



actual size

# Oscillator · VCXO · 5.0 V

SMD Voltage Control Crystal Oscillator · 7.5 x 5.0 mm

- two pinout versions available
- reflow soldering temperature: 260 °C max.
- ceramic/metal package



## General Data

|                                   |  |                                   |
|-----------------------------------|--|-----------------------------------|
| <b>type</b>                       | <b>JV75 5.0 V</b>                          |                                   |
| frequency range                   | 1.0 ~ 80.0 MHz                             |                                   |
| frequency stability over all*     | ± 25ppm* / ± 50ppm                         |                                   |
|                                   | see table 1                                |                                   |
| current consumption               | see table 2                                |                                   |
| supply voltage V <sub>DC</sub>    | 5.0 V ± 5%                                 |                                   |
| frequency pulling range min.      | ± 50ppm / ± 100ppm / ± 150ppm <sup>▲</sup> |                                   |
| pulling control voltage           | 2.5 V ± 2.0 V <sup>■</sup>                 |                                   |
| pulling linearity                 | <10%                                       |                                   |
| temperature                       | operating                                  | -10 °C ~ +70 °C / -40 °C ~ +85 °C |
|                                   | storage                                    | -55 °C ~ +125 °C                  |
| output                            | rise & fall time                           | see table 3                       |
|                                   | load max.                                  | 15pF                              |
|                                   | current max.                               | 8mA                               |
|                                   | low level max.                             | 0.1 x V <sub>DC</sub>             |
|                                   | high level min.                            | 0.9 x V <sub>DC</sub>             |
| standby function                  | yes  |                                   |
| start-up time max.                | 10ms                                       |                                   |
| symmetry at 0.5 x V <sub>DC</sub> | 45% ~ 55% max.                             |                                   |

Table 1: Frequency Stability Code

| stability code  | B        | C        |  |  |  |
|-----------------|----------|----------|--|--|--|
|                 | ± 50 ppm | ± 25 ppm |  |  |  |
| -10 °C ~ +70 °C | ○        | ○        |  |  |  |
| -40 °C ~ +85 °C | ○        | ○        |  |  |  |

● standard ○ available

\* includes stability at 25 °C, operating temp. range, supply voltage change, shock and vibration, aging 1st year.

Table 2: Current Consumption max.

| Current at 15pF load: |       |
|-----------------------|-------|
| 1.0 ~ 17.9 MHz        | 20 mA |
| 18.0 ~ 35.9 MHz       | 30 mA |
| 36.0 ~ 51.9 MHz       | 40 mA |
| 52.0 ~ 80.0 MHz       | 50 mA |

Table 3: Rise & Fall Time max.

|         |                 |  |
|---------|-----------------|--|
| 5.0 ns: | 1.0 ~ 39.9 MHz  | <b>note:</b><br>- specific data on request<br>- rise time: 0.1 V <sub>DC</sub> ~ 0.9 V <sub>DC</sub><br>- fall time: 0.9 V <sub>DC</sub> ~ 0.1 V <sub>DC</sub> |
| 4.0 ns: | 40.0 ~ 80.0 MHz |  |

## Recommendation

To avoid phase noise or FM modulation in the output frequency spectrum, we recommend to feed the Vcontrol input pin by a low source impedance.

\* not available > 52.0 MHz ▲ on request, if < 52.0 MHz

## Dimensions

top view

side view

bottom view

pad layout

**standard pin connection B**

# 1: Vcontrol  
# 2: e/d  
# 3: ground  
# 4: output  
# 5: nc  
# 6: VDD

**optional pin connection A**

# 1: Vcontrol  
# 2: nc  
# 3: ground  
# 4: output  
# 5: e/d  
# 6: VDD

in mm

## Order Information

| 0          | frequency in MHz | type | frequency stability in ppm   | supply voltage in Volt | pulling range in ppm                            | pin version                  | option                                      |
|------------|------------------|------|------------------------------|------------------------|---|------------------------------|---|
| Oscillator | 1.0 ~ 80.0 MHz   | JV75 | C = ± 25 ppm<br>B = ± 50 ppm | 5.0 = 5.0 V            | 05 = ±50 ppm<br>10 = ±100 ppm<br>15 = ±150 ppm* | B = standard<br>A = optional | blank = -10°C ~ +70°C<br>T1 = -40°C ~ +85°C |

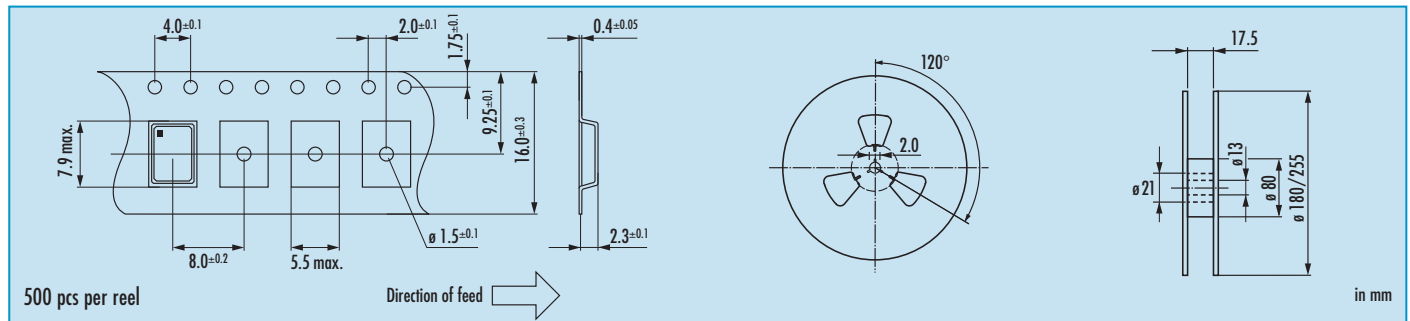
\* on request, if < 52.0 MHz

**Example: O 20.0-JV75-B-5.0-10-B** (LF = RoHS compliant / Pb free pins or pads)

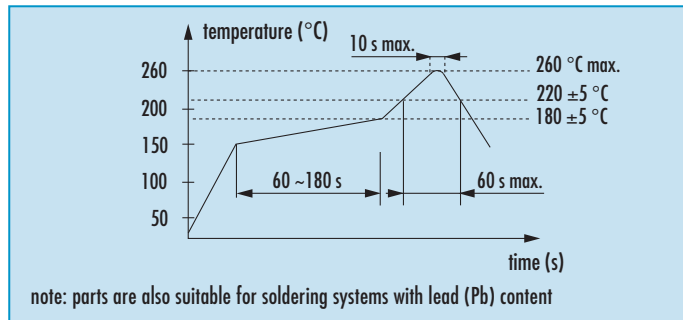


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## Taping Specification



## Reflow Soldering Profile



## Marking

frequency

type / date code

date code:

A ~ M: Jan. - Dec.

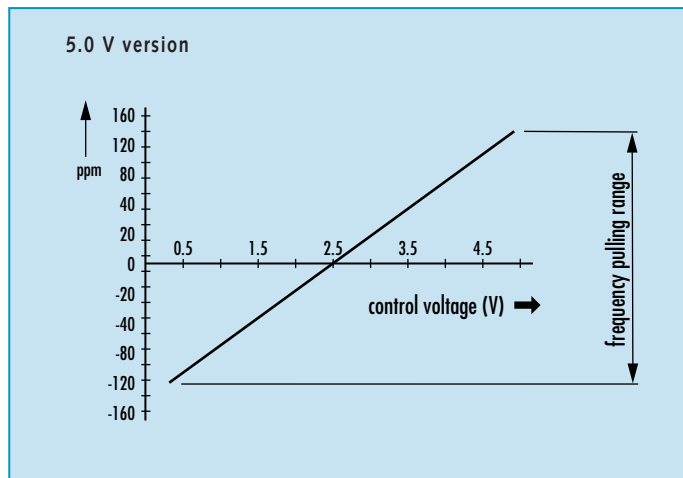
9: 2009

0: 2010

1: 2011

|      |       |       |      |      |      |
|------|-------|-------|------|------|------|
| Jan. | Febr. | Mar.  | Apr. | May  | June |
| A    | B     | C     | D    | E    | F    |
| July | Aug.  | Sept. | Oct. | Nov. | Dec. |
| G    | H     | J     | K    | L    | M    |

## Control Voltage Characteristic



## Packing Note

- standard packing units are 500 pieces per reel
- non-multiple packing units are only supplied taped / bulk

## Enable / Disable Function

|                  |                |
|------------------|----------------|
| <b>pin #2/#5</b> | <b>pin #4</b>  |
| open or high     | oscillation    |
| gnd or low       | high impedance |