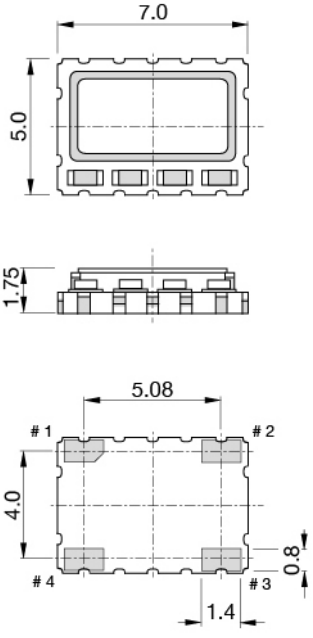
VTX 7Q-STR3

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

Frequency range	**5.000 ~ 50.000 MHz**	
Standard frequencies (fundamental)	5, 10, 12, 12.8, 13, 15.36, 16, 16.384, 19.2, 19.44, 20 25, 26, 30.72, 32, 40 and 50 MHz	
Frequency stability:	≤ ±4.6 ppm	overall (Note #1)
vs. temperature referenced to (FMAX+FMIN)/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	1st year 15 years
Frequency tolerance ex. factory @ +25 °C	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 Vp-p	V_{OH} > 0.9∗Vcc / V_{OL} < 0.1∗Vcc
Output load	10 kΩ // 10 pF	15 pF Max.
Current consumption, depending on frequency	1.5 ~ 7 mA	2 ~ 10 mA
Electronic Frequency Control (EFC) range	±3 ~ ±5 ppm	positive slope
EFC 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	
Phase noise (typical value for 40 MHz)	-118 dBc/Hz @ 100 Hz -140 dBc/Hz @ 1 kHz -151 dBc/Hz @ 10 kHz -156 dBc/Hz @ 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**

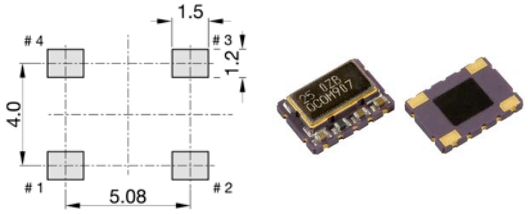
Note #1: Including, frequency stability vs. temperature, tolerance @+25°C, aging 15 years, supply & load variation
Note #2: Including, frequency stability, vs. temperature, supply change of ±1 % and aging over 24 hours



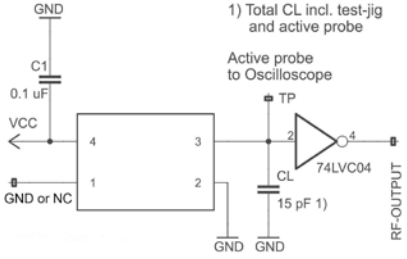
Pin function

# 1	Vc (EFC) for VC-TCXO GND or NC for TCXO
# 2	GND
# 3	Output
# 4	Vcc

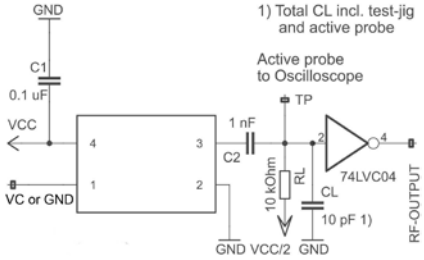
Soldering pattern



Test circuit for CMOS



Test circuit for Clipped Sine Wave



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From design to production in Switzerland

VTX 7Q-STR3

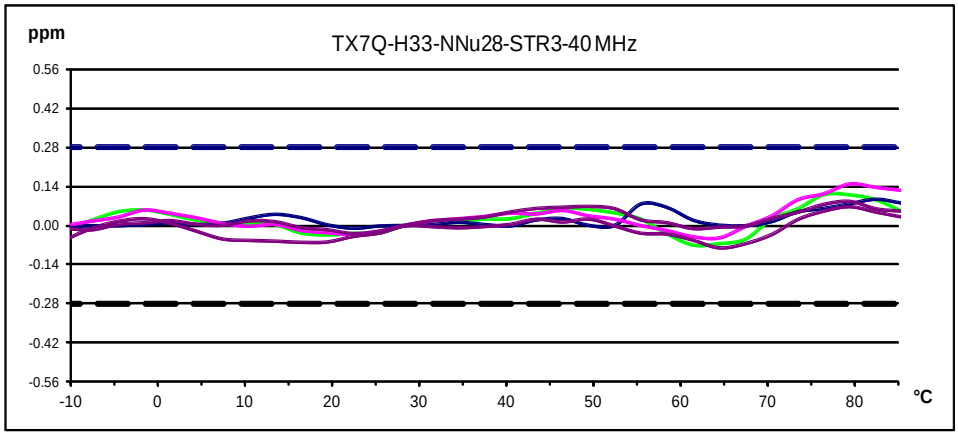
STRATUM-III, high reliable,
Temperature compensated (VC)TCXO

Ordering code

(0)7Q-(1)(2)-(3)(4)-(5)-STR3-40.000MHz *Example:* ***TX7Q-H33-NNu28-STR3-40.000MHz***

Oscillator type	**(1) Output signal**	**(2) Supply voltage**	**(5) Pulling range** (VT only)
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	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
(3) Operating temperature	**(4) Frequency stability**		
JK = -20 to +70 °C NN = -40 to +85 °C	u28 = ± 0.28 ppm		Z = special spec

Frequency stability vs. temperature



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_1 method 2, Test Td_2 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

2011/65/EU RoHS compliant

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