

Features

- Frequency range : 10MHz to 70MHz
- SMD seam sealing ceramic package
- Supply voltage : 1.8V ~ 3.3V
- Clipped Sinewave output
- Low power consumption
- Voltage control function available
- External dimensions (mm)
L : 2.5 x W : 2.0 x H : 0.8
- RoHS compliant & Pb free

Applications

- Mobile communications
- GNSS
- Smartphone, Mobile phone
- Wearables
- IoT devices
- Portable radio communications

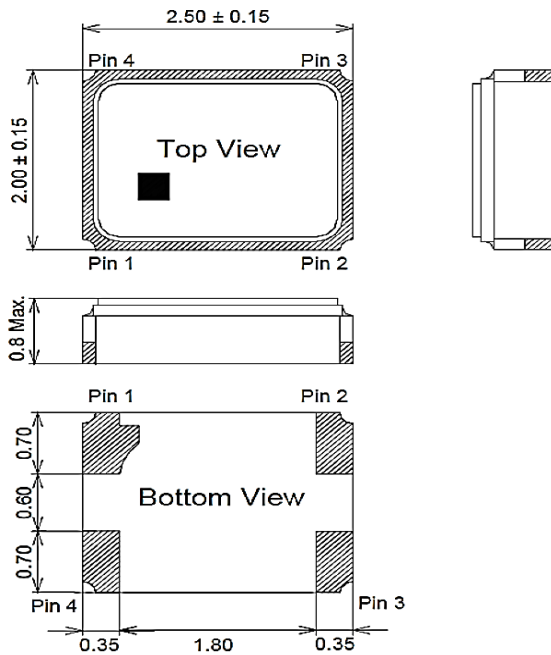
Electrical Characteristics

Item		QTT252	Conditions
Nominal Frequency Range (F_0)		10MHz ~ 70MHz	
Frequency Tolerance (F_{tol})		± 2.0 ppm Max.	Note [1]
Frequency Stability	vs Temperature	± 0.5 ppm, ± 2.0 ppm	$-30^{\circ}\text{C} \sim +85^{\circ}\text{C}$, Note [2]
		± 1.0 ppm	$-40^{\circ}\text{C} \sim +85^{\circ}\text{C}$, Note [2]
	vs Load	± 0.2 ppm Max.	Load $\pm 10\%$
	vs Supply Voltage	± 0.2 ppm Max.	$V_{DD} \pm 5\%$
Operating Temperature Range (T_{OTR})		$-30^{\circ}\text{C} \sim +85^{\circ}\text{C}$ $-40^{\circ}\text{C} \sim +85^{\circ}\text{C}$	
Supply Voltage (V_{DD})		1.8V, 2.5V, 3.3V	
Current Consumption (I_{DD})		2.0 mA Max.	
Output Type		Clipped Sinewave	
Output Load		10k Ω // 10pF	
Output Level		0.8 V(p-p) Min.	Note [3]
Start-up Time		5 ms Max.	
Auto Frequency Control (AFC) Range		± 7 ppm ~ ± 16 ppm	VCTCXO, optional, Note [4]
Phase Noise		-135 dBc/Hz Typ.	at 1kHz offset
Aging (F_{aging})		± 1 ppm Max.	at 25°C , first year
Storage Temperature Range (T_{STR})		$-55^{\circ}\text{C} \sim +125^{\circ}\text{C}$	

Notes:

- [1] Refer to nominal frequency after 2 times of reflow at 25°C .
- [2] Refer to frequency at $25^{\circ}\text{C} \pm 2^{\circ}\text{C}$.
- [3] Decoupling capacitor is required in external circuit.
- [4] If supply voltage $V_{DD} = 3.3\text{V}$ or 2.5V , control voltage $V_{con} = 0.5 * V_{DD} \pm 1.0\text{V}$.
If supply voltage $V_{DD} = 1.8\text{V}$, control voltage $V_{con} = 0.5 * V_{DD} \pm 0.8\text{V}$.

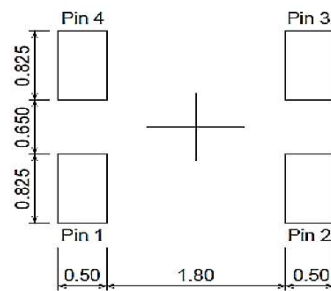
Dimensions



Pin function

Pin	Function	
	TCXO	VCTCXO
1	GND or NC	AFC
2	GND	
3	OUTPUT	
4	V _{DD}	

Recommended pad layout



Ordering Information

QTT252 - 26.000M B G - T

Frequency in Hz

Please contact us for available frequencies

Packaging Method

T Tape & Reel

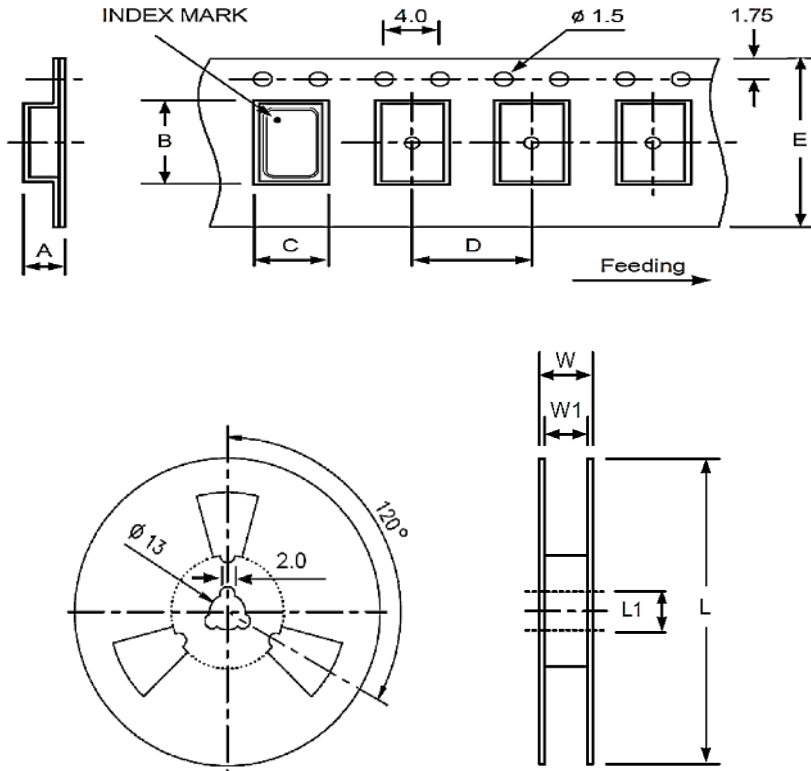
Supply Voltage

B	3.3 V
C	2.5 V
D	1.8 V

Frequency Stability (over Temp.)

N	± 2.0 ppm (-30°C ~ +85°C), TCXO
S	± 2.0 ppm (-30°C ~ +85°C), VCTCXO
G	± 0.5 ppm (-30°C ~ +85°C), TCXO
V	± 0.5 ppm (-30°C ~ +85°C), VCTCXO
I	± 1.0 ppm (-40°C ~ +85°C), TCXO

Packing



DIMENSIONS	A	B	C	D	E	L	L1	W	W1
	1.15	2.70	2.25	4.00	8.00	178	13.0	11.6	8.4

(Unit: mm)

Reflow Profile

Solder melting point : 220°C, 60 sec. Min., 200 sec. Max.

Peak temperature : 260°C, 10 sec. Min., 30 sec. Max.

