



actual size

Oscillator · TCXO · JT22C

TCXO with HCMOS output · 2.5 x 2.0 mm

- excellent phase noise
- operating temperature range -40 °C ~ +85 °C
- reflow soldering temperature: 260 °C max.
- ceramic/metal package



General Data

| | | |
|--|------------------------|-----------------------------------|
| type | JT22C | |
| frequency range | 4.0 ~ 54.0 MHz | |
| frequency stability | at +25 °C | ± 0.5 ppm |
| | temperature | ± 2.5 ppm (others on request) |
| | aging first year | ± 1.0 ppm |
| | supply voltage | ± 0.2 ppm (at $V_{DC} \pm 5\%$) |
| | load change | ± 0.2 ppm |
| | after reflow | ± 1.0 ppm |
| current consumption max. | → see table 1 | |
| supply voltage V_{DC} | 2.5 / 2.8 / 3.3 (± 5%) | |
| temperature | operating | -30 °C ~ +75 °C / -40 °C ~ +85 °C |
| | storage | -40 °C ~ +125 °C |
| output | rise & fall time | 5.0 ns max. |
| | load max. | 15 pF |
| | current max. | 4.0 mA |
| | low level max. | 0.1 x V_{DC} |
| | high level min. | 0.9 x V_{DC} |
| harmonics distortion max. | -5.0 dBc | |
| symmetry at 0.5 x V_{DC} | 45% ~ 55% max. | |
| start-up time max. | 10 ms | |
| standby current max. | 10 µA | |
| output enable time max. | 10 ms | |
| output disable time max. | 250 ns | |
| Jitter 1 σ | 3.0 ps | |
| phase noise at 10 kHz offset | -145 dBc/Hz | |

| | 4 ~ 10 MHz | ~ 20 MHz | ~ 30 MHz | ~ 40 MHz | ~ 54 MHz |
|-------|------------|----------|----------|----------|----------|
| 2.5 V | 3.1 mA | 3.7 mA | 4.2 mA | 4.6 mA | 5.5 mA |
| 2.8 V | 3.4 mA | 4.1 mA | 4.7 mA | 5.2 mA | 6.0 mA |
| 3.3 V | 4.0 mA | 4.8 mA | 5.5 mA | 6.0 mA | 7.0 mA |

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

Note

4 user pins (e/d, GND, output, V_{DC})
leave the other pins unconnected!

Dimensions

top view

side view

bottom view

pad layout

TCXO
JT22C
1: e/d
2: GND
3: output
4: V_{DC}

pin connection

in mm

Order Information

| | | | | | |
|---|---------------------|--------------|-----------------------------|--|---|
| 0 | frequency in MHz | type | frequency stability code | operating temp. code | supply voltage |
| Oscillator | 4.0 ~ 54.0 MHz | JT22C = TCXO | A = ± 2.5 ppm | G = -30 °C ~ +75 °C K = -40 °C ~ +85 °C | 2.5 = 2.5 V 2.8 = 2.8 V 3.3 = 3.3 V |
| <p>Example: O 16.3680-JT22C-A-K-3.3-LF (Suffix LF = RoHS compliant / Pb free pads)</p> | | | | | |

