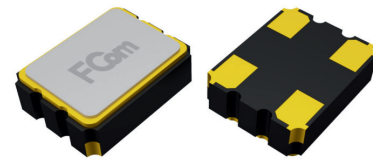


# FCom Low EMI OSC

## Series FCO-3C-LE



Low EMI SMD Crystal Oscillator 3.2×2.5 mm

### Feature

- Typical 3.2×2.5×0.95mm SMD package
- Reduces EMI by approx. 7dB ~ 15dB
- Operation voltage: 1.8V, 2.5V, 3.3V
- Tri-state enable/disable

### Application

- IP Camera, LED Module
- Media Players, Surveillance

### ELECTRICAL SPECIFICATIONS

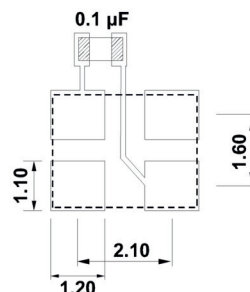
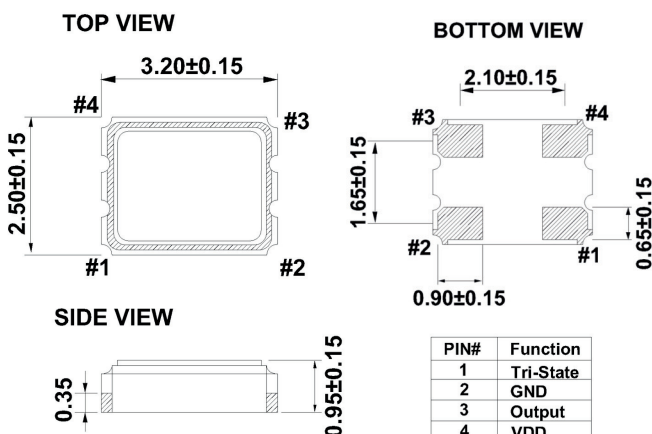
| Parameters                      | Symbol    | Min.    | Typ.  | Max.    | Units  | Notes                                                                           |
|---------------------------------|-----------|---------|-------|---------|--------|---------------------------------------------------------------------------------|
| Frequency Range                 | F         | 16~40   |       |         | MHz    | Test condition<br>Ambient temperature: 25 ± 5°C<br>Relative humidity: 40% ~ 70% |
| Standard Frequency              | F(ST)     | 24, 25  |       |         | MHz    |                                                                                 |
| Modulation Carrier Frequency    | Mf        | 20      | -     | 52      | kHz    |                                                                                 |
| Supply Voltage                  | Vdd       | 1.8V    | 2.5V  | 3.3V    | V      |                                                                                 |
| Current Consumption             | Icc       | 1.5/4   | 2.5/5 | 2.5/6   | mA     |                                                                                 |
| Transition Time:                | Rise Time | Tr/Tf   | 5     | 5       | 5      |                                                                                 |
|                                 | Fall Time |         | 5     | 5       | 5      |                                                                                 |
| Stand by Current                | Icc(ST)   | -       | -     | 1.2     | mA     |                                                                                 |
| Output Load (CMOS)              | CL        | 15      |       |         | pF     |                                                                                 |
| Output Level                    | VoH       | 90% Vdd | -     | -       | V      |                                                                                 |
|                                 | VoL       | -       | -     | 10% Vdd | V      |                                                                                 |
| Tri-State Mode (Input to Pin 1) | VIH       | 70% Vdd | -     | -       | V      |                                                                                 |
|                                 | VIL       | -       | -     | 30% Vdd | V      |                                                                                 |
| Duty Cycle                      | TH/T      | 45      | ~     | 55      | %      |                                                                                 |
| Start-up Time                   | Tosc      | -       | -     | 5       | mSec   |                                                                                 |
| Aging                           | ppm/yr    | ±3      |       |         | ppm/yr |                                                                                 |

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

### SPREAD TABLE

| Spread Type   |         |         |         |         |
|---------------|---------|---------|---------|---------|
| Down Spread   | -2.00%  | -1.50%  | -1.00%  | -0.80%  |
| Center Spread | ± 1.00% | ± 0.75% | ± 0.50% | ± 0.40% |

### DIMENSION(mm)



### Solder Pad Layout(mm)

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 |
|------------|-----|------|------|
| @-20~70°C  |     | ○    | ○    |
| @-40~85°C  |     | ○    | ○    |
| @-40~105°C |     | ×    | ○    |
| @-40~125°C |     | ×    | △    |

○: Available    : Conditional    ×: Not available  
 Inclusive of calibration @25°C, operating temperature range, input voltage variation, load variation, aging (1st year), shock, and vibration.