Temperature Compensated Crystal Oscillator (VC-TCXO)

TG–5500CA-**A

- High Stability TCXO (Stratum3 target)
- Reflowable 7.0×5.0×1.5 mm VC-TCXO
- Operating supply voltage : 3.3 V.

■ Specifications

1. Absolute Maximum Ratings

Parameter	Symbol	Value	Unit	Note
Supply voltage	V_{CC}-GND	-0.6 to 6.0	V	
Storage temperature range	T_stg	-40 to +90	°C	
Frequency control voltage	Vc-GND	-0.6 to Vcc+0.6	V	Vc Terminal

2. Operating Conditions

Parameter	Symbol	Value			Unit	Note
		Min.	Typ.	Max.		
Power voltage	V_{CC}	3.135	3.3	3.465	V	Vcc=3.3 V±5 %
Power voltage	GND	0.0	-	0.0	V	
Operating temperature range	T_use	-40	+25	+85	°C	
Frequency control voltage	Vc	0.0	1.65	3.3	V	Vc=1.65 V±1.65 V
Output load	Load_C	13.5	15	16.5	pF	

3. Frequency Characteristics

1) Frequency characteristics

(Vcc=3.3 V , Vc=1.65 V ,GND=0.0 V , Load 15 pF , T_use=+25 °C)

Parameter	Symbol	Value	Note
Output frequency	fo	12.8 to 40 Main Frequency 12.8 , 13 , 16.368 , 19.2 , 20 25.6 , 26 , 32.736 , 38.4 , 40	MHz
Frequency tolerance	f_tol	± 1.0×10^{-6} Max.	T_use = +25 °C± 2 °C (After 1 reflows)
Frequency / temperature characteristics	fo-Tc	± 0.28×10^{-6} Max.	T_use=- 40 °C to + 85 °C (Based on frequency at +25 °C)
Frequency / load coefficient	fo-Load	± 0.1×10^{-6} Max.	Load : 15 pF ± 10 %
Frequency / voltage coefficient	fo-Vcc	± 0.1×10^{-6} Max.	Vcc =3.3 V ± 5%
Frequency aging	f_age	± 0.5×10^{-6} Max. ± 3.0×10^{-6} Max.	T_use=+25 °C, first year T_use=+25 °C, 20 years
Overall tolerance		± 4.6×10^{-6} Max.	T_use=+25 °C, 20 years

2) Frequency Adjustment characteristics

(Vcc=3.3 V , Vc=1.65 V ,GND=0.0 V , Load 15 pF , T_use=+25 °C)

Parameter	Symbol	Value		Unit	Note
		Min.	Max.		
Frequency control range	f_cont	$+5.0\times10^{-6}$		-	Vc=3.3 V
Frequency control range	f_cont		-5.0×10^{-6}	-	Vc=0 V
Input impedance	Z_{IN}	100		kohms	VC-GND (DC),V_C =1.65V
Frequency change polarity	-	Positive polarity			-

4. Electrical Characteristics

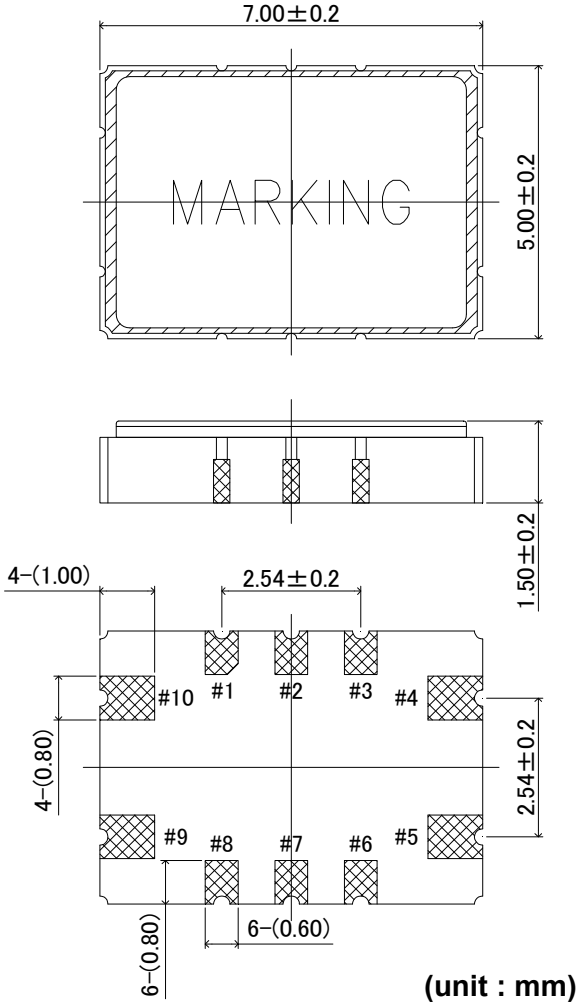
(Vcc=3.3 V , GND=0.0 V , Load 15 pF , T_use=+25 °C)

Parameter	Symbol	Value			Unit	Note
		Min.	Typ.	Max.		
Current consumption	Icc			5.0 6.0	mA	~ 26 MHz ~ 40 MHz
Output waveform	-	CMOS			-	
High level	VOH	90%Vcc			V	-
Low level	VOL			10%Vcc	V	
Symmetry	SYM	45	50	55	%	50 % Vcc Level

5. Enable/disable input

Parameter	Symbol	Value			Unit	Note
		Min.	Typ.	Max.		
Enable voltage	-	2.4	-	Vcc	Vcc	High
Disable voltage	-	0	-	0.6	0.6	Low
Input impedance	-	50.0				V_{CC} =3.3 V, 15 pF
When the VC-TCXO is disable	-	output impedance high				

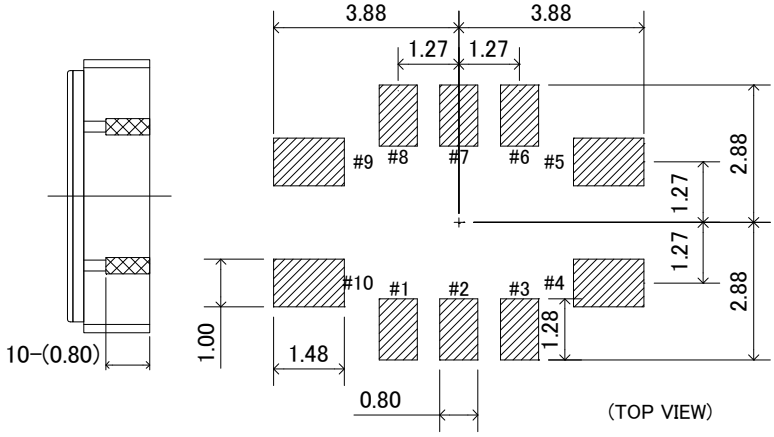
■ External Dimensions



(unit : mm)

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

■ Recommended soldering pattern



Do not connect "N.C." leads with any other leads (also mutually)

Pin Connections	
#1	N.C.
#2	N.C.
#3	N.C.
#4	GND
#5	OUT
#6	N.C.
#7	N.C.
#8	OE
#9	Vcc
#10	Vc

If OE Function does not use , We recommended connecting OE(#8pin) to Vcc(#9pin)

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