EPSON
EXCEED YOUR VISION

Temperature Compensated Crystal Oscillator (TCXO)

TG–550*CA 50.000MHz

- High Stability TCXO (For Microwave target)
- Reflowable 7.0×5.0×1.7 mm TCXO
- Operating supply voltage : 3.3 V.

■ Specifications

1. Operating Conditions

Item	Symbol	Condition	Min.	Typ.	Max.	Unit
Supply voltage	V_{CC}		3.135	3.3	3.465	V
Output load	Load_C		9	10	11	pF
Operating temperature range	T_use		-40	+25	+ 85	°C

2. Frequency Characteristics

(Vcc=3.3V , Load=10pF , Ta=+25℃)

Item	Symbol	Condition	Spec.	Unit
Output frequency	fo		50.000	MHz
Frequency tolerance	f_tol	+25 °C± 2 °C	± 1.0×10^{-6} Max.	-
Reflow soldering	-	+25 °C± 2 °C (Difference of 1 time reflow before and after treatment)	± 1.0×10^{-6} Max.	-
Frequency / temperature characteristics	fo-Tc	- 40 °C to + 85 °C (Reference (Fmax+Fmin)/2)	± 1.0×10^{-6} Max.	-
Frequency / Temperature slope	-	- 40 °C to + 85 °C	± 0.5×10^{-6} Max.	/ °C
Hysterisis	-		± 0.4×10^{-6} Max.	-
Holdover	-	After 24h, Vcc=3.3V,Load=10pF,Ta=+25℃	± 1.5×10^{-6} Max.	-
Frequency / load coefficient	fo-Load	10 pF ± 1pF	± 0.4×10^{-6} Max.	-
Frequency / voltage coefficient	fo-Vcc	5.0 V ± 5%	± 0.05×10^{-6} Max.	-
Root Allan Variance	-	Tau=1sec	± 1.0×10^{-9} Max.	-
G sensitivity	-	Vibration Frequency = 500Hz	3.0×10^{-9} Max.	/G
Frequency aging	f_age	T_use=+25 °C, 10 year	± 5.0×10^{-6} Max.	-
		T_use=+25 °C, 20 years	± 10.0×10^{-6} Max.	-

3. Electrical Characteristics

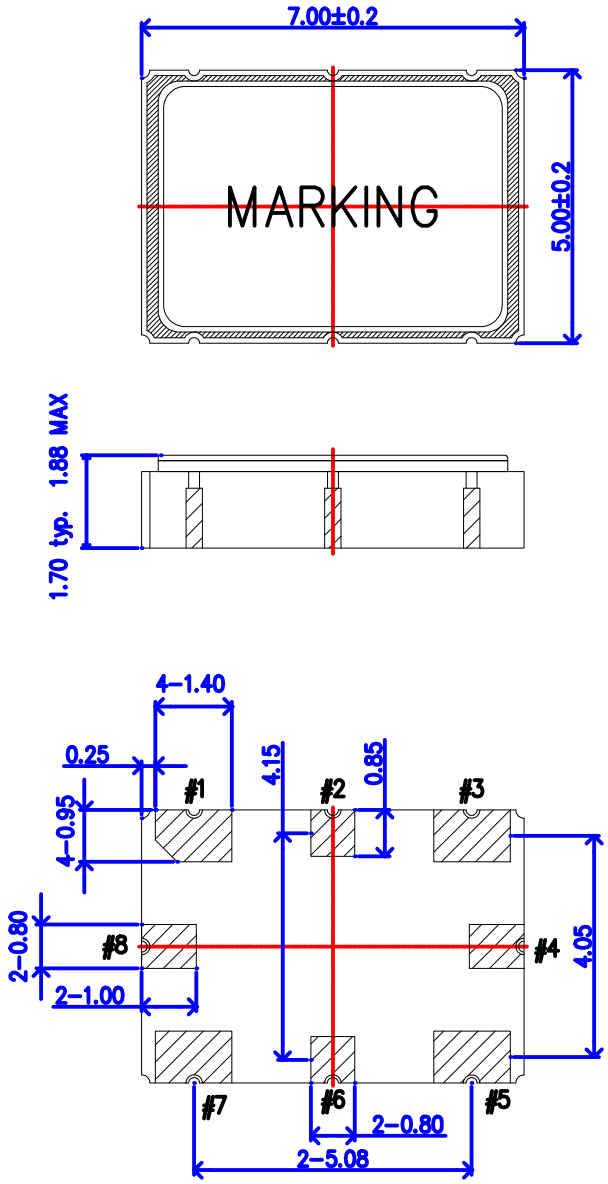
(Vcc=3.3V , Load=10pF , Ta=+25℃)

Item	Symbol	Condition	Min.	Typ.	Max.	Unit
Current consumption	I_{CC}				10	mA
Output waveform	-	Clipped sine wave				-
Output level	V_{p-p}		0.8			Vp-p
Start up time	-	within ±1.0ppm of final frequency			5	msec
Phase noise		10Hz offset		-79		dBc/Hz
		100Hz offset		-112		dBc/Hz
		1kHz offset		-137		dBc/Hz
		10kHz offset		-149	-140	dBc/Hz
		100kHz offset		-151	-145	dBc/Hz

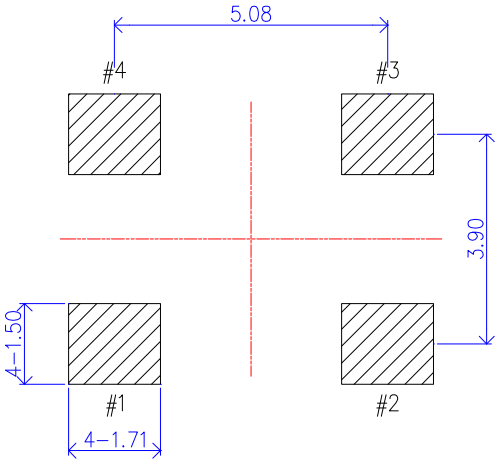
4. Mechanical specification

Item	Symbol	Condition	Min.	Typ.	Max.	Unit
Length	-		6.8	7.0	7.2	mm
Width	-		4.8	5.0	5.2	mm
Height	-		1.52	1.70	1.88	mm

■ External Dimensions



■ Recommended soldering pattern



(unit : mm)

Material
Ceramics(base)
Au coated nickel(terminal)
Fe-Ni-Co(lid)

Pin Connections	
#1	N.C.
#2	N.C.
#3	GND
#4	N.C.
#5	OUTPUT
#6	N.C.
#7	Vcc
#8	N.C.