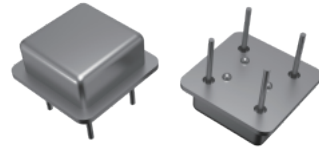


## Crystal Oscillator, Series FCO-HL

Crystal Oscillator 12.46×12.46 DIP HALF Size

### FEATURE

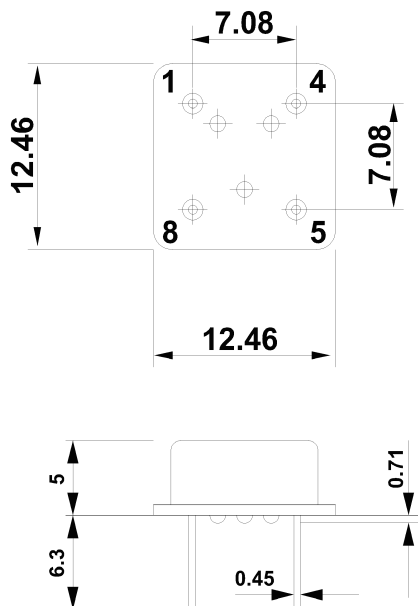
- Typical 12.46×12.46×5mm
- Tight symmetry (45 to 55%) available
- Operation voltage:5V, 3.3V
- Tri-state enable / disable



### ELECTRICAL SPECIFICATIONS

| Item                     | Specifications              |      |            |         | Unit |
|--------------------------|-----------------------------|------|------------|---------|------|
|                          | 3.3V                        |      | 5.0V       |         |      |
| Parameter                | Min.                        | Max. | Min.       | Max.    |      |
| Fan out Type             | CMOS                        |      | TTL/CMOS   |         |      |
| Supply Voltage Variation | 3                           | 3.6  | 4.5        | 5.5     | V    |
| Frequency Range          | 0.25                        | 180  | 0.25       | 180     | MHz  |
| Frequency Stability      | ±25, ±50, ±100              |      |            |         | PPM  |
| Operating Temperature    | 0~70, -20~70, -40~85        |      |            |         | °C   |
| Supply Current           | 0.25MHz ≒ FO<20MHz          |      | -          | 15      | mA   |
|                          | 20MHz ≒ FO<50MHz            |      | -          | 40      | mA   |
|                          | 50MHz ≒ FO<180MHz           |      | -          | 50      | mA   |
| Duty Cycle               | 45                          | 55   | 45         | 55      | %    |
| Transition Time :        | 0.25MHz ≒ FO<20MHz          |      | -          | 8       | nSec |
|                          | 20MHz ≒ FO<50MHz            |      | -          | 5       |      |
|                          | 50MHz ≒ FO<180MHz           |      | -          | 4       |      |
| Input Voltage            | Vol (Max)                   |      | -          | 0.4/0.5 | V    |
|                          | 2.4V/4.5V                   |      | 2.4/2.5    | -       |      |
| Driving Ability          | CMOS load max               |      | 15         |         | pF   |
|                          | TTL load max                |      | 15/50      |         |      |
| Start Time               | 5ms max(15pF) / 10ms (50pF) |      |            |         | mSec |
|                          | 10TTL                       |      |            |         |      |
| E/D Function             | #1 OPEN                     |      | Pin#5 Open |         |      |
|                          | #1 >=2.2V                   |      | Pin#5 Open |         |      |
|                          | #1 <=0.8V                   |      | Pin#5 High |         |      |
| Aging(@25°C 1st year)    | ±3                          | ±5   | ±3         | ±5      | ppm  |
| Storage Temp. Range      | -55                         | 125  | -55        | 125     | °C   |

### DIMENSION (mm)



| Pin | Function     |
|-----|--------------|
| 1   | Tri-State/NC |
| 4   | GND          |
| 5   | Output       |
| 8   | Vdd          |