

Features

- Frequency range : 10MHz to 70MHz
- Ultra compact and thin
- 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 : 1.6 x W : 1.2 x H : 0.6
- RoHS compliant & Pb free

Applications

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

Electrical Characteristics

Item		QTT161	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	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})		$-30^{\circ}\text{C} \sim +85^{\circ}\text{C}$	
Supply Voltage (V_{DD})		1.8V, 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 .

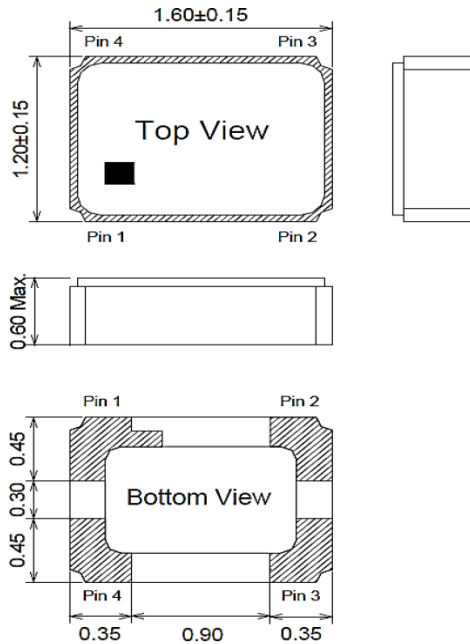
[2] Refer to frequency at $25^{\circ}\text{C} \pm 2^{\circ}\text{C}$.

[3] Decoupling capacitor is required in external circuit.

[4] If supply voltage $V_{DD} = 3.3\text{V}$, control voltage $V_{con} = 0.5 \cdot V_{DD} \pm 1.0\text{V}$.

If supply voltage $V_{DD} = 1.8\text{V}$, control voltage $V_{con} = 0.5 \cdot V_{DD} \pm 0.8\text{V}$.

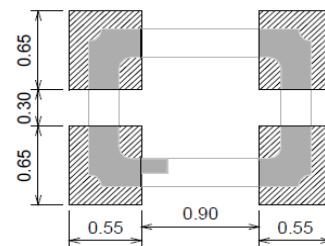
Dimensions



Pin function

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

Recommended pad layout



(Unit: mm)

Ordering Information

QTT161 - 26.000M B G - T

Frequency in Hz

Please contact us for available frequencies

Packaging Method

T Tape & Reel

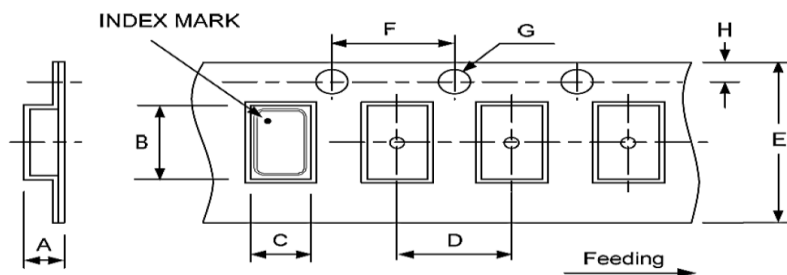
Supply Voltage

B 3.3 V
D 1.8 V

Frequency Stability (over Temp.)

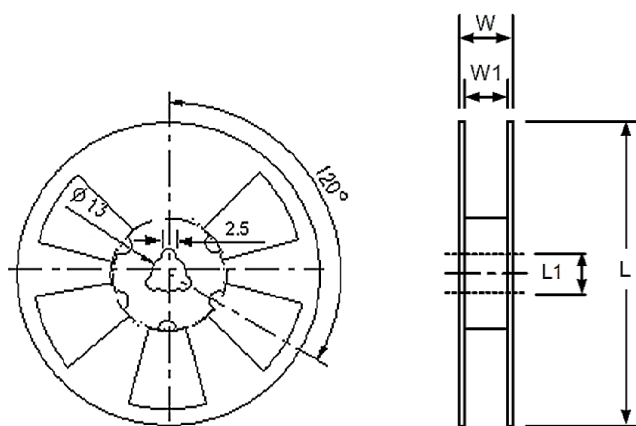
N ± 2.0 ppm (-30°C ~ +85°C), TCXO
S ± 2.0 ppm (-30°C ~ +85°C), VCTCXO
G ± 0.5 ppm (-30°C ~ +85°C), TCXO
V ± 0.5 ppm (-30°C ~ +85°C), VCTCXO

Packing



DIMENSIONS	A	B	C	D	E	F	G	H
	0.80	1.80	1.40	4.00	8.00	4.00	1.55	1.75

(Unit: mm)



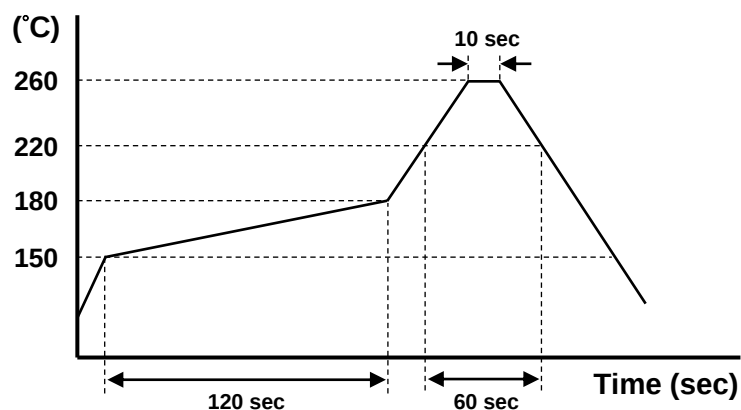
DIMENSIONS	L	L1	W	W1
	178	13	11.5	8

(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.



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