



actual size

Oscillator JOD22 · LVDS

- SMD Low Voltage LVDS Oscillator, 2.5 x 2.0 mm
- superior phase jitter (60fs RMS max. at 156.250 MHz)
- drives fast LVDS logic
- complementary output, low EMI
- compact & flat ceramic / metal package



RoHS compliant



Pb free



REACH compliant



Conflict mineral free

GENERAL DATA

| TYPE | | JOD22 1.8 V / 2.5 V / 3.3 V |
|------------------------------------|------------------|---|
| frequency range | | 100.0 ~ 160.0 MHz |
| frequency stability over all* | | ±50 ppm ~ ±100 ppm (see table 1) |
| current consumption | | 25 mA max. |
| supply voltage V _{DC} | | 1.8 V ±5 % / 2.5 V ±5 % / 3.3 V ±5 % |
| temperature | operating | -20 °C ~ +70 °C (T0) |
| | | -40 °C ~ +85 °C (T1) |
| | | -40 °C ~ +105 °C (T2 Δ) |
| | | -40 °C ~ +125 °C (T3 Δ) |
| | storage | -55 °C ~ +125 °C |
| output | rise & fall time | 0.5 ns max. (20 % ~ 80 % of V _{pp}) |
| | load nom. | 100 Ω differential |
| | swing min. | 0.35 V _{p-p} typ. / 0.25 V _{p-p} min. |
| | offset voltage | 1.25 V ± 0.125 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. | | 5 μA |
| phase jitter 12 kHz ~ 20.0 MHz | | see table 2 |
| symmetry at 50% of V _{pp} | | 45 % ~ 55 % max. |

Δ ask for availability of higher temperature ranges and frequency stabilities

TABLE 1: FREQUENCY STABILITY CODE

| stability code | | A | B | G | C |
|------------------|------|----------|---------|---------|---------|
| temp. code* | | ±100 ppm | ±50 ppm | ±30 ppm | ±25 ppm |
| -20 °C ~ +70 °C | T0 | ○ | ○ | Δ | Δ |
| -40 °C ~ +85 °C | T1 | ○ | ○ | Δ | |
| -40 °C ~ +105 °C | T2 Δ | Δ | Δ | | |
| -40 °C ~ +125 °C | T3 Δ | Δ | | | |

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

ENABLE / DISABLE FUNCTION

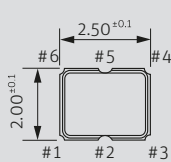
| pin #1 (e/d control) | pin #4 / #5 (outputs) |
|---|-----------------------------------|
| V _{ED} ≥ 0.7 V _{DC} (use external pull-up resistor) | active |
| gnd or ≤ 0.3 V _{CC} | high impedance, low stby. current |

TABLE 2: PHASE JITTER INFORMATION

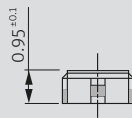
| at V _{DC} = 3.3 V | RMS phase jitter (offset 12 kHz ~ 20.0 MHz) | |
|----------------------------|---|--------------|
| typical frequencies | typical | maximum |
| 156.250 MHz | 40 fs RMS | < 60 fs RMS* |
| 125.0 MHz | 38 fs RMS | < 60 fs RMS* |
| 100.0 MHz | 35 fs RMS | < 60 fs RMS* |

* the suffix -SP is always added to the description of these very low noise oscillators (see order information)

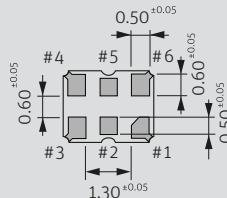
DIMENSIONS



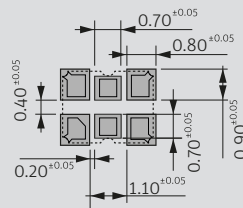
top view



side view



bottom view



pad layout

JOD22

- #1 e/d
- #2 not connected
- #3 GND
- #4 output 1
- #5 output 2
- #6 V_{DC}

pin connection

in mm

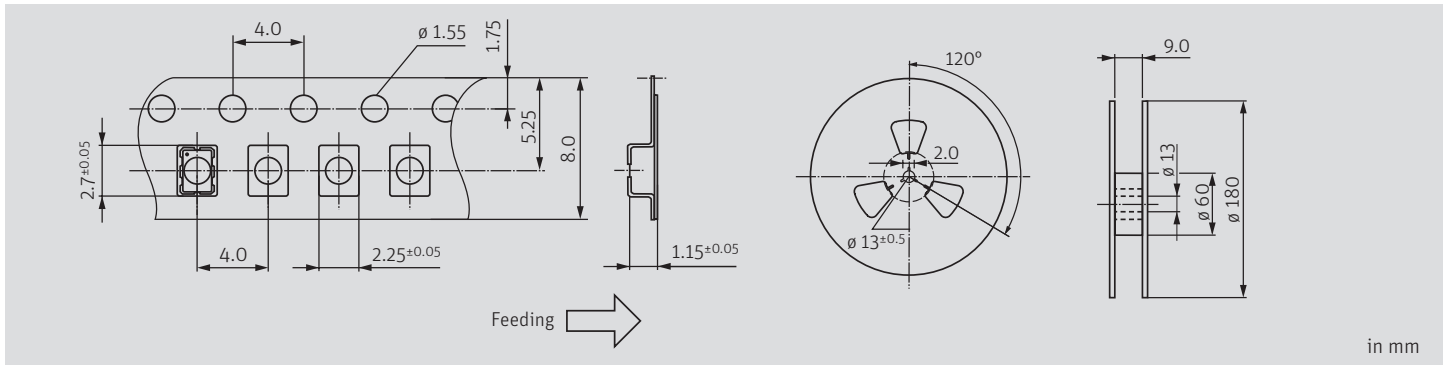
ORDER INFORMATION

| 0 | frequency | type | frequency stability code | supply voltage code | option | superior phase noise |
|------------|-------------------|-------|--------------------------|---|--|---------------------------|
| Oscillator | 100.0 ~ 160.0 MHz | JOD22 | see table 1 | 1.8 = 1.8 V 2.5 = 2.5 V 3.3 = 3.3 V | T0 = -20 °C ~ +70 °C T1 = -40 °C ~ +85 °C T2 = -40 °C ~ +105 °C please ask T3 = -40 °C ~ +125 °C please ask | SP = superior phase noise |

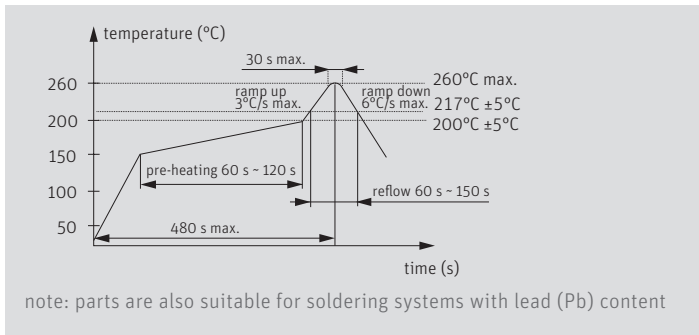
Example: 0 156.250-JOD22-B-3.3-T1-SP-LF (Suffix LF = RoHS compliant / Pb free)

Oscillator JOD22 · LVDS

TAPING SPECIFICATION



REFLOW SOLDERING PROFILE



MARKING

frequency

□ E F S & date code

date code: A ~ M: Jan. - Dec.

5: 2025 6: 2026 7: 2027 8: 2028 9: 2029 0: 2030

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

PACKAGING NOTE

- standard packing unit is 3000 pieces per reel
- non-multiple packing units are only supplied taped / bulk