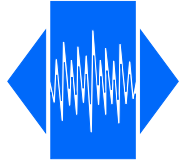


# TX32-H

Small size, high reliable,  
Temperature compensated (LV)CMOS TCXO

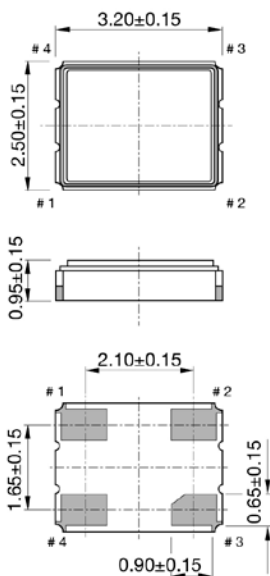
**QuartzCom**  
the communications company



<b>Frequency range</b>	<b>10.000 ~ 60.000 MHz</b>		
Standard frequencies	10, 16, 19.2, 20, 24, 25, 32, 38.4, 40, 48 and 50 MHz		
Frequency stability:			
vs. temperature referenced to $(F_{MAX}+F_{MIN})/2$	$\leq \pm 2.50$ ppm	over -40 to +85 °C	(*)
vs. supply voltage changes referenced to frequency at nominal supply	$\leq \pm 0.2$ ppm	$\pm 5$ %	
vs. load changes referenced to frequency at nominal load	$\leq \pm 0.2$ ppm	$\pm 5$ %	
vs. aging @ +40 °C	$\leq \pm 1.0$ ppm	1st year	
G-sensitivity	2.0 ppb/g	per axis	
Frequency tolerance ex. factory	$\leq \pm 1.0$ ppm	@ +25 °C	
Supply voltage (nominal value $\pm 5$ %)	+1.8 V, +2.5 V or +3.3 V		(*)
Output signal	(LV)CMOS		
Output level	$V_{OH} > 0.9 \cdot V_{CC}$ / $V_{OL} < 0.1 \cdot V_{CC}$		
Output load	15 pF Max.		
Current consumption, depending on frequency	5 ~ 10 mA		
Tri-state function	pin #1 → high or open pin #1 → low or GND	pin #3 → oscillation pin #3 → high impedance	
Phase noise (typical value for 20 MHz )	-80 dBc/Hz -110 dBc/Hz -130 dBc/Hz -145 dBc/Hz -152 dBc/Hz	@ 10 Hz @ 100 Hz @ 1 kHz @ 10 kHz @ 100 kHz	
Operating temperature range	-40 ~ +105 °C		(*)
Storage temperature range	-55 ~ +105 °C		
Reflow Profiles as per IPC/JEDEC J-STD-020C	$\leq 260$ °C over 10 sec. Max.		
Moisture sensitivity	Level 1 (unlimited)		

(\*) See available options on page #2

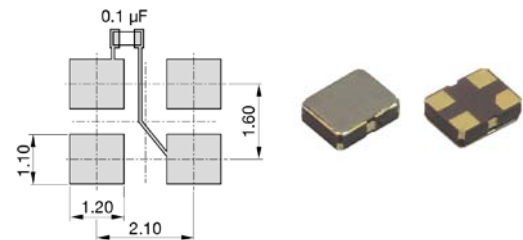
Note: Unless otherwise specified conditions are @+25 °C



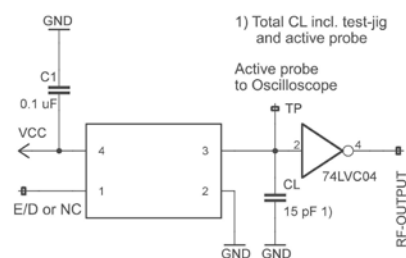
### Pin function

- # 1 Tri-state
- # 2 GND
- # 3 Output
- # 4 Vcc

### Soldering pattern



### Test circuit



2011/65/EU RoHS compliant

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# TX32-H

Small size, high reliable,  
Temperature compensated (LV)CMOS TCXO



## Ordering code

**TX32-H(2)-(3)(4)-40.000MHz**

*Example: TX32-H25-NN2u5-40.000MHz*

Oscillator type	(2) Supply voltage	(3) Operating temperature	(4) Frequency stability
TX = TCXO	18 = 1.8 V 25 = 2.5 V 33 = 3.3 V	NN = -40 to +85 °C NO = -40 to +90 °C NR = -40 to +105 °C	2u5 = ± 2.50 ppm 5u0 = ± 5.00 ppm 10u = ± 10.0 ppm

Frequency stability vs. temperature

ppm	≤± 2.50	≤± 5.00	≤± 10.0
-20 to +70 °C	O	O	O
-30 to +85 °C	Δ	O	O
-40 to +85 °C	Δ	Δ	O

Δ Ask factory
O Available
X Not available

## 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

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