



actual size

# Oscillator · PECL · JOE75 · 2.5 V

SMD Oscillator Low Voltage PECL · 7.5 x 5.2 mm

- drives fast PECL logic
- complementary output, low EMI
- reflow soldering temperature: 260 °C max.
- ceramic/metal package



## General Data

|                                    |                                                |                                      |
|------------------------------------|------------------------------------------------|--------------------------------------|
| <b>type</b>                        | <b>JOE75 2.5 V</b>                             |                                      |
| frequency range                    | 50.0 ~ 170.0 MHz                               |                                      |
| higher frequencies on request      | 170.0 – 270.0 MHz                              |                                      |
| frequency stability over all*      | ± 25 ppm / ± 50 ppm / ± 100 ppm<br>see table 1 |                                      |
| current consumption                | 88 mA max.                                     |                                      |
| supply voltage V <sub>DC</sub>     | 2.5 V ± 5%                                     |                                      |
| temperature                        | operating                                      | -10 °C ~ +70 °C / -40 °C ~ +85 °C    |
|                                    | storage                                        | -55 °C ~ +125 °C                     |
| output                             | rise & fall time                               | 1 ns (20% ~ 80% of V <sub>pp</sub> ) |
|                                    | load nom.                                      | 50 Ω at 0.5 V                        |
|                                    | low level max.                                 | 1.195 V                              |
|                                    | high level min.                                | 1.415 V                              |
| output enable time max.            | 10 ms                                          |                                      |
| output disable time max.           | 200 ns                                         |                                      |
| start-up time max.                 | 10 ms                                          |                                      |
| standby function                   | stop                                           |                                      |
| standby current max.               | 30 μA                                          |                                      |
| phase jitter 12 kHz ~ 20.0 MHz     | < 1.0 ps RMS                                   |                                      |
| period jitter                      | < 5.0 ps RMS                                   |                                      |
| symmetry at 50% of V <sub>pp</sub> | 45% ~ 55% max.                                 |                                      |

Table 1: Frequency Stability Code

| stability code  | A         | B        | C        |  |  |  |
|-----------------|-----------|----------|----------|--|--|--|
|                 | ± 100 ppm | ± 50 ppm | ± 25 ppm |  |  |  |
| -10 °C ~ +70 °C | ○         | ○        | ▲        |  |  |  |
| -40 °C ~ +85 °C | ○         | ○        |          |  |  |  |

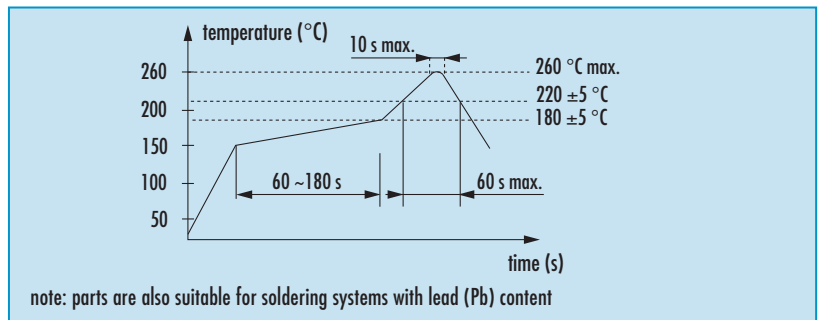
● standard ○ available ▲ excludes shock & vibration

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

## Enable / Disable Function

| pin #1 (e/d control)          | pin #4 / #5 (outputs) |  |
|-------------------------------|-----------------------|--|
| open or ≥ 0.7 V <sub>CC</sub> | enable                |  |
| gnd or ≤ 0.3 V <sub>CC</sub>  | high impedance        |  |

## Reflow Soldering Profile



## Dimensions

top view

side view

bottom view

pad layout

**pin connection**

# 1: e/d  
# 2: nc  
# 3: ground  
# 4: output 1  
# 5: output 2  
# 6: V<sub>CC</sub>

in mm

## Order Information

0

frequency  
in MHz

—

type

—

frequency stability  
code

—

supply voltage  
in Volt

—

option

Oscillator

62.5 ~ 165.0 MHz

JOE75

see table 1

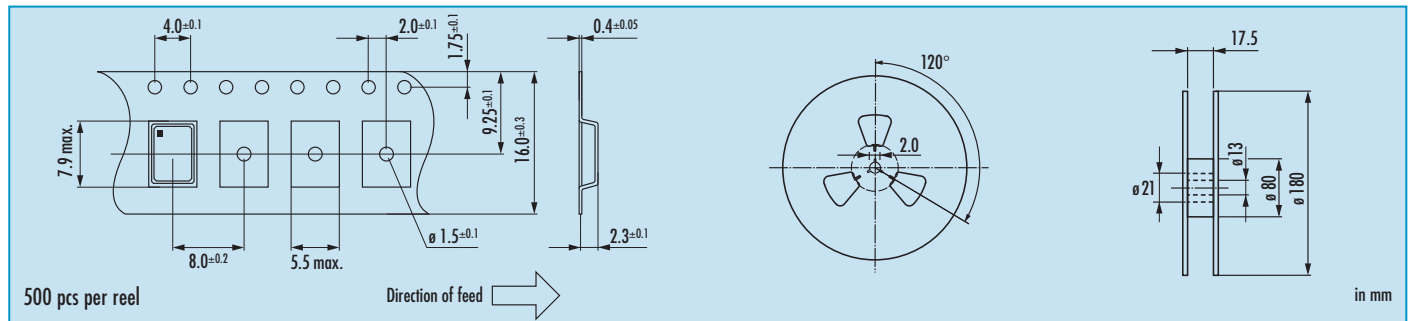
2.5 = 2.5 V

blank = -10 °C ~ +70 °C  
T1 = -40 °C ~ +85 °C on request

**Example:** O 155.520-JOE75-B-2.5-T1 (Suffix LF = RoHS compliant / Pb free pins or pads)

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## Taping Specification



## Packing Note

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

## Marking

type / frequency  
company code / 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    |