



actual size

# Oscillator · JO53 · 1.8 V

SMD Oscillator with Stop Function · 5.0 x 3.2 mm

- reflow soldering temperature: 260 °C max.
- ceramic/metal package



## General Data

| type                           | JO53 1.8V                                                                                                                                        |
|--------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| frequency range                | 0.50 ~ 40.0 MHz (15pF max.)<br>0.50 ~ 40.0 MHz (30pF max.)                                                                                       |
| frequency stability over all*  | ± 20 ppm ~ ± 100 ppm (table 1)                                                                                                                   |
| current consumption            | see table 2                                                                                                                                      |
| supply voltage $V_{DC}$        | 1.8V ± 5%                                                                                                                                        |
| temperature                    | operating: -10 °C ~ +70 °C / -40 °C ~ +85 °C<br>storage: -55 °C ~ +125 °C                                                                        |
| output                         | rise & fall time: see table 3<br>load max: 15pF / 30pF<br>current max.: 2mA<br>low level max.: 0.1 x $V_{DC}$<br>high level min.: 0.9 x $V_{DC}$ |
| output enable time max.        | 10ms                                                                                                                                             |
| output disable time max.       | 250ns                                                                                                                                            |
| start-up time max.             | 10ms                                                                                                                                             |
| standby function               | stop                                                                                                                                             |
| standby current max.           | 5µA                                                                                                                                              |
| phase jitter 12 kHz ~ 20.0 MHz | < 1.0ps RMS                                                                                                                                      |
| symmetry at 0.5 x $V_{DC}$     | 45% ~ 55% typ. (40% ~ 60% max.)                                                                                                                  |

Table 1: Frequency Stability Code

| stability code                          | A         | B        | G        | C        | D        |
|-----------------------------------------|-----------|----------|----------|----------|----------|
|                                         | ± 100 ppm | ± 50 ppm | ± 30 ppm | ± 25 ppm | ± 20 ppm |
| -10 °C ~ +70 °C                         |           | ○        | ○        | ○        | △        |
| -40 °C ~ +85 °C                         | ○         | ○        | ○        | ○        |          |
| ● standard ○ available △ excludes aging |           |          |          |          |          |

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

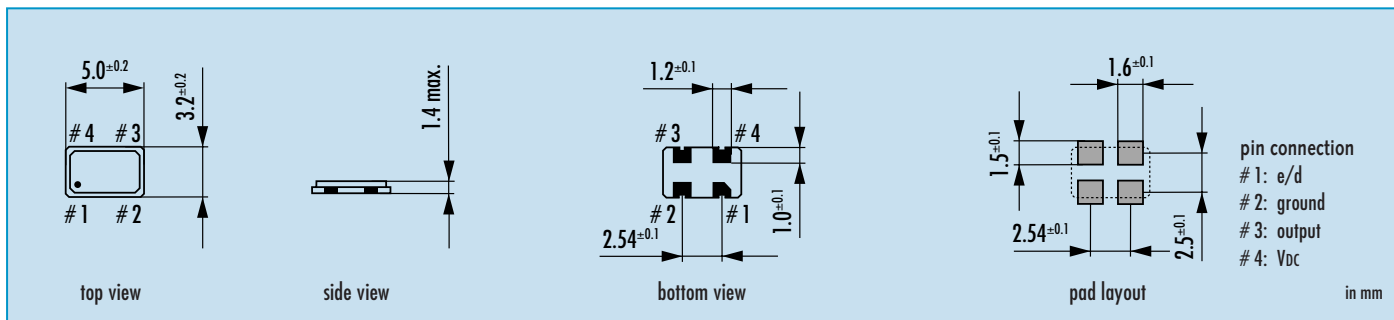
Table 2: Current Consumption max.

| Current at 15pF load |      | Current at 30pF load |      |
|----------------------|------|----------------------|------|
| 0.5 ~ 29.9 MHz       | 2 mA | 0.5 ~ 29.9 MHz       | 4 mA |
| 30.0 ~ 40.0 MHz      | 3 mA | 30.0 ~ 40.0 MHz      | 5 mA |

Table 3: Rise & Fall Time max.

|                                               |                                                                                                                                    |
|-----------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|
| 8 ns: 0.5 ~ 1.79 MHz<br>7 ns: 1.8 ~ 40.00 MHz | <b>note:</b><br>- specific data on request<br>- rise time: 0.1 $V_{DC}$ ~ 0.9 $V_{DC}$<br>- fall time: 0.9 $V_{DC}$ ~ 0.1 $V_{DC}$ |
|-----------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|

## Dimensions



## Order Information

| 0          | frequency      | type | frequency stability code | supply voltage code | output load code       | option                                          |
|------------|----------------|------|--------------------------|---------------------|------------------------|-------------------------------------------------|
| Oscillator | 0.5 ~ 40.0 MHz | JO53 | see table 1              | 1.8 = 1.8 V         | 1 = 15 pF<br>2 = 30 pF | blank = -10 °C ~ +70 °C<br>T1 = -40 °C ~ +85 °C |

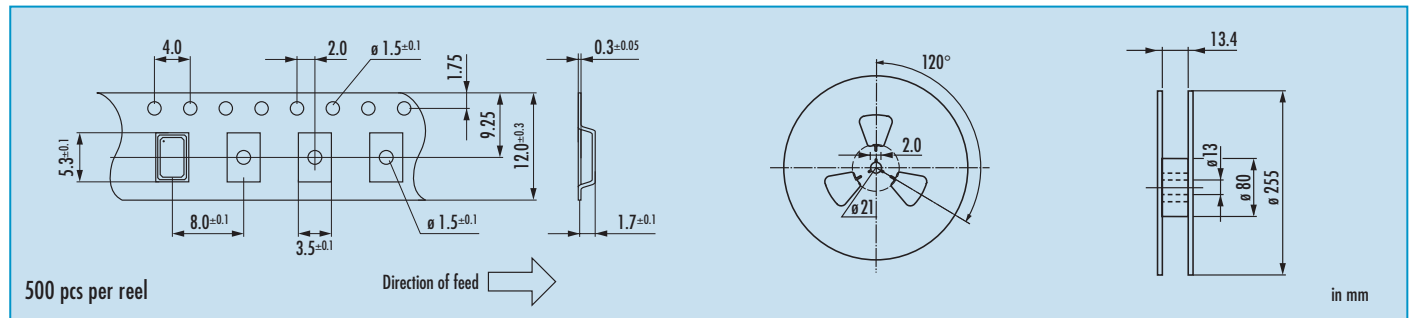
Example: O 20.0-JO53-B-1.8-2 (LF = RoHS compliant / Pb free pins or pads)



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 full data can be found under: www.jauch.de / www.jauch.fr / www.jauchusa.com  
 All specifications are subject to change without notice

# Oscillator · JO53 · 1.8 V · Stop Function

## Taping Specification



## Enable / Disable Function

| pin #1 (e/d control)                                                                                                    | pin #3 (output) |
|-------------------------------------------------------------------------------------------------------------------------|-----------------|
| open                                                                                                                    | active          |
| high "1" ( $V_{IH} \geq 0.8 V_{DC}$ )                                                                                   | active          |
| low "0" ( $V_{IL} \leq 0.2 V_{DC}$ )                                                                                    | high impedance  |
| <b>stop function:</b> <ul style="list-style-type: none"> <li>oscillator stops</li> <li>output high impedance</li> </ul> |                 |

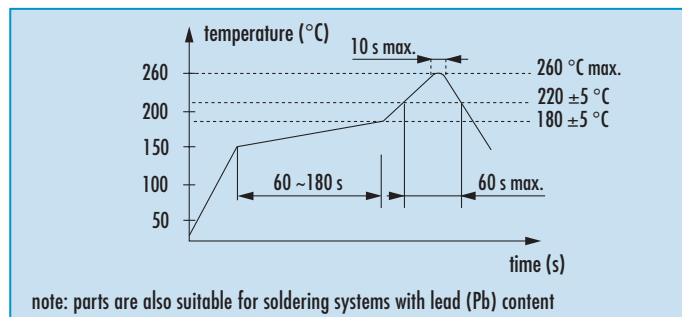
## Marking

frequency  
type / date code

date code:  
A ~ M: Jan.- Dec.  
5: 2005  
6: 2006  
7: 2007

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

## Reflow Soldering Profile



## Packing Note

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