



actual size

Oscillator JT21ET(E) · TCXO

- temp. compensated crystal oscillator, 2.0 x 1.6 mm
- low power TCXO with clipped sine output
- wide temperature range up to -40 °C ~ +105 °C
- optional standby function for JT21ETE
- for navigation system use, please prefer JT21G



RoHS compliant



Pb free



REACH compliant



Conflict mineral free

GENERAL DATA

TYPE		JT21ET / JT21ETE TCXO
frequency range		12.0 ~ 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 (at nominal load ± 10%)
current consumption		1.5 mA max. ≤ 26 MHz / 2.5 mA max. ≤ 52 MHz
supply voltage V _{DC}		1.8V / 2.5V / 2.8V / 3.0V / 3.3V (±5%)
temperature	operating	see table 1
	storage	-40 °C ~ +105 °C
output	load nom.	10 kΩ // 10 pF
	level min.	0.8 x V _{pp} (clipped sine)
standby function of JT21ETE		stop function, see table 2
disabled supply current		2µA typ. / 5.5 µA max.
start-up time max.		2.5 ms
enable time max.		2.5 ms
disable time max.		150 ns
phase jitter	at 100 Hz	-122dBc/Hz typ.
	at f _o	-142 dBc/Hz typ.
26 Mhz	at 1 KHz	-142 dBc/Hz typ.
	at 10 KHz	-155 dBc/Hz typ.

TABLE 1: FREQUENCY STABILITY VS. TEMPERATURE

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	Δ	○	○	
-40 °C ~ +105 °C	P		○	○	○

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

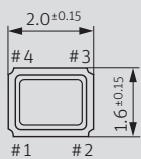
TABLE 2: ENABLE / DISABLE FUNCTION

PIN #1 (E/D CONTROL)	PIN #3 (OUTPUT)
high "1" (V _{IH} ≥ 0.8 V _{DC})	active (see information below)
low "0" (V _{IL} ≤ 0.2 V _{DC})	high impedance
stop function (JT21ETE only):	
- oscillator stops	
- output high impedance	
- to activate permanently, please connect an external pull-up resistor of 10 kΩhm to pin #1	

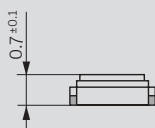
NOTE

- TCXO JT21ET: pin #1 to be connected to GND
- TCXO JT21ETE: pin #1 controls the standby function
- external AC coupling for output recommended
- * other nominal supply voltages within 1.8 V ~ 3.3 V need to be specified, ask for availability

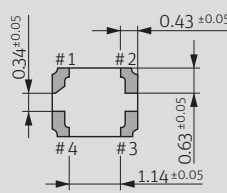
DIMENSIONS



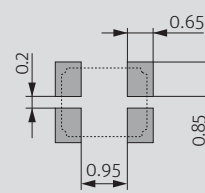
top view



side view



bottom view



pad layout

TCXO
JT21ET
1: GND
2: GND
3: output
4: V_{DC}

pin connection

TCXO
JT21ETE
1: e/d
2: GND
3: output
4: V_{DC}

in mm

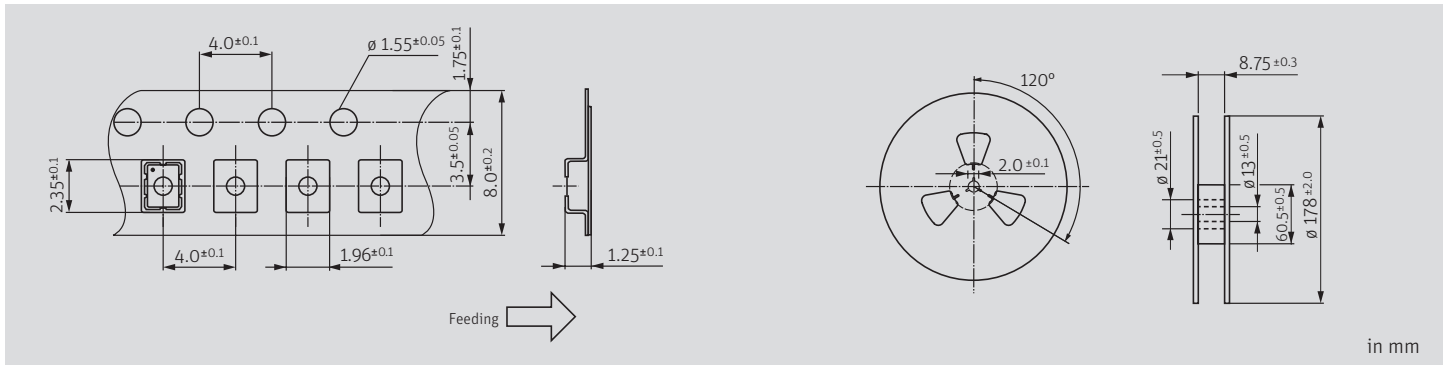
ORDER INFORMATION

0	frequency	type	frequency stability code	operating temp. code	supply voltage
Oscillator	12.0 ~ 52.0 MHz	JT21ET = TCXO JT21ETE = TCXO with e/d	A, B, X, Y see table 1	K = -40 °C ~ +85 °C P = -40 °C ~ +105 °C see table 1	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

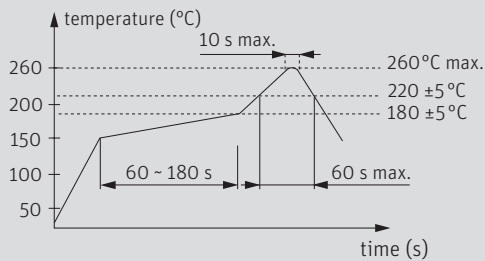
Example: 0 48.0-JT21ET-Y-P-3.3-LF (Suffix LF = RoHS compliant / Pb free)

Oscillator JT21ET(E) · Wide Temperature Range TCXO

TAPING SPECIFICATION



REFLOW SOLDERING PROFILE



note: parts are also suitable for soldering systems with lead (Pb) content

MARKING

frequency

company code / date code

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

2: 2022 3: 2023 4: 2024 5: 2025 6: 2026 7: 2027

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 packaging unit is 500 pieces per reel
- customized quantities on request