



actual size

Oscillator JT22CT · TCXO

- TCXO with HCMOS output, 2.5 x 2.0 mm
- wide operating temperature range up to +105 °C
- excellent phase noise
- with standby function, low standby current
- ceramic/metal package



RoHS compliant



Pb free



REACH compliant



Conflict mineral free

GENERAL DATA

TYPE		JT22CT
frequency range		13.0 ~ 52.0 MHz
frequency tolerance / stability	at +25 °C	±2.0 ppm (incl. 2x reflow)
	temperature	±2.0 ppm ~ ±10.0 ppm (see table 1)
	aging first year	±1.0 ppm (at +25 °C)
	supply voltage	±0.2 ppm (at V _{DC} ±5%)
	load change	±0.2 ppm
current consumption		5.0 mA (< 26.0 MHz) / 7.0 mA (< 52.0 MHz)
supply voltage V _{DC}		1.8V / 2.5V / 2.8V / 3.0V / 3.3V (±5%)
temperature	operating	-40 °C ~ +85 °C (temperature code K) -40 °C ~ +105 °C (temperature code P)
	storage	-40 °C ~ +105 °C
output	rise & fall time	5.0 ns max. (10% ↔ 90% of V _{DC})
	load max.	15 pF
	current max.	0.4 mA
	low level max.	0.2 x V _{DC}
	high level min.	0.8 x V _{DC}
symmetry at 0.5 x V _{DC}		45 % ~ 55 % max.
start-up time max.		3 ms
output enable time max.		3 ms
output disable time max.		150 ns
standby current max.		10 µA
phase jitter	12 kHz ~ 20.0 MHz	-300 fs RMS typ. / 500 fs RMS max.

TABLE 1: FREQUENCY STABILITY CODE

frequency stability		B	A	Y	X
temperature code		± 2.0 ppm	± 2.5 ppm	± 5.0 ppm	± 10.0 ppm
-40 °C ~ +85 °C	K	△	○	○	
-40 °C ~ +105 °C	P		○	○	○

○ on request △ case-by-case, ask if available

ENABLE / DISABLE FUNCTION

PIN #1 (E/D CONTROL)	PIN #3 (OUTPUT)
high "1" (V _{IH} ≥ 0.8 V _{DC})	active (see note)
low "0" (V _{IL} ≤ 0.2 V _{DC})	high impedance
stop function: - oscillator stops - output high impedance	

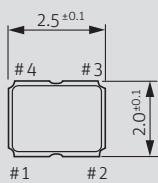
NOTE

- e/d control pin has weak internal pull-up, use external pull-up to ensure TCXO activation
- for best supply noise rejection, connect a capacitor closely to the supply voltage pins
- a separate voltage supply rail ensures best phase noise

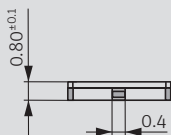
PHASE NOISE AT FO 40.0 MHz

at 100 Hz	-115 dBc/Hz typ.
at 1 kHz	-135 dBc/Hz typ.
at 10 kHz	-149 dBc/Hz typ.

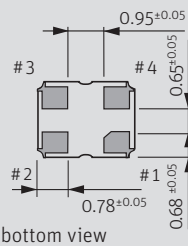
DIMENSIONS



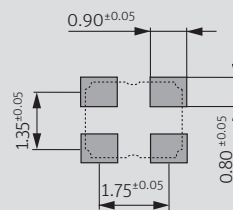
top view



side view



bottom view



pad layout

TCXO
JT22CT
1: e/d
2: GND
3: output
4: V_{DC}

pin connection

in mm

ORDER INFORMATION

0	frequency	type	frequency stability code	operating temp. code	supply voltage
Oscillator	13.0 ~ 52.0 MHz	JT22CT = TCXO	B = ±2.0 ppm A = ±2.5 ppm Y = ±5.0 ppm X = ±10.0 ppm	K = -40 °C ~ +85 °C P = -40 °C ~ +105 °C	1.8 = 1.8 V 2.5 = 2.5 V 2.8 = 2.8 V 3.0 = 3.0 V 3.3 = 3.3 V

Example: **0 40.0-JT22CT-Y-P-3.3-LF** (Suffix LF = RoHS compliant / Pb free)

