Temperature Compensated Crystal Oscillator (TCXO)

TG-5021CE 26 MHz

- Reflowable and high density mounting type ultra small size SMD (3.2×2.5×0.9 mm).
- Using the heat-resisting type AT cut quartz crystal allows almost the same temperature soldering as universal SMD IC.
- Operating supply voltage : 3.0 V.

■ Specifications

1. Absolute maximum ratings

Parameter	Symbol	Value	Unit	Note
Supply voltage	V_{CC}-GND	-0.3 to 4.5	V	
Storage temperature range	$T_{_STG}$	-40 to +85	°C	

2. Operating range

Parameter		Symbol	Value			Unit	Note
			Min.	Typ.	Max.		
Power voltage		V_{CC}	2.70	3.00	3.30	V	Vcc=3.0V+/-10%
Operating temperature range		T_use	-40	+25	+85	°C	
Output load		Load_R	9	10	11	kΩ	
		Load_C	9	10	11	pF	
	DC-cut capacitor	C_C	0.01			μF	

DC-cut capacitor is not included in our TCXO. Please insert DC-cut capacitor in output line.

3.Frequency characteristics

1) Output frequency 26.000000 MHz

2) Frequency characteristics (V_{CC}=3.0V, Load 10 kΩ//10 pF(DC cut), T_use = +25 °C)

Parameter	Symbol	Value	Unit	Note
Frequency tolerance .	f_tol(OSC)	+/- 1.5×10^{-6} Max.	-	T_use =+25 °C +/-2 °C Reflow cycles : 2 times.*1
Frequency / temperature Characteristics	fo-Tc	+/- 2.5×10^{-6} Max.	-	T_use =-40 °C to +85 °C Based on frequency at +25 °C
Frequency / Load coefficient	fo-Load	+/- 0.2×10^{-6} Max.	-	Load :10 kΩ//10 pF +/-10 % each
Frequency / voltage coefficient	fo-Vcc	+/- 0.2×10^{-6} Max.	-	VCC=3.0V +/- 10%
Frequency ageing	f_age	+/- 1.0×10^{-6} Max.	-	T_use =+25 °C 1 year

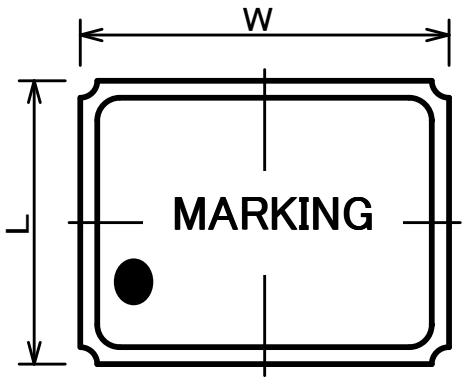
*1 Measurement of frequency deviation is made 1h after reflow soldering.

4.Electrical characteristics

(V_{CC}=3.0 V, Load 10 kΩ//10 pF(DC cut), T_use = +25 °C)

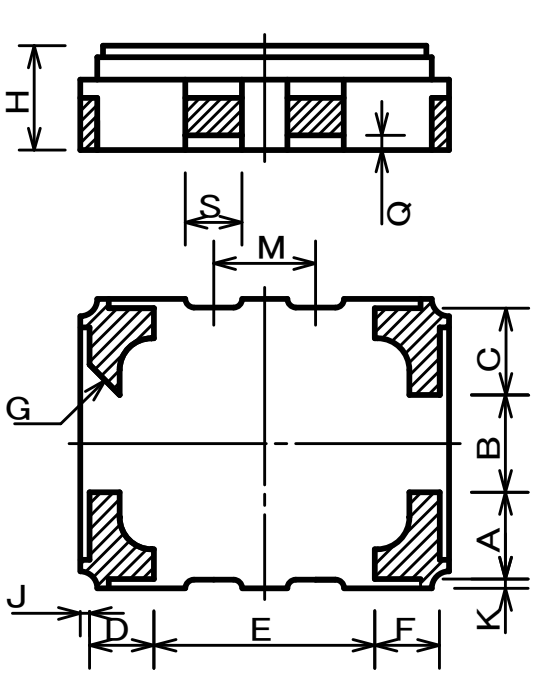
Parameter	Symbol	Value			Unit	Note
		Min.	Typ.	Max.		
Current consumption	Icc			2.0	mA	
Output level	Vpp	0.8	1.2		V	Peak to peak voltage
SSB Phase noise	L(f)			-140	dBc/Hz	Offset:10kHz

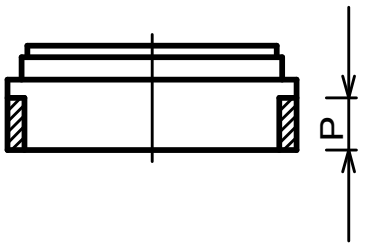
5. OUTLINE DRAWING

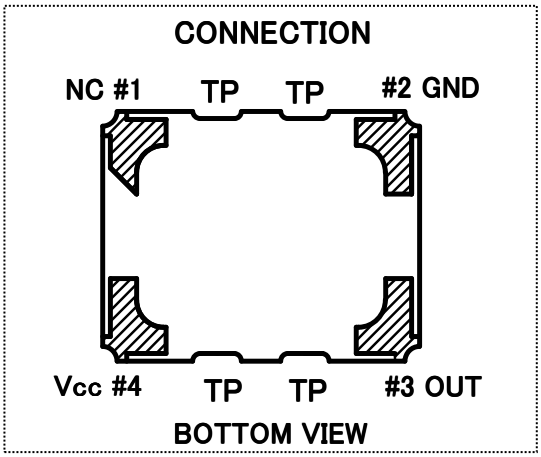


Marking
TBD

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



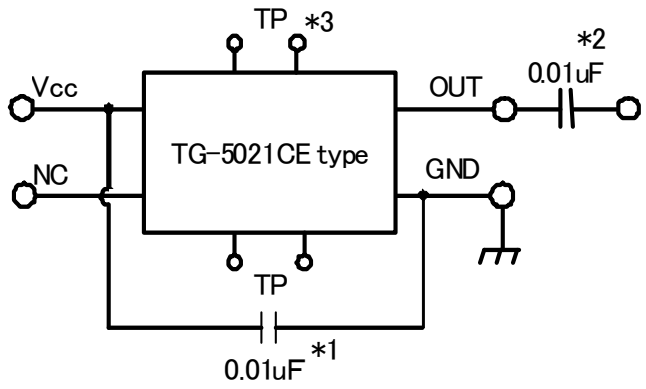




(unit : mm)

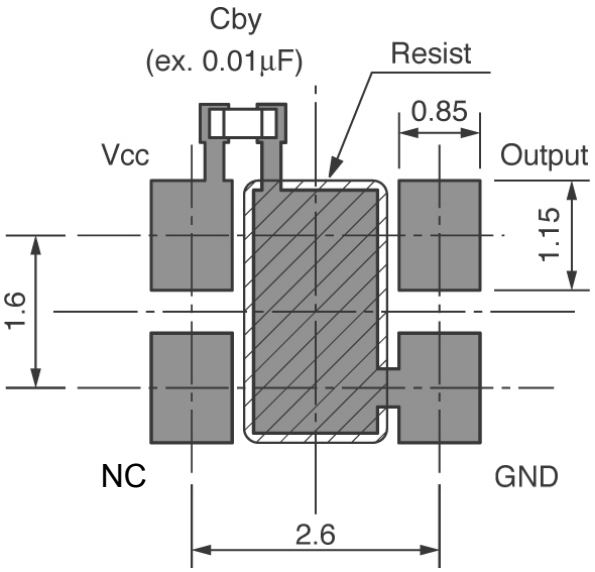
DIM.	MIN.	TYP.	MAX.	DIM.	MIN.	TYP.	MAX.
W	3.00	3.20	3.40	F	—	0.57	—
L	2.30	2.50	2.70	G	—	C 0.27	—
H	0.80	0.90	1.00	J	—	0.08	—
A	—	0.765	—	K	—	0.08	—
B	0.76	0.86	0.96	M	0.80	0.90	1.00
C	—	0.765	—	P	0.41	0.46	0.51
D	—	0.57	—	Q	—	0.13	—
E	1.85	1.95	2.05	S	0.40	0.50	0.60

6. CONNECTION



*1 Please connect capacitor(recommendation:0.01 μ F) between "Vcc" and "GND" terminal.
*2 Please connect capacitor(recommendation:0.01 μ F) between "OUT" terminal and load.
*3 Do not connect "TP" terminal.
*4 This product has one chip LSI. Do not supply over +4.5V or negative voltage under −0.3V to "Vcc" terminal. Do not supply over Vcc+0.3V or negative voltage under −0.3V to "NC" terminal. Do not supply any voltages to "OUT" terminal.
*5 Do not supply any voltages in any way which differs from the above connection figure.
*6 As for the terminal NC, the connection with GND is also possible.

7. Recommended soldering pattern



Except for this recommended soldering pattern, please contact us for inquiries.