



actual size

Oscillator · JO22 · 1.8 V

SMD Oscillator with Stop Function · 2.5 x 2.0 mm

- very low current consumption
- HCMOS/LVCMOS output
- reflow soldering temperature: 260 °C max.
- ultra flat ceramic / metal package



General Data

| | | |
|-----------------------------------|---------------------------------|--|
| type | JO22 1.8 V | |
| frequency range | 0.75 ~ 50.0 MHz | |
| frequency stability over all* | ± 25 ppm ~ ± 100 ppm | |
| | see table 1 | |
| current consumption | see table 2 | |
| supply voltage V _{DC} | 1.8 V ± 5% | |
| temperature | operating | -20 °C ~ +70 °C up to -40 °C ~ +105 °C |
| | storage | -55 °C ~ +105 °C |
| output | rise & fall time | see table 3 |
| | load max. | 15 pF |
| | current max. | 4 mA |
| | low level max. | 0.4 V |
| | high level min. | V _{DC} - 0.4 V |
| 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 | |
| phase jitter 12 kHz ~ 20.0 MHz | < 1.0 ps 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 | | |
|------------------|-----------|----------|----------|----------|--|--|
| | ± 100 ppm | ± 50 ppm | ± 30 ppm | ± 25 ppm | | |
| -20 °C ~ +70 °C | | ○ | ○ | △ | | |
| -40 °C ~ +85 °C | ○ | ○ | ○ | | | |
| -40 °C ~ +105 °C | ○ | ○ | | | | |

● standard ○ available △ excludes aging

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

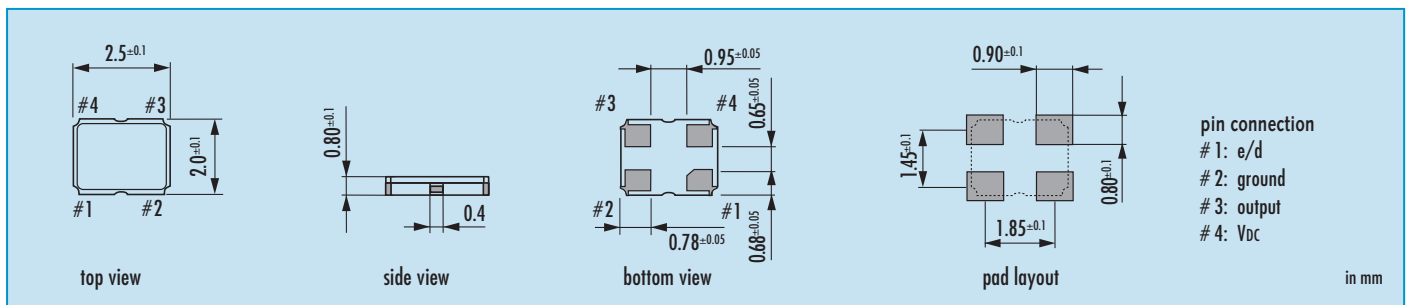
Table 2: Current Consumption max.

| | |
|------------------------------|------|
| 1.8 V: current at 15pF load: | |
| 0.75 ~ 19.9 MHz | 2 mA |
| 20.00 ~ 39.9 MHz | 3 mA |
| 40.00 ~ 50.0 MHz | 4 mA |

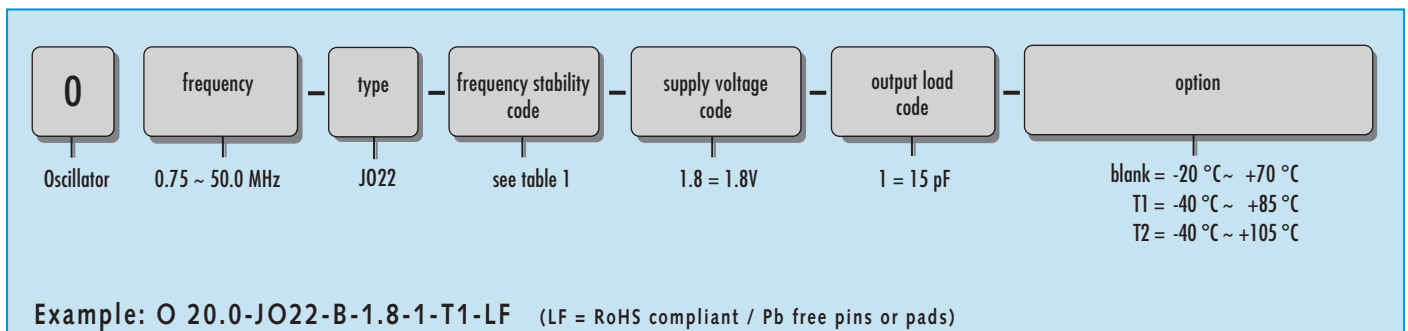
Table 3: Rise & Fall Time max.

| | |
|-----------------------|--|
| 6 ns: 0.75 ~ 50.0 MHz | 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} |
|-----------------------|--|

Dimensions

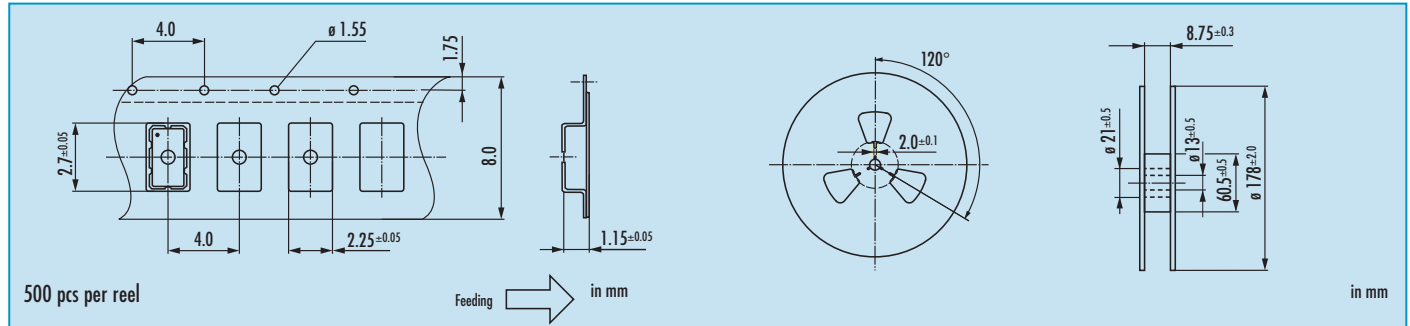


Order Information



Oscillator · JO22 · 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 |
| stop function: | |
| <ul style="list-style-type: none"> • oscillator stops • output high impedance | |

Marking

frequency
company code / frequency stability code / date code

date code:

A ~ M: Jan. - Dec.

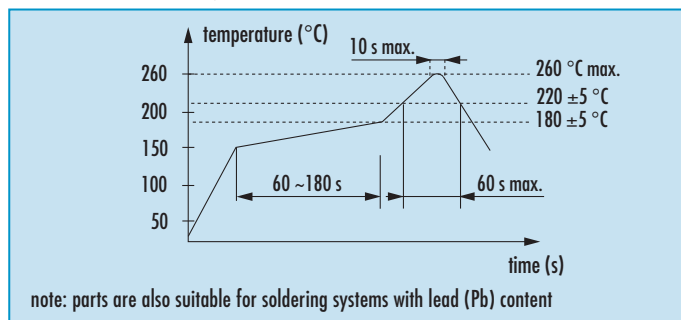
3: 2013 6: 2016

4: 2014 7: 2017

5: 2015 8: 2018

| | | | | | |
|------|-------|-------|------|------|------|
| 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

* hand soldering temperature should not exceed 280 °C