±2.0 V for 5.0 V	(*)
EFC input impedance	> 100 kΩ		
Tri-state function	pin #6 → high or open pin #6 → low or GND	pin #5 → oscillation pin #5 → high impedance	
Phase noise (typical value for 40 MHz)	LN (Low phase noise)	Standard	Frequency offset
	-85 dBc/Hz -115 dBc/Hz -138 dBc/Hz -150 dBc/Hz -154 dBc/Hz	-83 dBc/Hz -110 dBc/Hz -135 dBc/Hz -148 dBc/Hz -152 dBc/Hz	@ 10 Hz @ 100 Hz @ 1 kHz @ 10 kHz @ 100 kHz
Operating temperature range	-40 ~ +85 °C		(*)
Storage temperature range	-55 ~ +105 °C		
Reflow Profiles as per IPC/JEDEC J-STD-020C	≤ 260 °C over 10 sec. Max.		
Moisture sensitivity	Level 1 (unlimited)		

(\*) See available options on page #2

Note: Unless otherwise specified conditions are @+25 °C

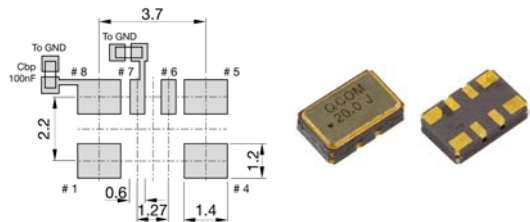
Note #1: Including, frequency stability vs. temperature, tolerance @+25°C, aging 20 years, supply & load variation  
Note #2: Including, frequency stability, vs. temperature, supply change of ±1 % and aging over 24 hours



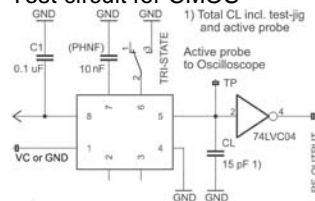
### Pin function

- # 1 Vc (EFC) for VC-TCXO  
GND or NC for TCXO
- # 2 NC or GND
- # 3 NC or GND
- # 4 GND
- # 5 OUTPUT
- # 6 Tri-state or do not connect
- # 7 LN: 10 nF to the GND  
Standard: NC
- # 8 Vcc

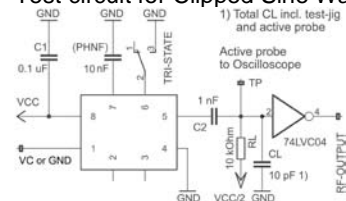
### Soldering pattern



### Test circuit for CMOS



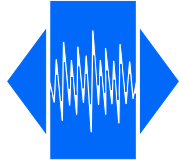
### Test circuit for Clipped Sine Wave



# VTX 5S-STR3

STRATUM-III, high reliable,  
Temperature compensated (VC)TCXO

**QuartzCom**  
the communications company



## Environmental conditions

Test	IEC 60068 Part...	IEC 60679-1 Clause	MIL-STD-202G Method	MIL-STD-810F Method	MIL-PRF-55310D Clause	Test conditions (IEC)
Sealing tests (if applicable)	2-17	5.6.2	112E		3.6.1.2	Gross leak: Test Qc, Fine leak: Test Qk
Solderability Resistance to soldering heat	2-20 2-58	5.6.3	208H 210F		3.6.52 3.6.48	Test Ta method 1, Test Td <sub>1</sub> method 2, Test Td <sub>2</sub> method 2
Shock *	2-27	5.6.8	213B	516.4	3.6.40	Test Ea, 3 x per axis 100 g, 6 ms half-sine pulse
Vibration, sinusoidal*	2-6	5.6.7.1	201A 204D	516.4-4	3.6.38.1 3.6.38.2	Test Fc, 30 min per axis, 1 oct/min 10 Hz – 55 Hz 0,75 mm; 55 Hz – 2 kHz, 10 g
Vibration, random*	2-64	5.6.7.3	214A	514.5	3.6.38.3 3.6.38.4	Test Fdb
Endurance tests - ageing - extended ageing		5.7.1 5.7.2	108A		4.8.35	30 days @ 85 °C 1000 h, 2000 h, 8000 h @ 85 °C

Other environmental conditions on request

## Ordering code

**(0)5S-(1)(2)-(3)(4)-(5)(7)-STR3-40.000MHz** Example: **TX5S-H33-NNu28-STR3-40.000MHz**

Oscillator type	(1) Output signal	(2) Supply voltage	(7) Phase noise option
TX = TCXO VT = VC-TCXO	H = (LV)CMOS C= Clipped sine wave	28 = 2.8 V 30 = 3.0 V 33 = 3.3 V 50 = 5.0 V	LN = Low phase noise (-) = Standard
(3) Operating temperature	(4) Frequency stability	(5) Pulling range (VT only)	
JK = -20 to +70 °C NN = -40 to +85 °C	u28 = ± 0.28 ppm	V05 = 1.5 ± 1.0 V ±5 ppm V10 = 1.5 ± 1.0 V ±10 ppm X05 = 2.5 ± 2.0 V ±5 ppm X10 = 2.5 ± 2.0 V ±10 ppm	
		Z = special spec	

2011/65/EU RoHS compliant

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