

Features

- Frequency range : 30MHz to 250MHz
- SMD seam sealing ceramic package
- Supply voltage : 3.3V
- LVPECL output
- Fundamental solution
- Low phase noise and phase jitter
- Tri-state function available
- External dimensions (mm)
L : 7.0 x W : 5.0 x H : 1.4
- RoHS compliant & Pb free

Applications

- Wireless communications, Smallcell, Base station
- Fibre channel, SONET, SDH, Ethernet
- Set-top box (STB)
- xDSL, VoIP, Cable modem
- Digital TV, Digital audio
- Phase-locked loop (PLL) circuits

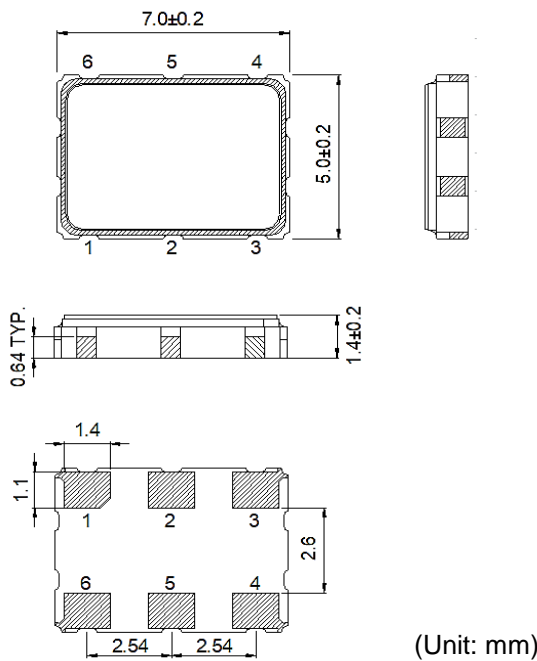
Electrical Characteristics

| Item | QTV750P | Conditions |
|---|---------------------------------|------------------------------------|
| Frequency Range (F_0) | 30MHz ~ 250MHz | |
| Operating Temperature Range (T_{OTR}) | -40°C ~ +85°C | |
| | -40°C ~ +105°C | |
| Supply Voltage (V_{DD}) | 3.3 V | $V_{DD} \pm 10\%$ |
| Current Consumption (I_{DD}) | 80 mA Max. | $RL = 50\Omega$ to $V_{DD} - 2.0V$ |
| Output Type | LVPECL | |
| Output Load | 50 Ω ($V_{DD} - 2.0V$) | |
| Output Voltage High (V_{OH}) | $V_{DD} - 1.025V$ Min. | |
| Output Voltage Low (V_{OL}) | $V_{DD} - 1.62V$ Max. | |
| Rise & Fall Time (T_r / T_f) | 0.5 ns Max. | 20% ~ 80% of output swing |
| Duty Cycle | 45% ~ 55% | |
| Start-up Time | 10 ms Max. | |
| Enable Voltage High, Logic "1" | 70% VDD Min. | Input to Pin2 Note [1] |
| Enable Voltage Low, Logic "0" | 30% VDD Max. | |
| Absolute Pulling Range (APR) | ± 50 ppm Min. | Note [2] |
| Control Voltage Range | 0V ~ 3.3V | Nominal 1.65V |
| Linearity | 10% Max. | |
| Phase Noise ($F_0 = 122.88MHz$) | -128 dBc/Hz Typ. | at 1kHz offset |
| Phase Jitter ($F_0 = 122.88MHz$) | 0.11 ps Typ. | 12kHz ~ 20MHz, RMS |
| Storage Temperature Range (T_{STR}) | -55°C ~ +125°C | |

Notes:

- [1] Output will be enabled if Pin2 is Logic "1" or open; Output will be disabled if Pin2 is Logic "0".
- [2] Absolute Pulling Range (APR) = Pulling Range - (Frequency tolerance at 25°C, variations over temperature, supply voltage, and aging).

Dimensions



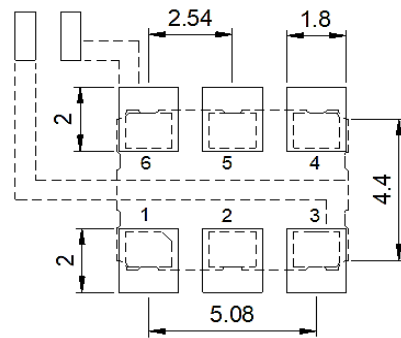
(Unit: mm)

* Pad dimension tolerance is ±0.2mm

Pin function

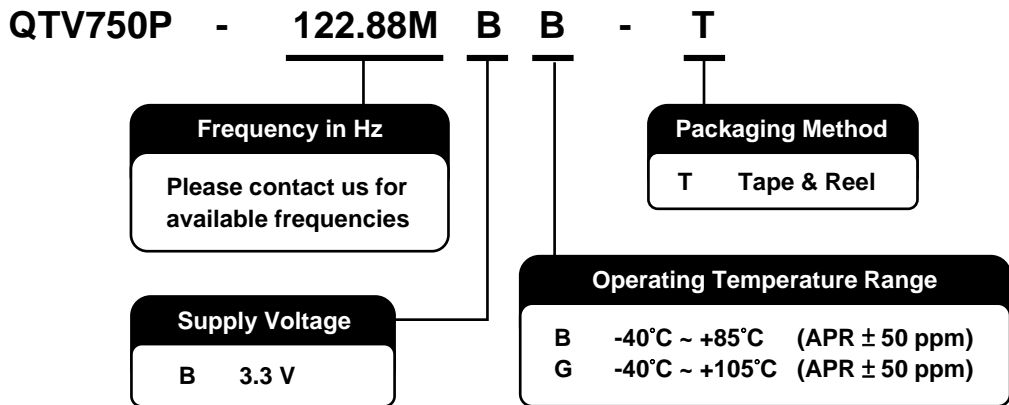
| | |
|-------|-------------------------|
| Pin 1 | VC |
| Pin 2 | OE |
| Pin 3 | GND |
| Pin 4 | OUT |
| Pin 5 | $\overline{\text{OUT}}$ |
| Pin 6 | V _{DD} |

Recommended pad layout

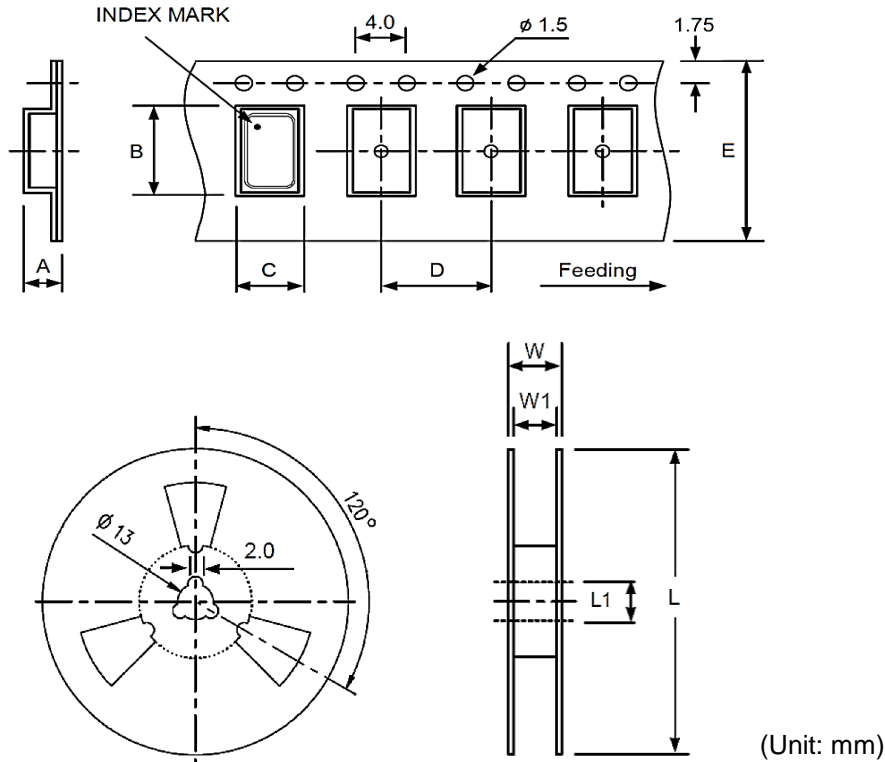


* Power supply decoupling capacitor is required.

Ordering Information



Packing



(Unit: mm)

| DIMENSIONS | A | B | C | D | E | L | L1 | W | W1 |
|------------|------|------|------|------|------|-------|------|------|------|
| | 2.00 | 7.90 | 5.45 | 8.00 | 16.0 | 180.0 | 13.0 | 20.5 | 16.0 |

Reflow Profile

Solder melting point : 220°C ± 10°C, 60 sec. Min., 200 sec. Max.

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

