

# FCom VCXO

## Series FVC-7P-LJ

Low Jitter VCXO 7.0×5.0 mm



### Feature

- Typical 7.0 x 5.0 x 1.45 mm 6 pads ceramic SMD package
- Tight symmetry (45 to 55%) available
- Output frequency up to 250MHz
- Tri-state enable/disable

### Application

- Set-top Box, HDTV
- WiMAX/WLAN
- xDSL/ VoIP
- Cable modem

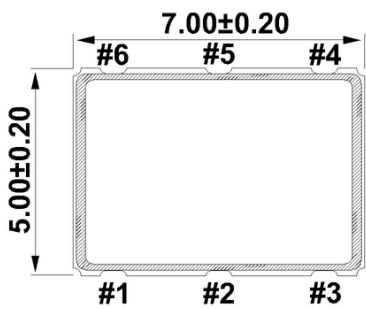
### ELECTRICAL SPECIFICATIONS

| Parameters                         |                 | Symbol | CMOS    |         |         |         | Units   | Notes           |                                                                                               |
|------------------------------------|-----------------|--------|---------|---------|---------|---------|---------|-----------------|-----------------------------------------------------------------------------------------------|
|                                    |                 |        | 3.3V    |         | 2.5V    |         |         |                 |                                                                                               |
|                                    |                 |        | Min.    | Max.    | Min.    | Max.    |         |                 |                                                                                               |
| Frequency Range                    |                 | F      | 10~250  |         |         |         | MHz     |                 | Test condition<br><br>Ambient temperature:<br>25 ± 5°C<br><br>Relative humidity:<br>40% ~ 70% |
| Supply Current                     | 10≤Fo<160MHz    | Icc    | -       | 40      | -       | 40      | mA      |                 |                                                                                               |
|                                    | 160≤Fo<250MHz   |        | -       | 50      | -       | 50      |         |                 |                                                                                               |
| Absolute Pulling Range             |                 | APR    | ±50     | -       | ±50     | -       | ppm     |                 |                                                                                               |
| Control Voltage Range              |                 | Vc     | 0.3     | 3.0     | 0.3     | 3.0     | V       |                 |                                                                                               |
| Transition Time                    | Rise Time       | Tr     | -       | 2.0     | -       | 2.0     | nSec    | 10≤Fo≤250MHz    |                                                                                               |
|                                    | Fall Time       | Tf     |         |         |         |         |         |                 |                                                                                               |
| Output Level                       |                 | VoH    | 2.97    | -       | 2.97    | -       | V       | Output High     |                                                                                               |
|                                    |                 | VoL    | -       | 0.33    | -       | 0.33    | V       | Output Low      |                                                                                               |
| Tri-State Mode<br>(Input to Pin 2) |                 | VIH    | 70% Vdd | -       | 70% Vdd | -       | V       | Enable          |                                                                                               |
|                                    |                 | VIL    | -       | 30% Vdd | -       | 30% Vdd | V       | Disable         |                                                                                               |
| Phase Noise                        |                 | PN     | Typ.    | Max.    | Typ.    | Max.    | dBc/Hz  | @155.52MHz      |                                                                                               |
| 100 Hz                             |                 |        | -75     | -       | -75     | -       |         |                 |                                                                                               |
| 1 kHz                              |                 |        | -105    | -       | -105    | -       |         |                 |                                                                                               |
| 10 kHz                             |                 |        | -125    | -       | -125    | -       |         |                 |                                                                                               |
| RMS Phase Jitter<br>(12kHz~20MHz)  | Fractional Mode | PJ     | 0.8     | 1.5     | 0.8     | 1.5     | pSec    |                 |                                                                                               |
|                                    | Integer Mode    |        | 0.6     | 1.2     | 0.6     | 1.2     |         |                 |                                                                                               |
| Period Jitter                      |                 | Pk     | -       | 150     | -       | 150     | pSec    |                 |                                                                                               |
| Linearity                          |                 |        | -       | 10      | -       | 10      | %       |                 |                                                                                               |
| Modulation Bandwidth               |                 | BW     | 10      | -       | 10      | -       | kHz     |                 |                                                                                               |
| Input Impedance                    |                 |        | 1000    | -       | 1000    | -       | kΩ      |                 |                                                                                               |
| Start-up Time                      |                 | Tosc   | 2       |         |         |         | mSec    | Max             |                                                                                               |
| Aging                              |                 |        | ±3      |         |         |         | ppm/yr. | @ 25°C 1st year |                                                                                               |

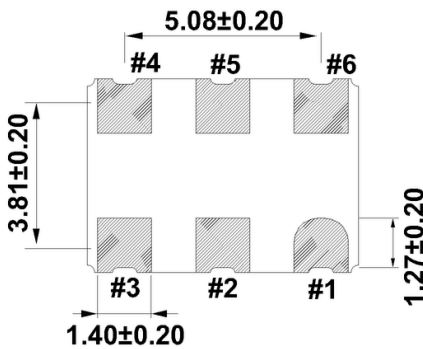
**Note :** The table shows common spec. if you have special spec. requirement , please feel free to contact our salesperson.

 **DIMENSION(mm)**

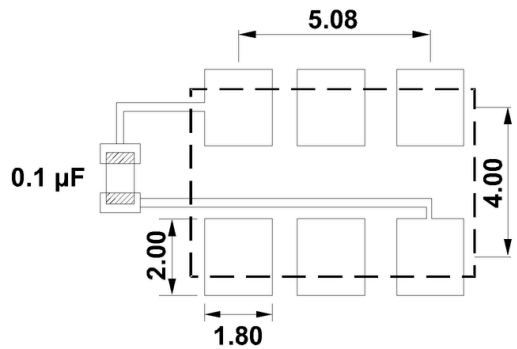
**TOP VIEW**



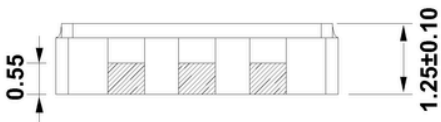
**BOTTOM VIEW**



**Solder Pad Layout(mm)**



**SIDE VIEW**



| PIN# | Function  |
|------|-----------|
| 1    | Vcon      |
| 2    | Tri-State |
| 3    | GND       |
| 4    | Output    |
| 5    | NC        |
| 6    | VDD       |

To ensure optimal oscillator performance, place a by-pass capacitor of 0.1µF as close to the part as possible between Vdd and GND pads.

 **FREQ. STABILITY vs. TEMP. RANGE**

| Temp.(°C) \ ppm | ± 25 | ± 50 |
|-----------------|------|------|
| @-10~60°C       | ○    | ○    |
| @-20~70°C       | ○    | ○    |
| @-40~85°C       | △    | ○    |
| @-40~105°C      | ×    | ×    |

○: Available    △: Conditional    ×: Not available

Inclusive of calibration @25°C, operating temperature range, input voltage variation, load variation, aging (1st year), shock, and vibration.