



actual size

Programmed Oscillator · JPO53 · 3.3/2.5/1.8 V

Programmed SMD CMOS Oscillator · 5.0 x 3.2 mm

- fast delivery service
- tristate or stop function available
- reflow soldering temperature: 260 °C max.
- RoHS compliant, ceramic/metal package



General Data

| | | |
|---|---|--|
| type | JPO53 3.3 V / 2.5 V / 1.8 V | |
| frequency range | 3.0 ~ 200.0 MHz (3.3 V, 15 pF) | |
| | 3.0 ~ 130.0 MHz (2.5 V, 15 pF) | |
| | 3.0 ~ 100.0 MHz (1.8 V, 15 pF) | |
| | 3.0 ~ 50.0 MHz (3.3 V / 2.5 V / 1.8 V, 30 pF) | |
| frequency stability over all* | ± 25 ppm ~ ± 100 ppm (see table 1) | |
| current consumption | see table 2 | |
| supply voltage V_{DC} | 3.3 V / 2.5 V / 1.8 V ± 10% | |
| temperature | operating | -20 °C ~ +70 °C / -40 °C ~ +85 °C |
| | storage | -55 °C ~ +125 °C |
| output | rise & fall time | see table 3 |
| | load max. | 15 pF / 30 pF |
| | current max. | 8 mA (3.3 V) / 4 mA (2.5 V) / 2 mA (1.8 V) |
| | low level max. | 0.4 V |
| | high level min. | V _{DC} - 0.4 V |
| standby function | tristate (TRI) / stop (STP) | |
| output enable time max. | 100 ns (TRI) / 10 ms (STP) | |
| output disable time max. | 250 ns | |
| start-up time max. | 10 ms | |
| standby current max. | 10 µA (STP version only) | |
| symmetry at 0.5 x V_{DC} | 45% ~ 55% typ. (40% ~ 60% max.) | |

Table 1: Frequency Stability Code

| stability code | A | B | G | C |
|-----------------|-----------|----------|----------|----------|
| | ± 100 ppm | ± 50 ppm | ± 30 ppm | ± 25 ppm |
| -20 °C ~ +70 °C | ○ | ○ | ○ | ○ |
| -40 °C ~ +85 °C | ○ | ○ | ○ | ○ |
| ○ available | | | | |

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

Table 2: Current Consumption max.

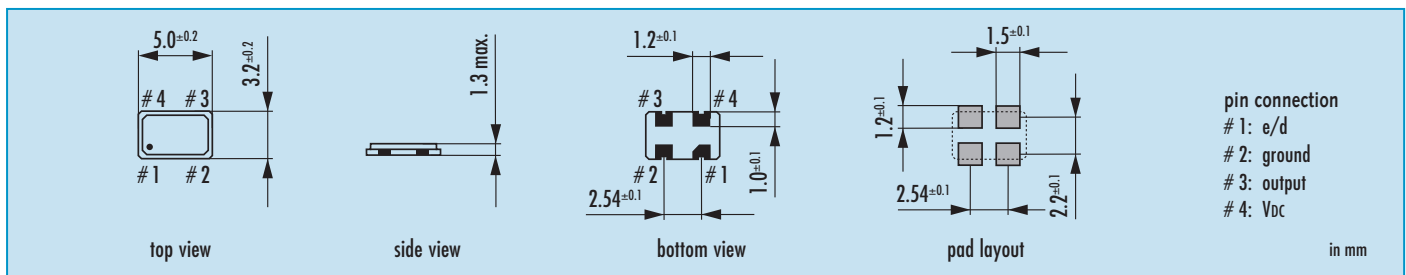
| frequency range | V _{DC} = 3.3 V | V _{DC} = 2.5 V | V _{DC} = 1.8 V | load |
|-------------------|-------------------------|-------------------------|-------------------------|-------|
| 3.0 ~ 50.0 MHz | 18 mA | 15 mA | 8 mA | 30 pF |
| 3.0 ~ 100.0 MHz | 17 mA | 12 mA | 8 mA | 15 pF |
| 100.0 ~ 130.0 MHz | 20 mA | 16 mA | — | 15 pF |
| 130.0 ~ 200.0 MHz | 25 mA | — | — | 15 pF |

* a ceramics capacitor of 100nF between pin #2 and pin #4 with short distance wiring is strongly recommended

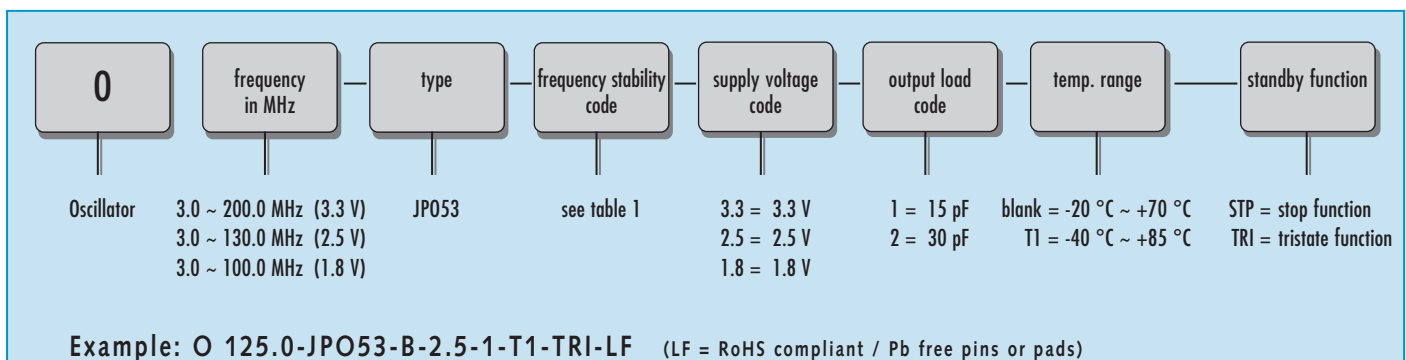
Table 3: Rise & fall time max.

| | | |
|-------|--|--|
| 6 ns: | 3.0 ~ 50.0 MHz at 30 pF / 1.8 V | note: - specific data on request - rise time: 0.1 V _{DC} ~ 0.9 V _{DC} - fall time: 0.9 V _{DC} ~ 0.1 V _{DC} |
| 5 ns: | 3.0 ~ 50.0 MHz at 30 pF / 3.3 V & 2.5 V | |
| 4 ns: | 3.0 ~ 100.0 MHz at 15 pF / 3.3 V & 2.5 V & 1.8 V | |
| 3 ns: | 100.0 ~ 130.0 MHz at 15 pF / 2.5 V & 3.3 V | |
| 2 ns: | 130.0 ~ 200.0 MHz at 15 pF / 3.3 V | |
| | | |

Dimensions

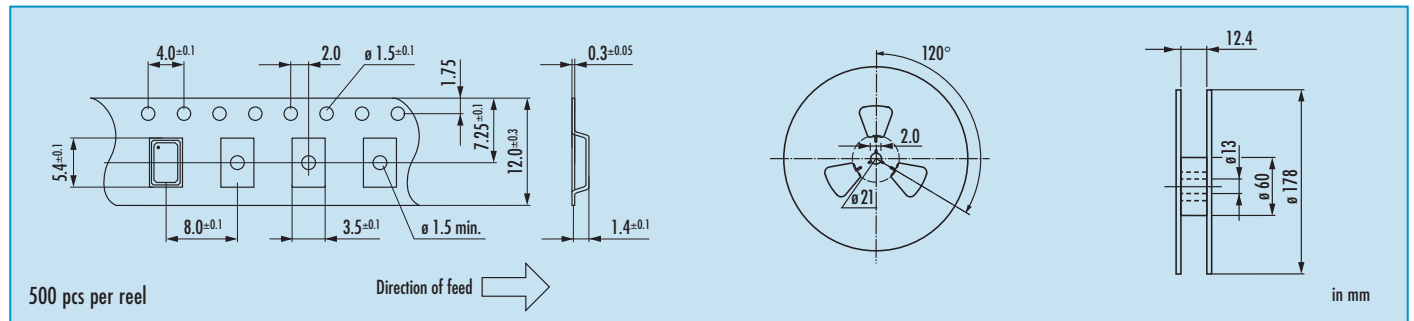


Order Information

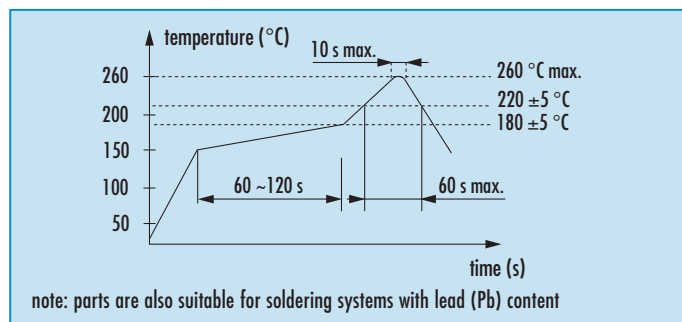


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Taping specification



Reflow Soldering Profile



Marking (optional)

JPO / year / month / internal code

date code:

A ~ M: Jan. - Dec.

1: 2011 4: 2014

2: 2012 5: 2015

3: 2013 6: 2016

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

Packing Note

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

Enable / Disable Function

| pin #1 (e/d control) | pin #3 (output) |
|--|-----------------|
| open | active |
| high "1" ($V_{IH} \geq 0.7 V_{DC}$) | active |
| low "0" ($V_{IL} \leq 0.3 V_{DC}$) | high impedance |
| tristate (TRI) function: | |
| • oscillator active | |
| • output high impedance (weak pull up) | |