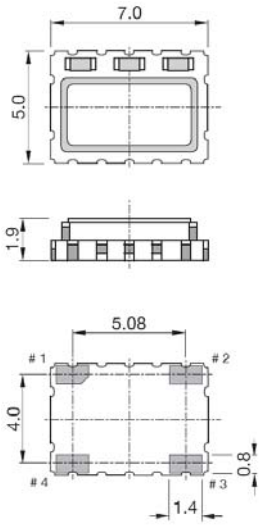
High accurate TCXO for Galileo satellite navigation systems

- High frequency stability vs. temperature: ± 0.10 ~ ± 0.25 ppm
- Output signal clipped sine wave or CMOS
- Low G-sensitivity (on request), shock resistant
- Low phase noise, low Allan deviation

TX7-705CM-TQ-GAL

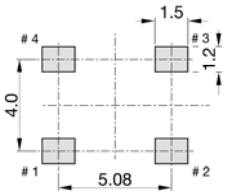
Standard frequencies	**10.0, 15.360, 16.3680, 20.0 & 27.0 MHz**	
Frequency stability		
vs. temperature reference (FMAX+FMIN)/2	≤ ±0.10 ppm ≤ ±0.25 ppm	over -20 ~ +70 °C over -40 ~ +85 °C
vs. supply voltage changes reference to frequency at nominal supply	≤ ±0.05 ppm	±5 %
vs. load changes reference to frequency at nominal load	≤ ±0.05 ppm	±10 %
vs. aging	≤ ±0.6 ppm ≤ ±2.5 ppm	1st year 10 years
Frequency slope vs. temperature	≤ 0.02 ppm/°C	over operating temperature
Short term stability ADEV	< 1 x 10^{-10}	τ = 1 sec.
G-sensitivity	≤ 1.5 ppb/g ≤ 0.5 ppb/g	Gamma Γ standard Gamma Γ
Frequency tolerance ex factory	≤ ±1.0 ppm	@+25°C
Supply voltage	+3.3 V	±5 %
Current consumption	< 3 mA	
Output waveform	CMOS	V_{OH} ≥ 0.9 Vcc V_{OL} ≤ 0.1 Vcc
Output load	15 pF	Max.
Symmetry (Duty)	45 ~ 55 %	@ ½ Vcc
Phase noise @ 20 MHz	< -95 dBc/Hz @ 10 Hz < -125 dBc/Hz @ 100 Hz < -145 dBc/Hz @ 1 kHz < -155 dBc/Hz @ 10 kHz < -155 dBc/Hz @ 100 kHz	
Operating temperature range	-40 ~ +85 °C	
Storage temperature range	-55 ~ +105 °C	
Reflow conditions per JEDEC J-STD-020	260 °C maximum	during 10 sec. Max.
Moisture sensitivity	Level 1 (unlimited)	



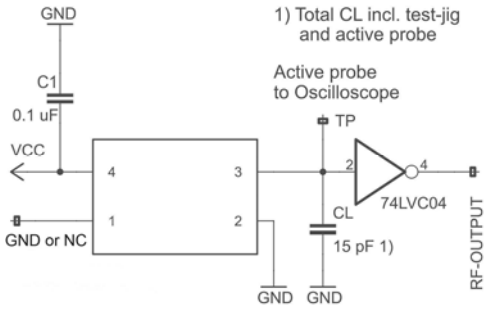
Pin function

# 1	GND
# 2	GND
# 3	RF output
# 4	Vcc

Solder pattern



Test circuit



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the communications company

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- High frequency stability vs. temperature: ± 0.10 ~ ± 0.25 ppm
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TX7-705CM-SQ-GAL

Standard frequencies	**10.0, 15.360, 16.3680, 20.0 & 27.0 MHz**	
Frequency stability:		
vs. temperature reference (FMAX+FMIN)/2	≤ ±0.10 ppm ≤ ±0.25 ppm	over -20 ~ +70 °C over -40 ~ +85 °C
vs. supply voltage changes reference to frequency at nominal supply	≤ ±0.05 ppm	±5 %
vs. load changes reference to frequency at nominal load	≤ ±0.05 ppm	±10 %
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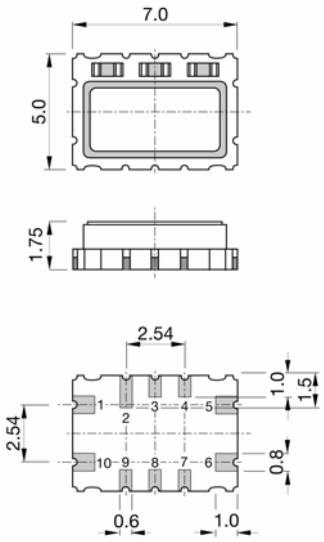
Current consumption	< 3 mA	
Output waveform	CMOS	V_{OH} ≥ 0.9 Vcc V_{OL} ≤ 0.1 Vcc
Output load	15 pF	Max.
Symmetry (Duty)	45 ~ 55 %	@ ½ Vcc
Phase noise @ 20 MHz	< -125 dBc/Hz < -145 dBc/Hz < -155 dBc/Hz < -155 dBc/Hz	@ 100 Hz @ 1 kHz @ 10 kHz @ 100 kHz
Tri-state function	pin # 9 ≥ 2.1 V or open pin # 9 ≤ 0.9 V or GND	pin # 6 ➔ oscillation pin # 6 ➔ high Impedance
Operating temperature range	-40 ~ +85 °C	
Storage temperature range	-55 ~ +105 °C	
Reflow conditions per JEDEC J-STD-020	260 °C maximum	during 10 sec. Max.
Moisture sensitivity	Level 1 (unlimited)	

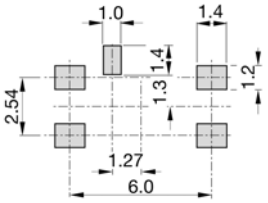


Pin function

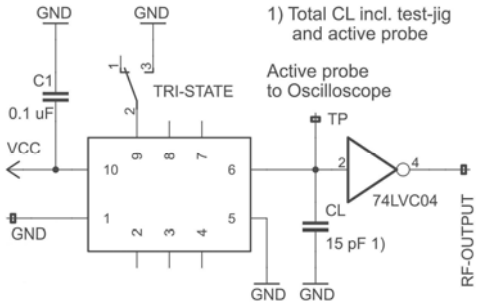
# 1	GND
# 5	GND
# 6	Output
# 9	Tri-state or do not connect
# 10	Vcc

Do not connect #2, #3, #4, #7, #8

Solder pattern



Test circuit



1) Total CL incl. test-jig and active probe

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