

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 : 2.0 x W : 1.6 x H : 0.8
- RoHS compliant & Pb free

Applications

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

Electrical Characteristics

| Item | | QTT216 | Conditions |
|---|-------------------|------------------|----------------------------|
| Nominal Frequency Range (F_0) | | 10MHz ~ 70MHz | |
| Frequency Tolerance (F_{tol}) | | ±2.0 ppm Max. | Note [1] |
| Frequency Stability | vs Temperature | ±0.5ppm, ±2.0ppm | Note [2] |
| | vs Load | ±0.2 ppm Max. | Load ±10% |
| | vs Supply Voltage | ±0.2 ppm Max. | $V_{DD} \pm 5\%$ |
| Operating Temperature Range (T_{OTR}) | | -30°C ~ +85°C | |
| Supply Voltage (V_{DD}) | | 1.8V, 3.3V | |
| Current Consumption (I_{DD}) | | 2.0 mA Max. | |
| Output Type | | Clipped Sinewave | |
| Output Load | | 10kΩ // 10pF | |
| Output Level | | 0.8 V(p-p) Min. | Note [3] |
| Start-up Time | | 5 ms Max. | |
| Auto Frequency Control (AFC) Range | | ±7ppm ~ ±16ppm | 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°C ~ +125°C | |

Notes:

[1] Refer to nominal frequency after 2 times of reflow at 25°C.

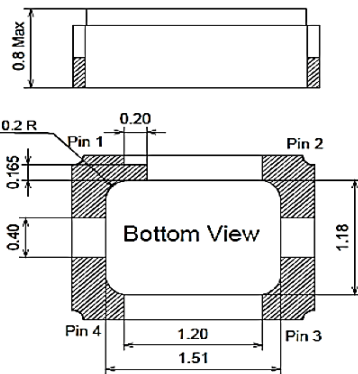
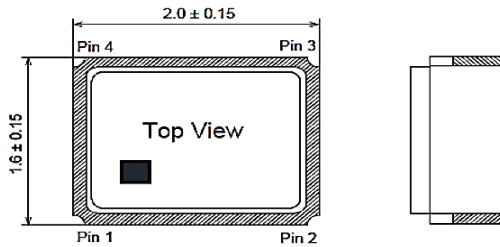
[2] Refer to frequency at 25°C±2°C.

[3] Decoupling capacitor is required in external circuit.

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

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

Dimensions

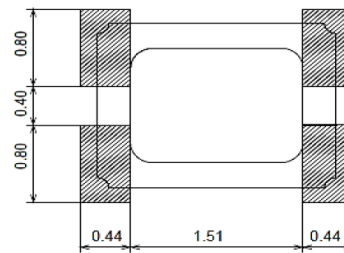


it: mm)

Pin function

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

Recommended pad layout



Ordering Information

QTT216 - 26.000M B G - T

Frequency in Hz

Please contact us for available frequencies

Supply Voltage

B 3.3 V
D 1.8 V

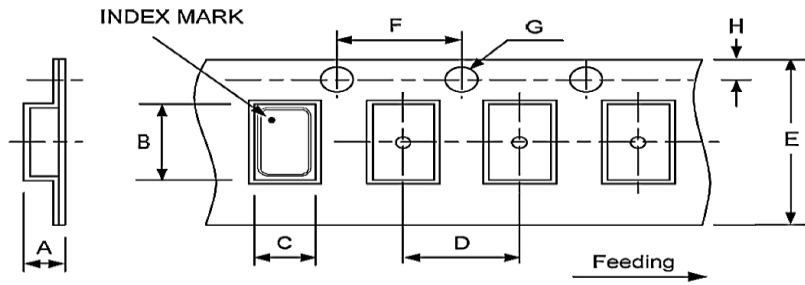
Packaging Method

T Tape & Reel

Frequency Stability (over Temp.)

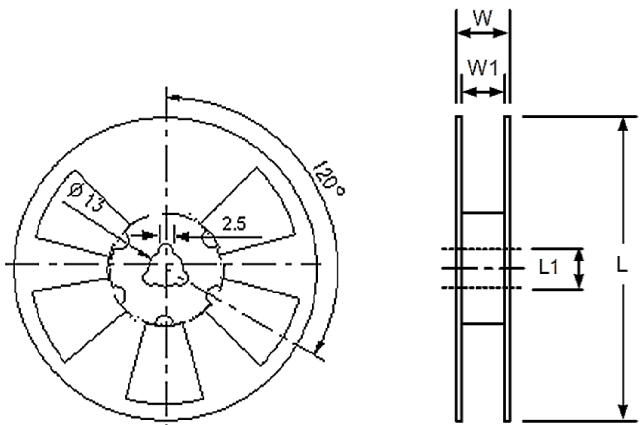
N ± 2.0 ppm (-30°C ~ +85°C), TCXO
S ± 2.0 ppm (-30°C ~ +85°C), VCTCXO
G ± 0.5 ppm (-30°C ~ +85°C), TCXO
V ± 0.5 ppm (-30°C ~ +85°C), VCTCXO

Packing



| DIMENSIONS | A | B | C | D | E | F | G | H |
|------------|------|------|------|------|------|------|------|------|
| | 0.90 | 2.30 | 1.90 | 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.

