

Product Features

- Output Frequency : 10 ~ 52MHz
- Supply Voltage : 2.8 , 3.3V (Typ.)
- Frequency Stability :
±0.1 ppm @ (-20 ~ +70°C)
±0.14 ppm @ (-40 ~ +85°C)
±0.28 ppm @ (-40 ~ +105°C)
- Output Type : Clipped Sinewave / CMOS
- Voltage Control Function Available
- Output Enable / Disable Function Available
- RoHS and REACH Compliant , Pb-free , Halogen-free
- Industry Standard Package :
5.0 x 3.2 x 1.8 mm (6/10 Pad)

Application :

- Small Cell
- Base Station
- Networking Infrastructure (Sever, Switch, Router, etc.)
- Advanced Equipment



Test Condition

Ambient Temperature : 25 ±5°C

Relative Humidity : 40% ~ 70%

- Table 1 . Electrical Specifications

Parameters	Symbol	Min.	Typ.	Max.	Units	Notes
Output Type Frequency Range and Stability						
Nominal Frequency	F	10 ~ 52			MHz	Fundamental
Frequency Tolerance	-	±2.0			ppm	After 2 Times Reflow , Note 1
Frequency Stability	vs. Temp.	±0.1			ppm	-20 ~ +70°C , Note 2
		±0.14				-40 ~ +85°C , Note 2
		±0.28				-40 ~ +105°C , Note 2
	vs. Load	±0.05				vs. Load (±5%)
	vs. VCC	±0.05				vs. Supply Voltage (±5%)
Operating Temperature Range						
Operating Temperature	Topr	-40	+25	+105	°C	
Supply Voltage and Current Consumption						
Supply Voltage	Vdd	2.5 ~ 3.3 (±5%)			V	
Current Consumption	Icc	-	-	5	mA	Clipped Sinewave
		-	-	10	mA	CMOS
Output Type Signal Characteristics						
Output Load	RL // CL	10			kΩ	Clipped Sinewave
		10			pF	
	CL	15			pF	CMOS
Output Level	Vp-p	0.8	-	-	V	Clipped Sinewave
	VoH	90%VCC	-	-	V	CMOS
	VoL	-	-	10%VCC	V	
Rise Time	Tr	-	-	6	ns	10% → 90% VCC Level (CMOS)
Fall Time	Tf	-	-	6	ns	90% → 10% VCC Level (CMOS)

Test Condition
Ambient Temperature : $25 \pm 5^\circ\text{C}$
Relative Humidity : 40% ~ 70%

● Table 1 . Electrical Specifications (continued)

Parameters	Symbol	Min.	Typ.	Max.	Units	Notes
Frequency Slope						
Slope over Temperature	$(\Delta F/\Delta T)$	-	-	± 50	ppb/ $^\circ\text{C}$	-40 ~ +85 $^\circ\text{C}$
		-	-	± 100		-40 ~ +105 $^\circ\text{C}$
Symmetry and Start-up time						
Symmetry (Duty Ratio)	TH/T	40	~	60	%	
Start-up Time	Tosc	-	-	5	ms	To 90% of Final Amplitude
AFC pin and Input Characteristics						
Auto-Frequency-Control Range(Ref : VC= 1.5 V) (Option)	AFC	+5	-	+12	ppm	VC = 2.5 V
		-12	-	-5	ppm	VC = 0.5 V
Tri-state Control						
Input High Level	OE	$0.8 \cdot V_{CC}$	-	-	V	Output Enable , Note 3
Input Low Level		-	-	$0.2 \cdot V_{CC}$	V	Output Disable
Aging Performance						
Aging	Aging	± 1			ppm	1 st Year , Note 4
Holdover Performance						
24 hrs Holdover Stability (Option)	-	-	-	± 0.32	ppm	24 hours at Operation Temperature after 48 hours Operation
Free-run Accuracy Performance						
Free-run Accuracy	-	-	-	± 4.6	ppm	20 Years , Note 5

Note 1 : Operation after reflow 2 hrs , refer to nominal frequency.

Note 2 : Refer to $(F_{max}+F_{min}) / 2$, at VC = Center (Option).

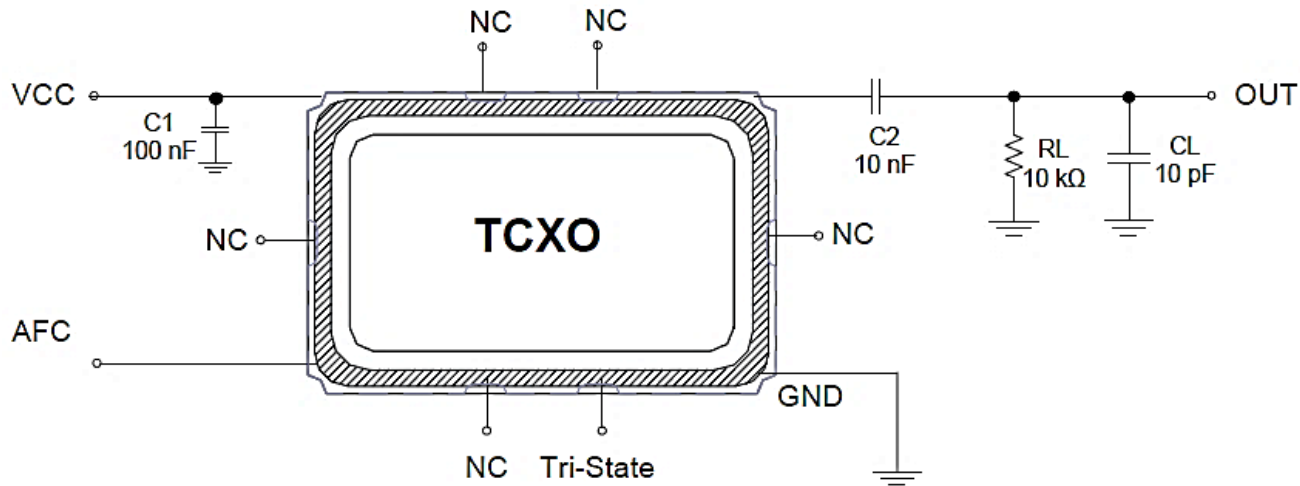
Note 3 : Tri-state floating is output enable as same as input high level.

Note 4 : After 30 days and continuous operation at fix temperature, power supply and load.

Note 5 : Inclusive of calibration tolerance 25°C , frequency vs. change in temperature, change in supply voltage ($\pm 5\%$), load change ($\pm 5\%$) , reflow soldering process and 20 years aging.

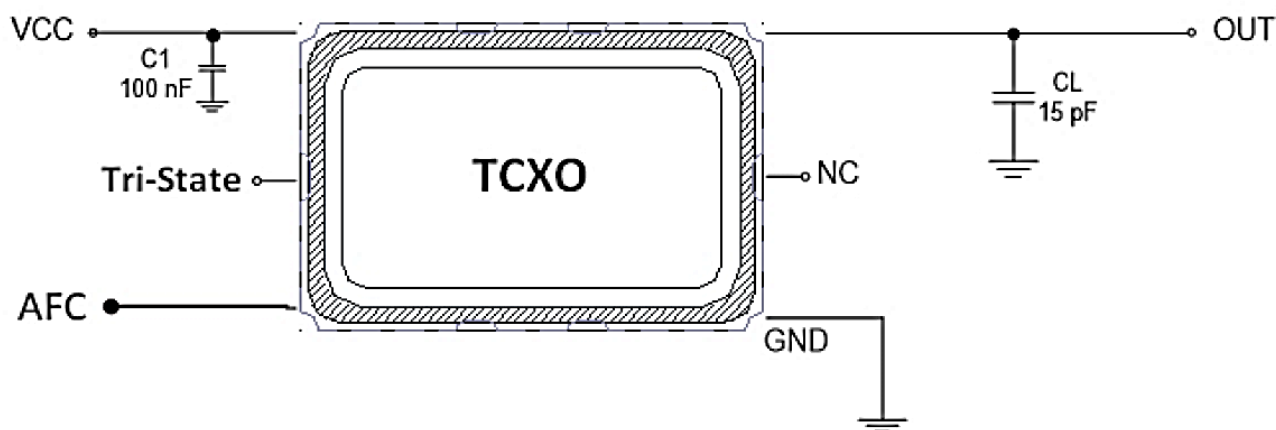
● **Test Diagram**

■ **Output Type : Clipped Sinewave**



- Note: (1) By pass capacitor (C1) should be placed.
 (2) AFC is optional function.
 (3) Example of 10 Pad Option.

■ **Output Type : CMOS**

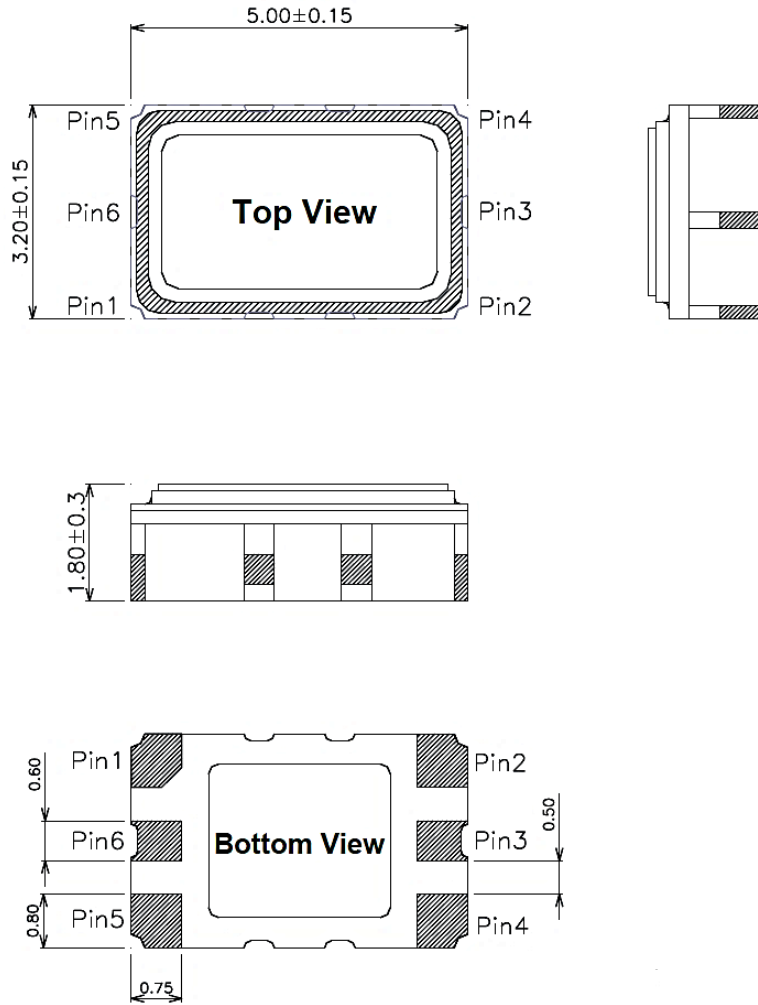


- Note: (1) By pass capacitor (C1) should be placed.
 (2) AFC is optional function.
 (3) TXC sets CL to 15pF for simulation IC load. No need to layout it in reality circuit.
 (4) Example of 6 Pad Option.

● **Dimensions & Footprint (Recommended)**

Unit : mm

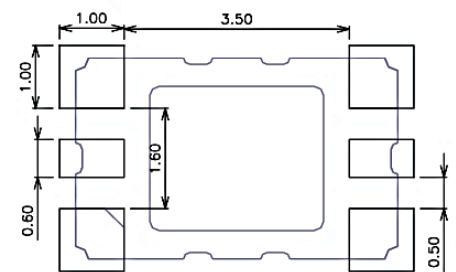
7P Series , 6 Pad



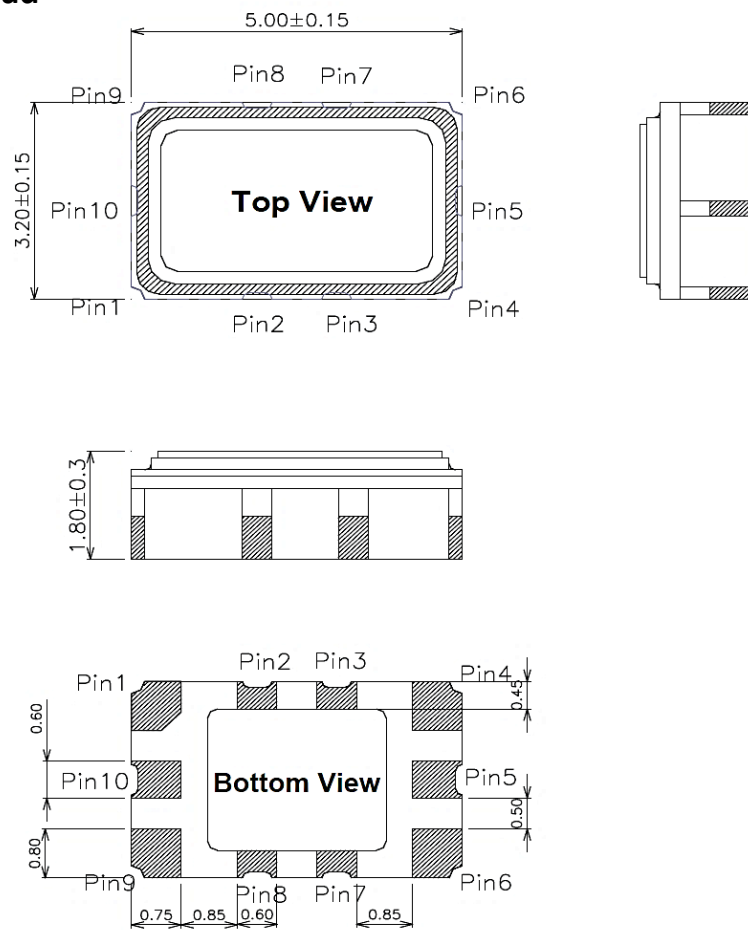
Pin Connection

Name	Function
Pin 1	AFC
Pin 2	GND
Pin 3	Do not connection
Pin 4	Output
Pin 5	VCC
Pin 6	Tri-State

Recommended Land Pattern



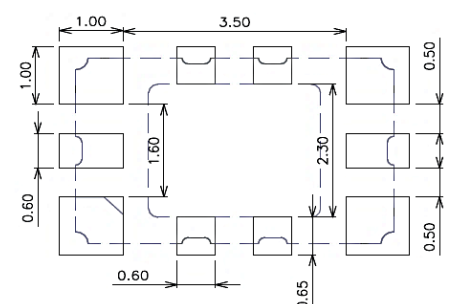
7P Series , 10 Pad



Pin Connection

Name	Function
Pin 1	AFC
Pin 2	Do not connection
Pin 3	Tri-State
Pin 4	GND
Pin 5	Do not connection
Pin 6	Output
Pin 7	Do not connection
Pin 8	Do not connection
Pin 9	VCC
Pin 10	Do not connection

Recommended Land Pattern



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