



# VCO (Voltage Controlled Oscillator) IM series



## Features

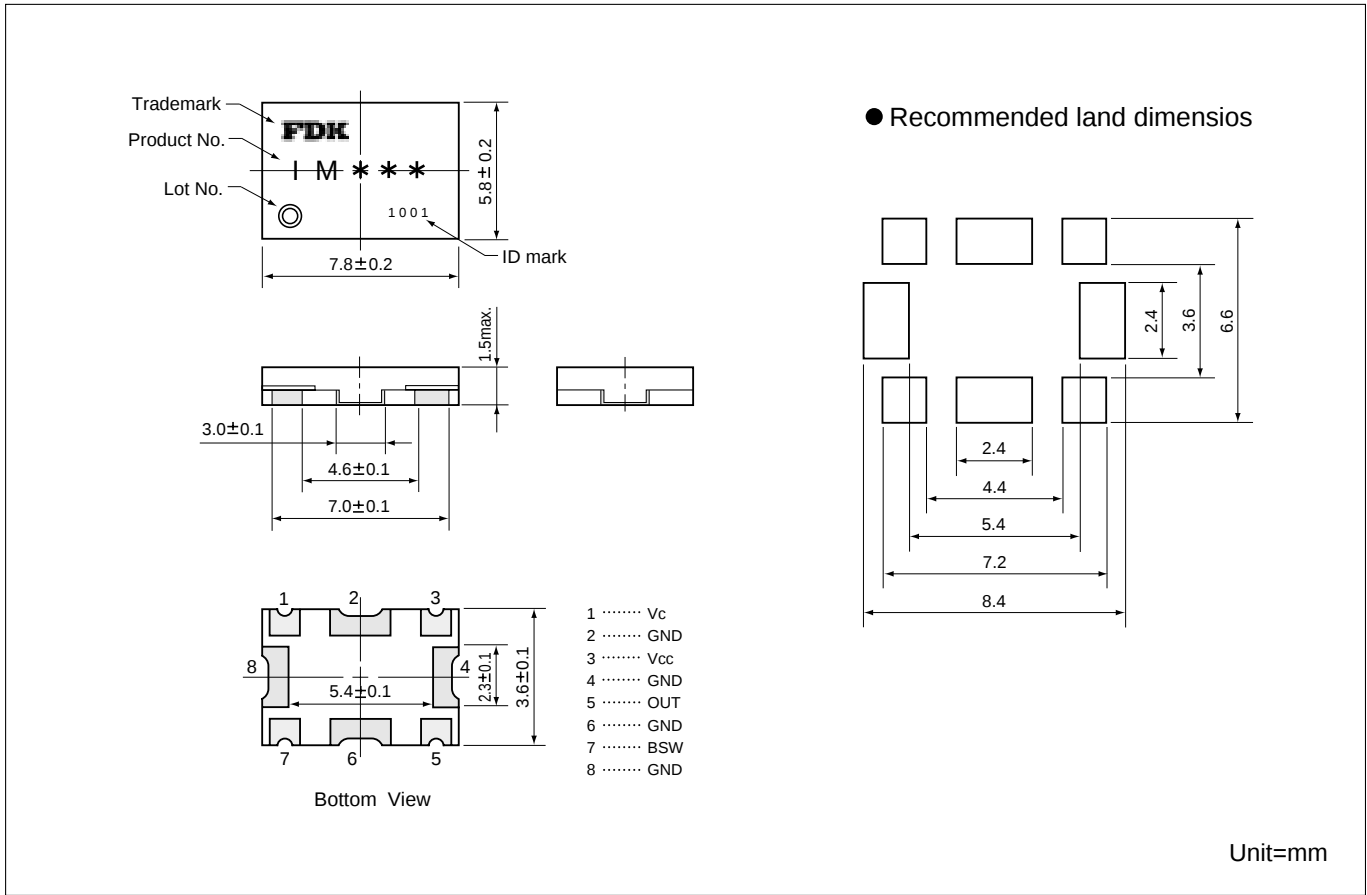
- Size : 7.8×5.8×1.7mm
- Low-cost strip line resonator
- Oscillation frequency : 700-4,000 MHz
- Oscillation frequency shift compatible
- Laser trimming for frequency precision
- For digital mobile phones & many others
- Surface-mount design

## Specifications

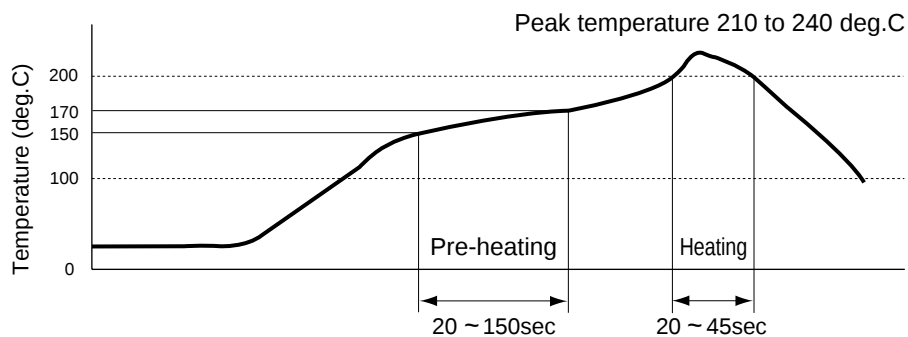
| Use     | Model No. | Osc. frequency (MHz)   | Supplied voltage (V) | Controlled vol. range (V) | Controlled vol. sensitivity (MHz / V) | Power consumption (mA max.) | Oscillation output (dBm min.) | C / N (dBc min.) |
|---------|-----------|------------------------|----------------------|---------------------------|---------------------------------------|-----------------------------|-------------------------------|------------------|
| GSM/DCS | IM * * *  | 1327.0±42<br>1482.5±37 | 2.9                  | 0.5~2.4                   | 70.0±10.0<br>65.0±10.0                | 10.0                        | - 7.0                         | 120(600kHz)/1Hz  |

For specification details, please contact us.

## Shapes and dimensions / Recommended land dimensions



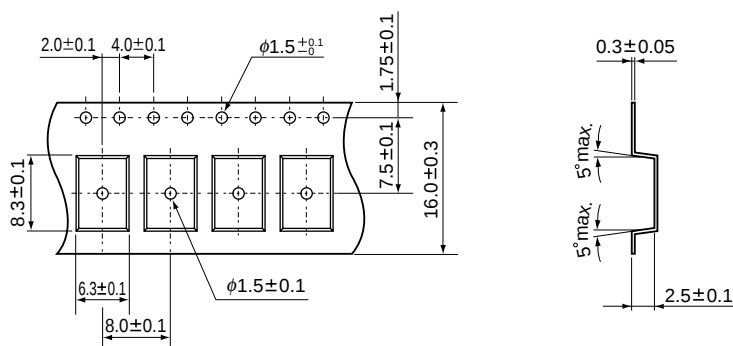
## Recommended reflow temperature profile



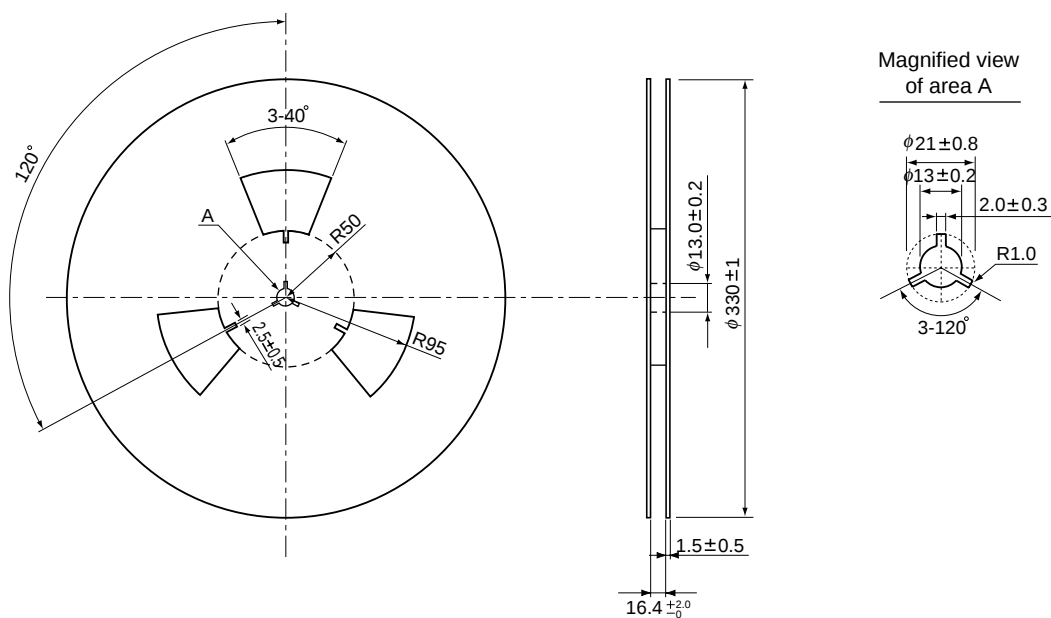
Caution : Do not apply vibrations to the VCO during reflow.

## Packaging (one reel containing 3,000 VCOs)

### • Embossed carrier tape dimensions



### • Reel dimensions



Unit = mm

## VCO (Voltage Controlled Oscillator) IN series



### Features

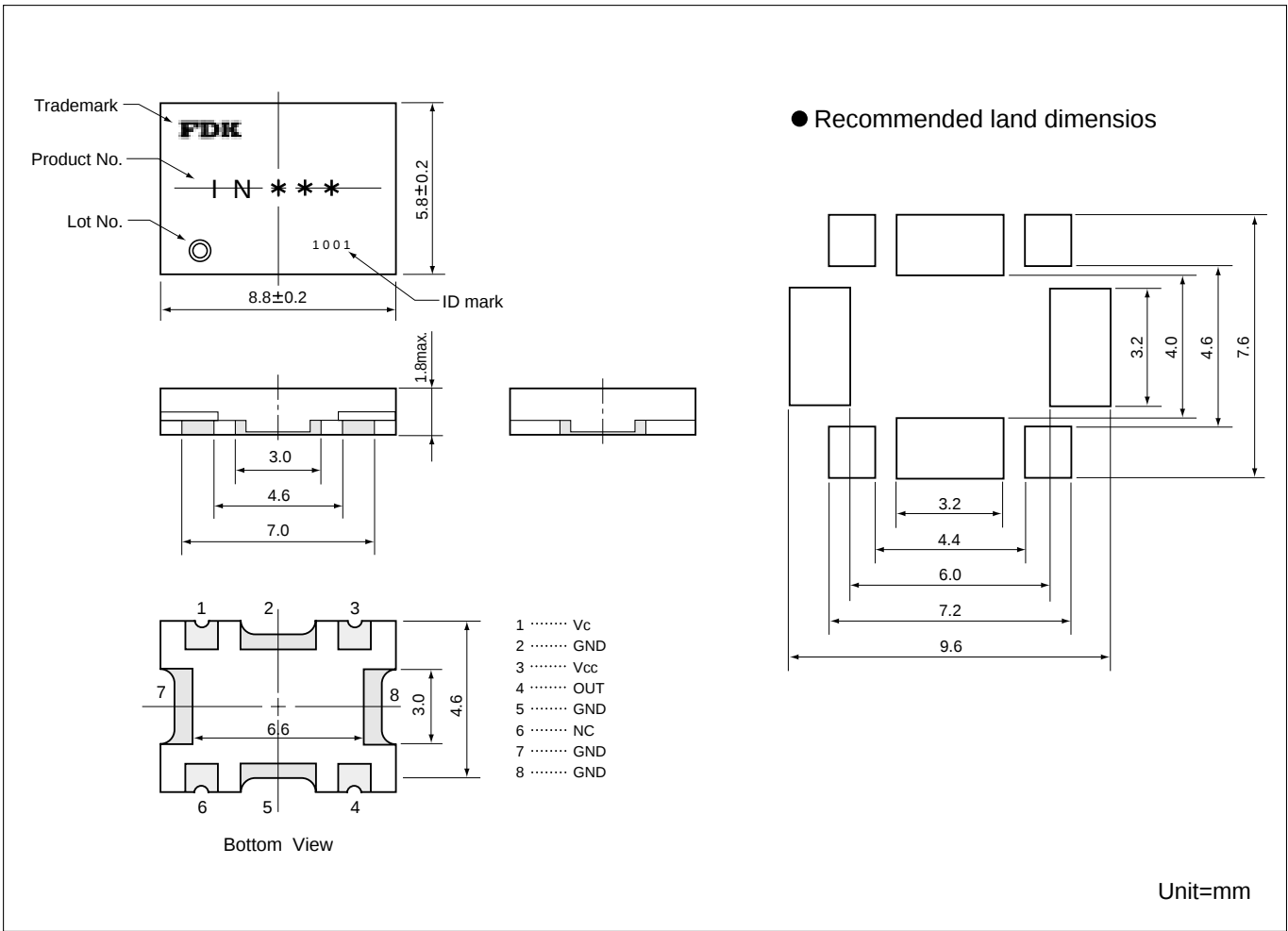
- Size : 8.8×6.8×1.7mm
- Low-cost strip line resonator
- Oscillation frequency : 700-4,000 MHz
- Laser trimming for frequency precision
- For digital mobile phones & many others
- Surface-mount design

### Specifications

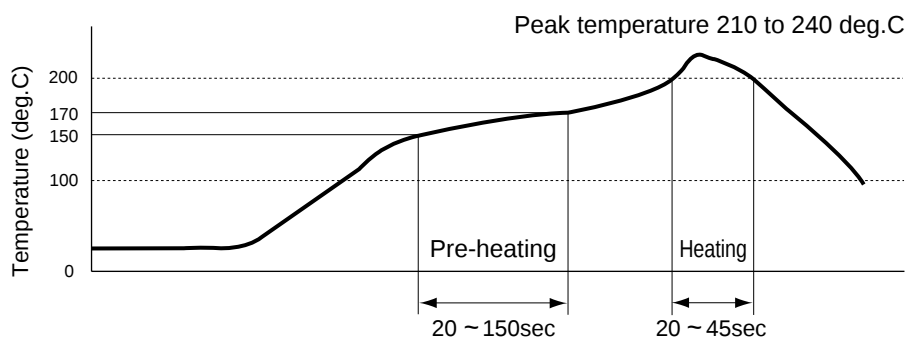
| Use | Model No. | Osc. frequency (MHz) | Supplied voltage (V) | Controlled vol. range (V) | Controlled vol. sensitivity (MHz / V) | Power consumption (mA max.) | Oscillation output (dBm min.) | C / N (dBc min.) |
|-----|-----------|----------------------|----------------------|---------------------------|---------------------------------------|-----------------------------|-------------------------------|------------------|
| PHS | IN * * *  | 1660.5±10            | 3.0                  | 0.5~2.5                   | 20.0±5.0                              | 8.0                         | - 6.0                         | 120(600kHz)/1Hz  |

For specification details, please contact us.

### Shapes and dimensions / Recommended land dimensions



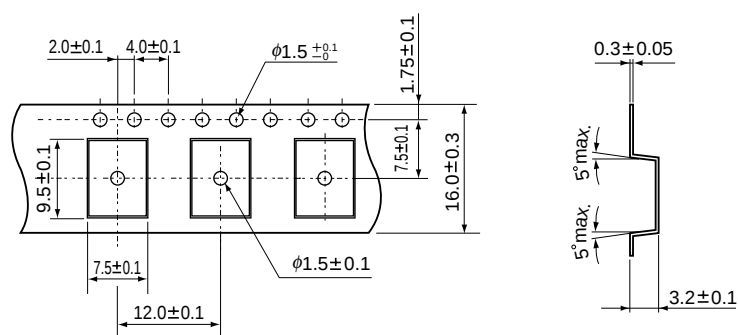
## Recommended reflow temperature profile



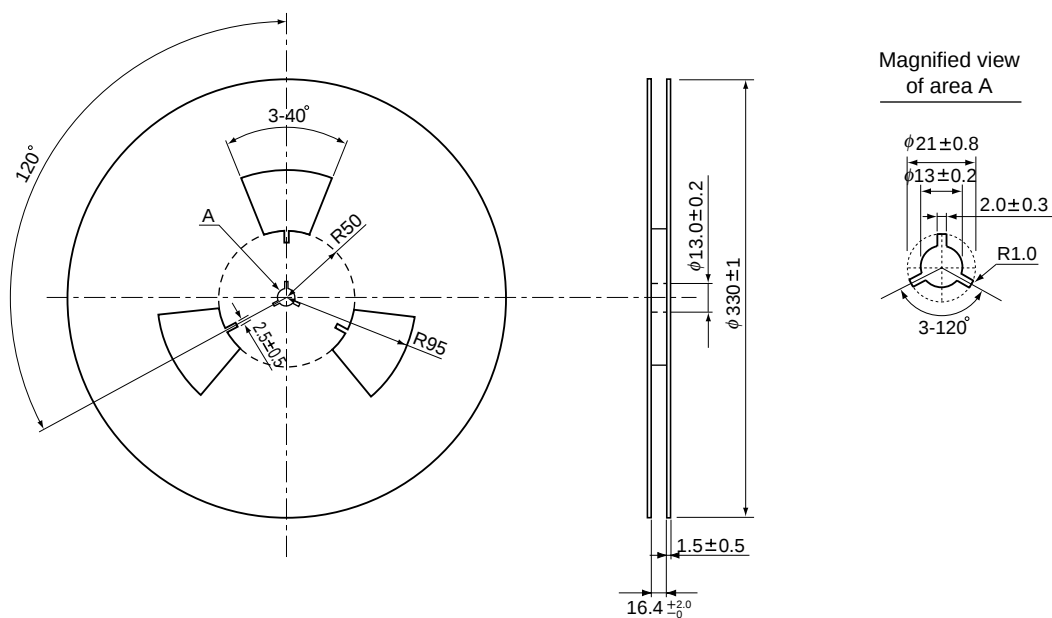
Caution : Do not apply vibrations to the VCO during reflow.

## Packaging (one reel containing 1,000 VCOs)

### • Embossed carrier tape dimensions



### • Reel dimensions



Unit = mm



# VCO (Voltage Controlled Oscillator) IP series



## Features

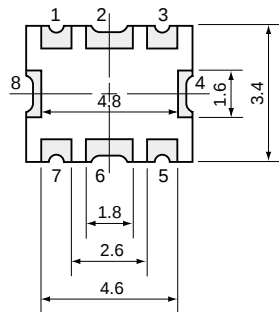
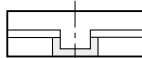
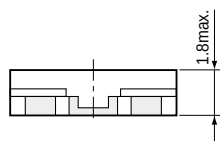
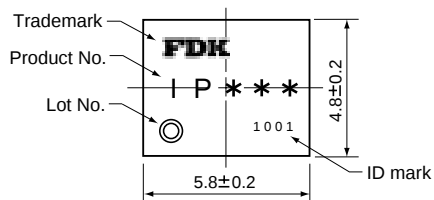
- Size : 5.8×4.8×1.7mm
- Low-cost strip line resonator
- Oscillation frequency : 800-2,500 MHz
- Laser trimming for frequency precision
- For digital mobile phones & many others
- Surface-mount design

## Specifications

| Use | Model No. | Osc. frequency (MHz) | Supplied voltage (V) | Controlled vol. range (V) | Controlled vol. sensitivity (MHz / V) | Power consumption (mA max.) | Oscillation output (dBm min.) | C / N (dBc min.) |
|-----|-----------|----------------------|----------------------|---------------------------|---------------------------------------|-----------------------------|-------------------------------|------------------|
| PHS | IP * * *  | 1656.0±27            | 3.0                  | 0.5~2.4                   | 44.0±8.0                              | 10.0                        | - 4.0                         | 123(600kHz)/1Hz  |

For specification details, please contact us.

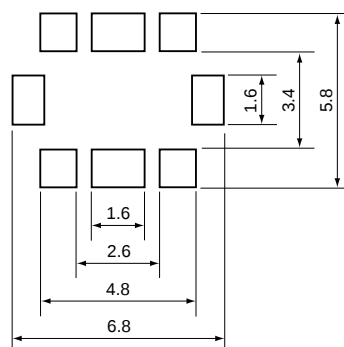
## Shapes and dimensions / Recommended land dimensions



Bottom View

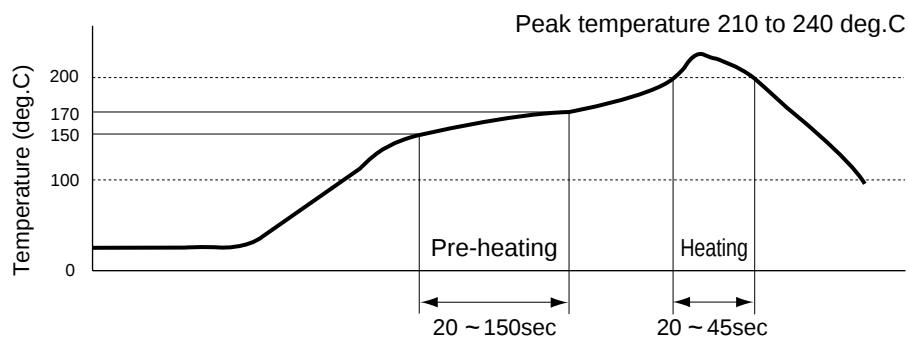
- 1 ..... Vc
- 2 ..... GND
- 3 ..... Vcc
- 4 ..... GND
- 5 ..... OUT
- 6 ..... GND
- 7 ..... GND
- 8 ..... GND

### ● Recommended land dimensions



Unit=mm

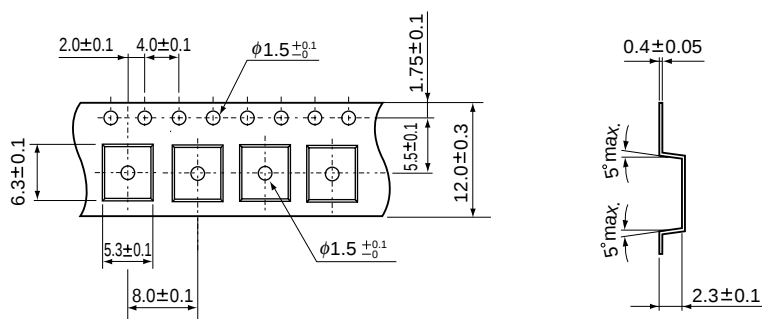
## Recommended reflow temperature profile



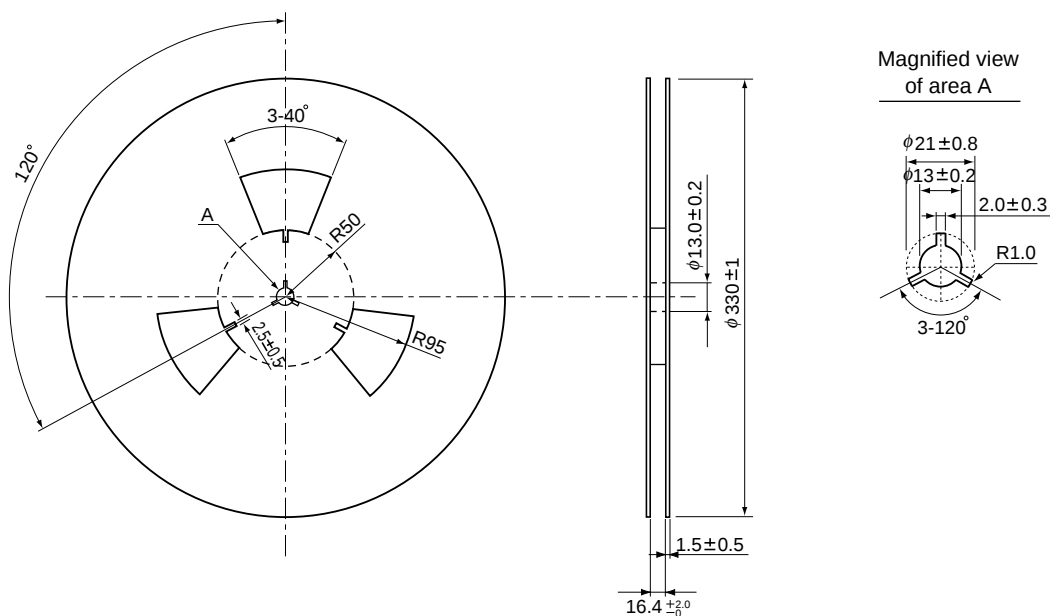
Caution : Do not apply vibrations to the VCO during reflow.

## Packaging (one reel containing 3,000 VCOs)

### • Embossed carrier tape dimensions



### • Reel dimensions



Unit = mm



# VCO (Voltage Controlled Oscillator) IR series



## Features

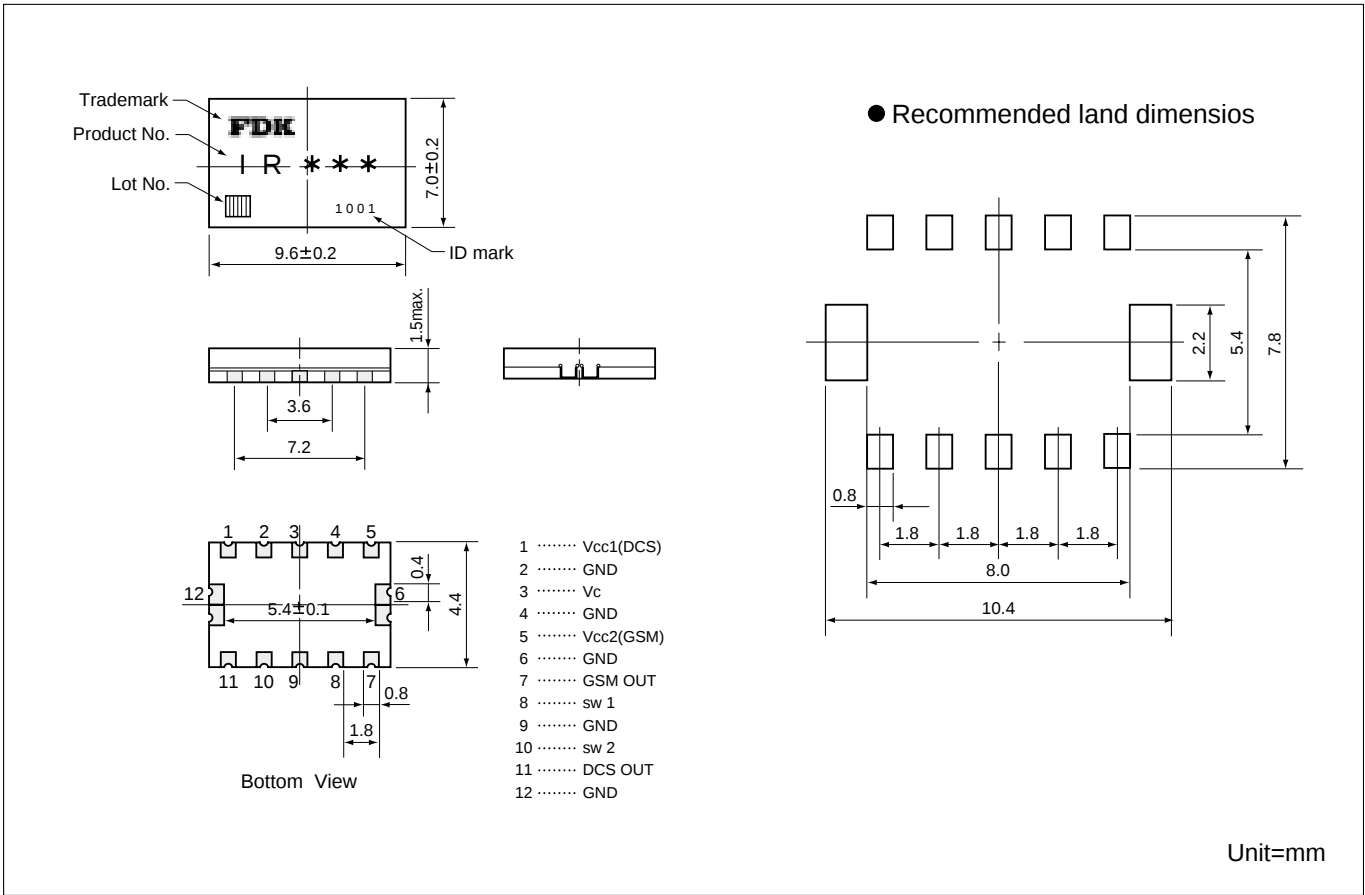
- Size : 9.8×7.0×1.7mm
- Low-cost strip line resonator
- Oscillation frequency : 800-2,000 MHz
- Dual VCO compatibility
- Laser trimming for frequency precision
- For digital mobile phones & many others
- Surface-mount design

## Specifications

| Use     | Model No. | Osc. frequency (MHz)      | Supplied voltage (V) | Controlled vol. range (V) | Controlled vol. sensitivity (MHz / V) | Power consumption (mA max.) | Oscillation output (dBm min.) | C / N (dBc min.)                       |
|---------|-----------|---------------------------|----------------------|---------------------------|---------------------------------------|-----------------------------|-------------------------------|----------------------------------------|
| GSM/DCS | IR * * *  | 897.5±17.5<br>1747.5±37.5 | 2.85                 | 0.5~2.2                   | 33.0±5.0<br>69.0±13.0                 | 20.0<br>27.0                | + 5.0<br>+ 5.0                | 164(20000kHz)/1Hz<br>158(20000kHz)/1Hz |

For specification details, please contact us.

## Shapes and dimensions / Recommended land dimensions



Peak temperature 210 to 240 deg.C

Temperature (deg.C)

200

170

150

100

0

Pre-heating

20 ~ 150sec

Heating

20 ~ 45sec

Caution : Do not apply vibrations to the VCO during reflow.

[illegible]



# VCO (Voltage Controlled Oscillator) IT series



## Features

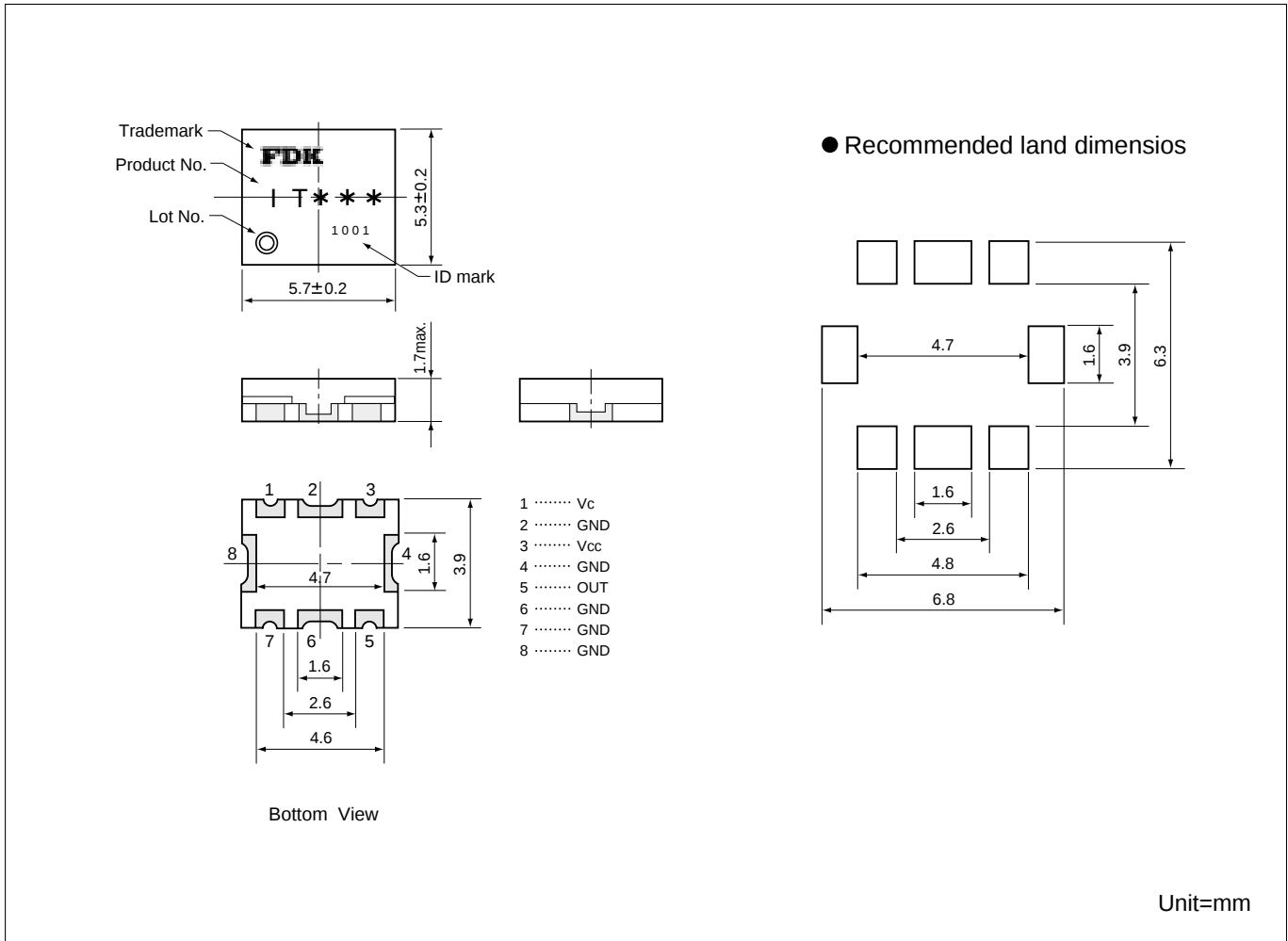
- Size : 5.7×5.3×1.7mm
- Low-cost strip line resonator
- Oscillation frequency : 1,000-4,500 MHz
- Laser trimming for frequency precision
- For digital mobile phones & many others
- Surface-mount design

## Specifications

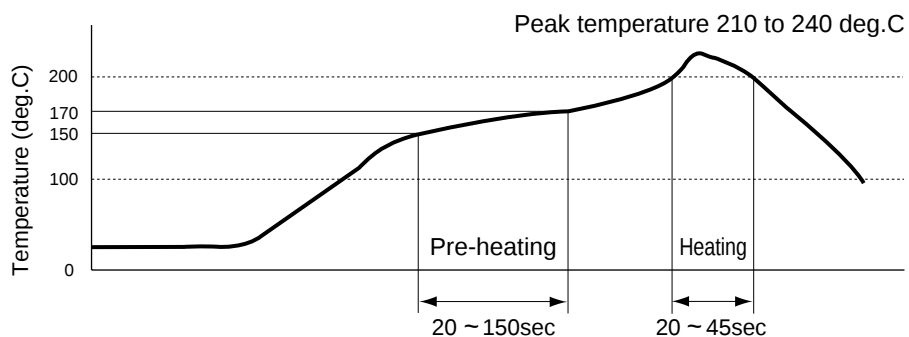
| Use     | Model No. | Osc. frequency (MHz) | Supplied voltage (V) | Controlled vol. range (V) | Controlled vol. sensitivity (MHz / V) | Power consumption (mA max.) | Oscillation output (dBm min.) | C / N (dBc min.) |
|---------|-----------|----------------------|----------------------|---------------------------|---------------------------------------|-----------------------------|-------------------------------|------------------|
| GSM/DCS | IT * * *  | 3780.0±200           | 2.75                 | 0.5~2.2                   | 290.0±40.0                            | 20.0                        | -4.0                          | 135(3000kHz)/1Hz |

For specification details, please contact us.

## Shapes and dimensions / Recommended land dimensions



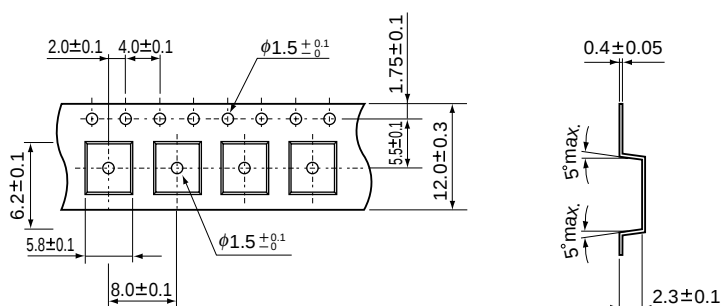
## Recommended reflow temperature profile



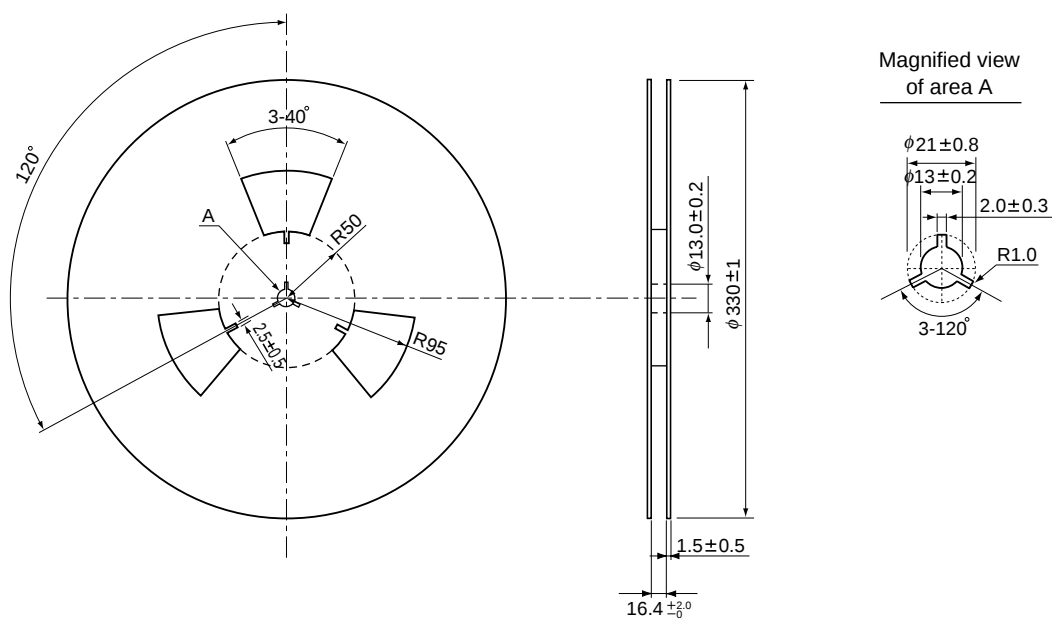
Caution : Do not apply vibrations to the VCO during reflow.

## Packaging (one reel containing 3,000 VCOs)

### • Embossed carrier tape dimensions



### • Reel dimensions



Unit = mm



# VCO (Voltage Controlled Oscillator) IU series



## Features

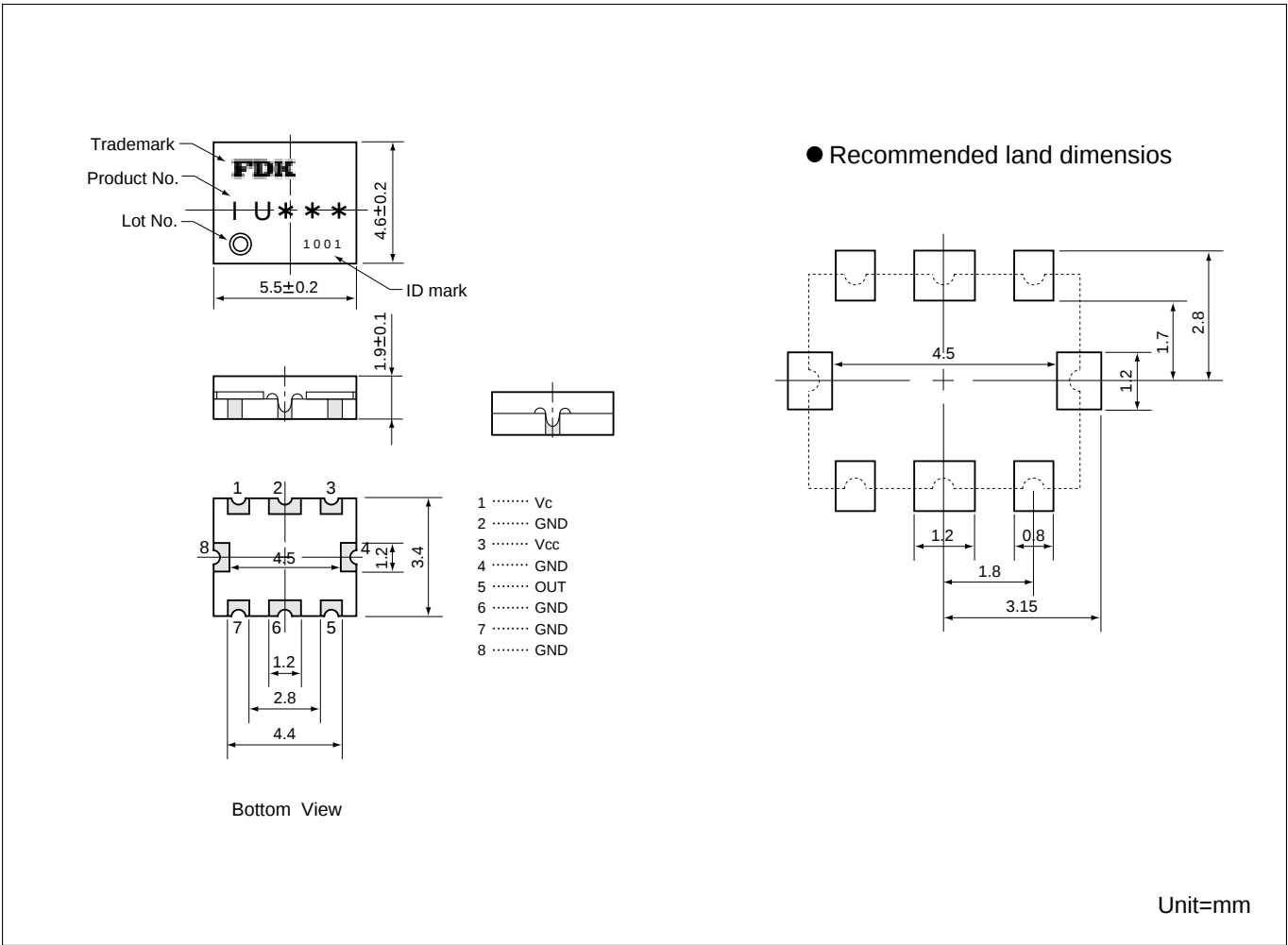
- Size : 5.5×4.8×1.9mm
- Low-cost strip line resonator
- Oscillation frequency : 900-2,500 MHz
- Laser trimming for frequency precision
- For digital mobile phones & many others
- Surface-mount design

## Specifications

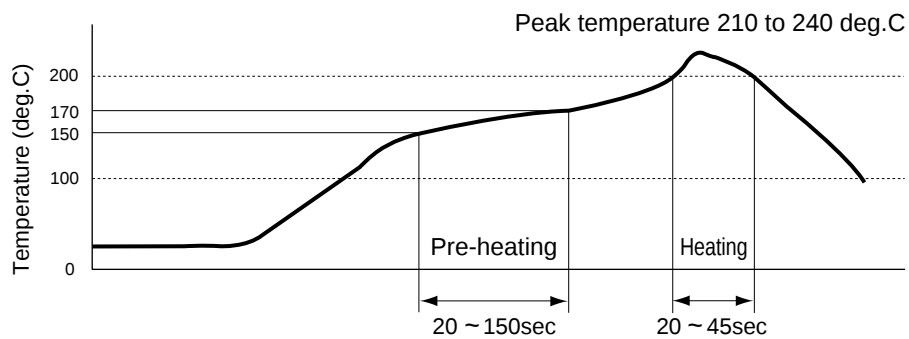
| Use  | Model No. | Osc. frequency (MHz) | Supplied voltage (V) | Controlled vol. range (V) | Controlled vol. sensitivity (MHz / V) | Power consumption (mA max.) | Oscillation output (dBm min.) | C / N (dBc min.) |
|------|-----------|----------------------|----------------------|---------------------------|---------------------------------------|-----------------------------|-------------------------------|------------------|
| CDMA | IU * * *  | 2140.0±35.0          | 2.85                 | 0.5~2.5                   | 53.0±10.0                             | 13.0                        | -3.0                          | 114(120kHz)/1Hz  |

For specification details, please contact us.

## Shapes and dimensions / Recommended land dimensions



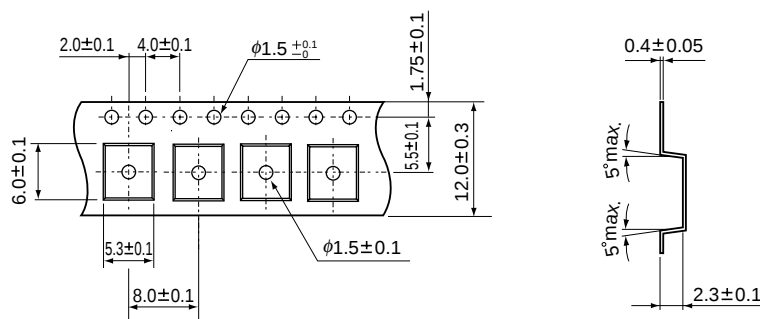
## Recommended reflow temperature profile



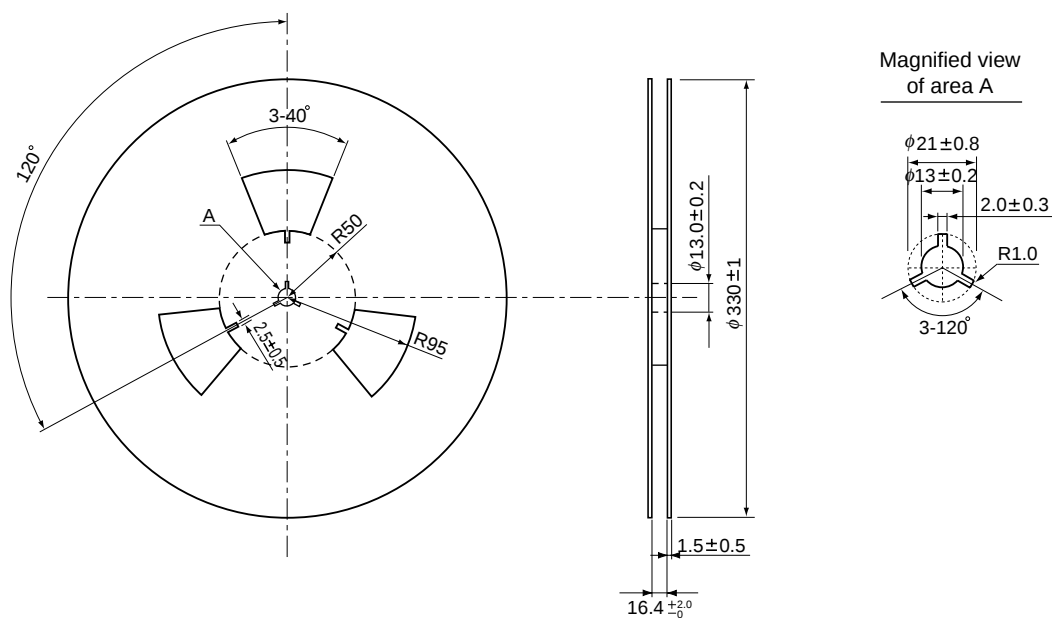
Caution : Do not apply vibrations to the VCO during reflow.

## Packaging (one reel containing 3,000 VCOs)

### • Embossed carrier tape dimensions



### • Reel dimensions



Unit = mm

**FDK**

# VCO (Voltage Controlled Oscillator) IQ series



## Features

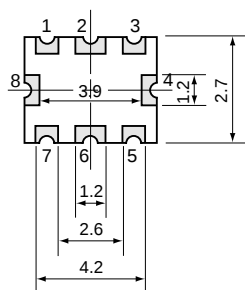
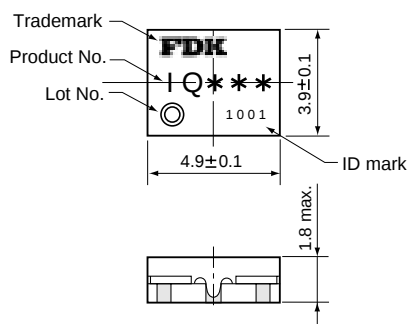
- Size : 4.9×3.9×1.8mm
- Low-cost strip line resonator
- Oscillation frequency : 900-2,700 MHz
- Laser trimming for frequency precision
- For digital mobile phones & many others
- Surface-mount design

## Specifications

| Use    | Model No. | Osc. frequency (MHz) | Supplied voltage (V) | Controlled vol. range (V) | Controlled vol. sensitivity (MHz / V) | Power consumption (mA max.) | Oscillation output (dBm min.) | C / N (dBc min.) |
|--------|-----------|----------------------|----------------------|---------------------------|---------------------------------------|-----------------------------|-------------------------------|------------------|
| W-CDMA | IQ * * *  | 2520.0±30.0          | 2.50                 | 0.5~2.0                   | 64.0±8.0                              | 7.0                         | - 6.5                         | 129(5000kHz)/1Hz |

For specification details, please contact us.

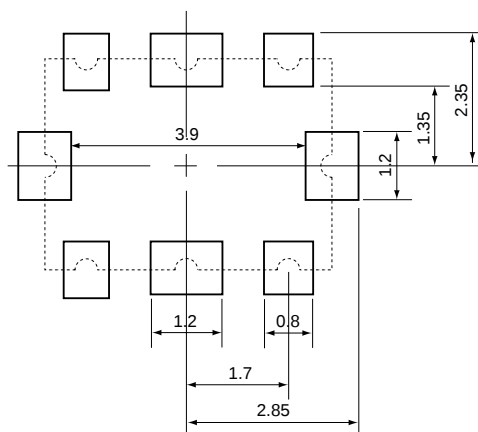
## Shapes and dimensions / Recommended land dimensions



Bottom View

- 1 ..... Vc
- 2 ..... GND
- 3 ..... Vcc
- 4 ..... GND
- 5 ..... OUT
- 6 ..... GND
- 7 ..... GND
- 8 ..... GND

### ● Recommended land dimensions



Unit=mm