Oscillator JO32 · 2.5 V
- SMD Oscillator with Stop Function • 3.2 x 2.5 mm
- LVCMOS / HCMOS compatible output
- Low phase jitter, no PLL
- Seam sealed ceramic/metal package

**GENERAL DATA**

**JO32 2.5 V**

<table>
<thead>
<tr>
<th>TYPE</th>
<th>frequency range</th>
</tr>
</thead>
<tbody>
<tr>
<td>frequency</td>
<td></td>
</tr>
<tr>
<td>range</td>
<td></td>
</tr>
<tr>
<td>STD &amp; T1</td>
<td>0.75 ~ 50.0 MHz (30 pF max.)</td>
</tr>
<tr>
<td>T2</td>
<td>0.75 ~ 170.0 MHz (15 pF max.)</td>
</tr>
<tr>
<td>T3*</td>
<td>1.25 ~ 135.0 MHz (15 pF max.)</td>
</tr>
</tbody>
</table>

**frequency stability over all**

± 20 ppm ~ ± 100 ppm (table 1)

**current consumption**

see table 2

**supply voltage V supply**

2.5 V ± 10 % (± 5 % for stab. C & D)

**temperature**

operating

-20 °C ~ +70 °C (STD)
-40 °C ~ +85 °C (T1)
-40 °C ~ +105 °C (T2)
-40 °C ~ +125 °C (T3*)

**storage**

-55 °C ~ +125 °C

**output rise & fall time**

see table 3

**load max.**

15 pF / 30 pF (≤ +85 °C and ≤ 50.0 MHz)

**current max.**

4 mA / 5 mA

**low level max.**

0.1 x V supply / 0.4 V for T2 & T3*

**high level min.**

0.9 x V supply / V supply - 0.4 V for T2 & T3*

**output enable time max.**

10 ms

**output disable time max.**

50 μs

**start-up time max.**

10 ms

**standby function**

stop

**standby current max.**

10 μA / 20 μA (for T2 & T3*)

**phase jitter 12 kHz ~ 20.0 MHz**

< 1.0 ps RMS

**symmetry at 0.5 x V supply**

45% ~ 55% typ. (40% ~ 60% max.)

**TABLE 1: FREQUENCY STABILITY CODE**

<table>
<thead>
<tr>
<th>stability code</th>
<th>A</th>
<th>B</th>
<th>G</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>± 100 ppm</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>△</td>
</tr>
<tr>
<td>± 50 ppm</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>□</td>
</tr>
<tr>
<td>± 30 ppm</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>□</td>
</tr>
<tr>
<td>± 25 ppm</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>□</td>
</tr>
<tr>
<td>± 20 ppm</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>□</td>
</tr>
</tbody>
</table>

available excludes aging △ if ≤ 50.0 MHz excludes aging

* ask if 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 15 pF load:

- 0.75 ~ 19.9 MHz 4 mA
- 20.00 ~ 39.9 MHz 7 mA
- 40.00 ~ 59.9 MHz 11 mA
- 60.00 ~ 79.9 MHz 14 mA
- 80.00 ~ 134.9 MHz 35 mA
- 135.00 ~ 170.0 MHz 45 mA

Current at 30 pF load:

- 0.75 ~ 19.9 MHz 6 mA
- 20.00 ~ 39.9 MHz 11 mA
- 40.00 ~ 50.0 MHz 14 mA
- 60.00 ~ 79.9 MHz 17 mA
- 80.00 ~ 134.9 MHz 38 mA
- 135.00 ~ 170.0 MHz 48 mA

**TABLE 3: RISE & FALL TIME MAX.**

at 15 pF

- 5 ns: 0.75 ~ 59.99 MHz
- 4 ns: 60.00 ~ 134.99 MHz
- 3 ns: 135.00 ~ 170.00 MHz

at 30 pF

- 8 ns: 0.75 ~ 50.00 MHz

note: rise time: 0.1 x V supply / 0.9 x V supply / fall time: 0.9 x V supply / 0.1 x V supply

specific data on request

**ORDER INFORMATION**

Example: O 20.0-JO32-B-2.5-1-T1-LF (Suffix LF = RoHS compliant / Pb free)

Jauch Quartz GmbH • e-mail: info@jauch.com • full data can be found under: www.jauch.com

All specifications are subject to change without notice
**Oscillator JO32 • 2.5 V • Stop Function**

### Taping Specification

- Standard packing unit is 500 pieces per reel
- Non-multiple packing units are only supplied taped / bulk

### Packaging Note

- Standard packing unit is 500 pieces per reel
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### Enable / Disable Function

<table>
<thead>
<tr>
<th>pin #1 (e/d control)</th>
<th>pin #3 (output)</th>
</tr>
</thead>
<tbody>
<tr>
<td>open</td>
<td>active</td>
</tr>
<tr>
<td>high &quot;1&quot; (V_{hi} ≥ 0.8 V_{oc})</td>
<td>active</td>
</tr>
<tr>
<td>low &quot;0&quot; (V_{lo} ≤ 0.2 V_{oc})</td>
<td>high impedance</td>
</tr>
</tbody>
</table>

#### Stop Function
- Oscillator stops
- Output high impedance

### Reflow Soldering Profile

- Temperature (°C): 50, 100, 150, 200, 260
- Time (s): 60, 180, 60 max.
- 260 °C max.
- 220 ±5 °C
- 180 ±5 °C

### Marking

**Frequency company stability code / data code**


<table>
<thead>
<tr>
<th>Year</th>
<th>Code</th>
<th>Code</th>
<th>Code</th>
<th>Code</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:</td>
<td>A</td>
<td>B</td>
<td>C</td>
<td>D</td>
<td>E</td>
</tr>
<tr>
<td>8:</td>
<td>F</td>
<td>G</td>
<td>H</td>
<td>I</td>
<td>J</td>
</tr>
<tr>
<td>9:</td>
<td>K</td>
<td>L</td>
<td>M</td>
<td>N</td>
<td>O</td>
</tr>
<tr>
<td>0:</td>
<td>P</td>
<td>Q</td>
<td>R</td>
<td>S</td>
<td>T</td>
</tr>
<tr>
<td>1:</td>
<td>U</td>
<td>V</td>
<td>W</td>
<td>X</td>
<td>Y</td>
</tr>
<tr>
<td>2:</td>
<td>Z</td>
<td>AA</td>
<td>AB</td>
<td>AC</td>
<td>AD</td>
</tr>
</tbody>
</table>

#### Temperature (°C)

- 260 °C max.
- 220 ±5 °C
- 180 ±5 °C
- 60 ~ 180 s

#### Time (s)

- 60 s max.
- 60 s max.

### Note: Parts are also suitable for soldering systems with lead (Pb) content

Jauch Quartz GmbH • e-mail: info@jauch.com • Full data can be found under: www.jauch.com

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