



actual size

# Oscillator JT21S(V) · (VC)TCXO

- Temp. Compensated Crystal Oscillator, 2.0 x 1.6 mm
- low power VCTCXO or TCXO with clipped sine output
- temperature range -40 °C ~ +85 °C available
- ± 0.5 ppm stability available
- for navigation system use, please prefer JT21G(E)



RoHS compliant



Pb free



REACH compliant



Conflict mineral free

GENERAL DATA		TYPE	JT21S / JT21SV
frequency range			9.5 ~ 52.0 MHz
frequency tolerance/ stability	at +25°C		±2.0 ppm (incl. 2x reflow)
	temperature		±0.5 ppm ~ ±5 ppm (table 1)
	aging first year		±1 ppm
	supply voltage		±0.2 ppm (at $V_{DC} \pm 5\%$ )
	load change		±0.2 ppm
current consumption			1.5 mA max. <26 MHz / 2.5 mA max. <52 MHz
supply voltage $V_{DC}$			1.8 / 2.5 / 2.8 / 3.0 / 3.3 (±5%) *
temperature	operating		see table 1
	storage		-40 °C ~ +85 °C
output	load nom.		10 KΩ // 10 pF
	level min.		0.8 Vpp (clipped sine)
external tuning range JT21SV			±8 ppm min.
external tuning voltage JT21SV			0.9 V ± 0.9 V at $V_{DC} = 1.8$ V (standard)
			1.5 V ± 1.0 V at $V_{DC} \geq 2.5$ V (standard)
			1.4 V ± 1.0 V at $V_{DC} \geq 2.5$ V (option)
start-up time max.			2.5 ms
phase noise	at 100 Hz		-117 dBc/Hz typ.
	at $f_0$		-137 dBc/Hz typ.
26 MHz	at 10 KHz		-149 dBc/Hz typ.

TABLE 1: FREQUENCY STABILITY VS. TEMPERATURE							
operating temperature code	frequency stability code / ppm						
	Y	Z	A	B	C	D	E
A: -30 °C ~ +80 °C	± 5.0	± 3.0	± 2.5	± 2.0	± 1.5	± 1.0	± 0.5
B: -20 °C ~ +70 °C	○	○	○	○	○	○	○
C: -10 °C ~ +60 °C	○	○	○	○	○	○	○
D: 0 °C ~ +85 °C	○	○	○	○	○	○	○
E: 0 °C ~ +55 °C	○	○	○	○	○	○	○
F: -10 °C ~ +70 °C	○	○	○	○	○	○	○
G: -30 °C ~ +75 °C	○	○	○	○	○	○	○
H: -20 °C ~ +75 °C	○	○	○	○	○	○	○
K: -40 °C ~ +85 °C	○	○	○	○	○	○	○
L: -20 °C ~ +85 °C	○	○	○	○	○	○	○
M: -30 °C ~ +85 °C	○	○	○	○	○	○	○

○ on request

NOTE
- TCXO JT21S: pin #1 connected to GND
- VCTCXO JT21SV: pin #1 is control voltage $V_C$
- external AC coupling for output recommended
* other nominal supply voltages within 1.8 V ~ 3.3 V need to be specified, ask for availability

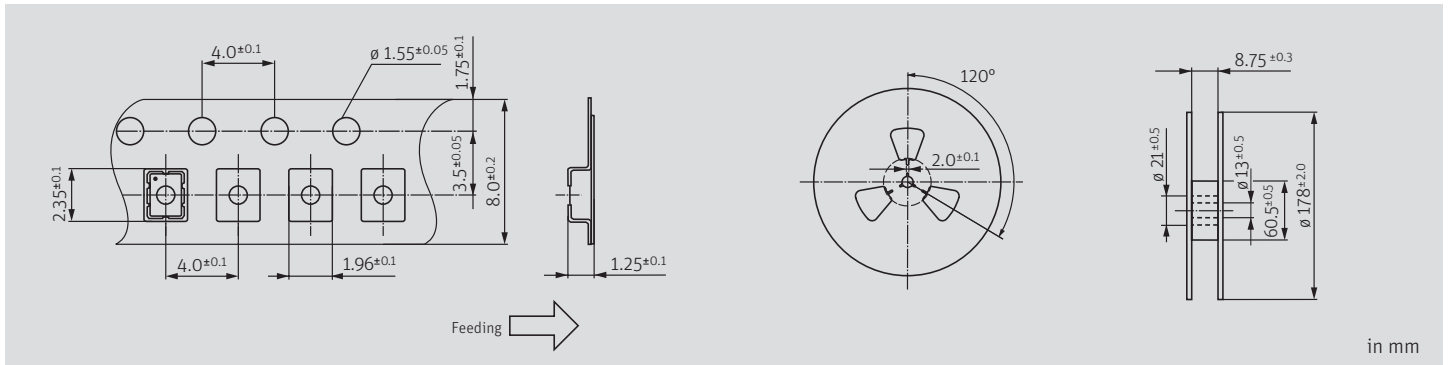
DIMENSIONS					
				TCXO JT21S	VCTCXO JT21SV
top view	side view	bottom view	pad layout	# 1: GND # 2: GND # 3: output # 4: $V_{DC}$	# 1: Vcontrol # 2: GND # 3: output # 4: $V_{DC}$
				in mm	

ORDER INFORMATION						
0	frequency	type	frequency stability code	operating temp. code	supply voltage	control voltage (for JT21SV only)
Oscillator	9.5 ~ 52.0 MHz	JT21S = TCXO JT21SV = VCTCXO	A - Z see table 1	A - M 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	0.9 = $V_C$ 0.9 V ± 0.9 V at $V_{DC} = 1.8$ V 1.5 = $V_C$ 1.5 V ± 1.0 V at $V_{DC} \geq 2.5$ V 1.4 = $V_C$ 1.4 V ± 1.0 V at $V_{DC} \geq 2.5$ V see General Data
<b>Example: 0 26.0-JT21SV-A-G-3.3-1.5-LF</b> (Suffix LF = RoHS compliant / Pb free)						

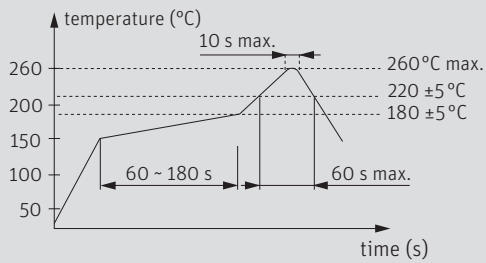


# Oscillator JT21S(V) · (VC)TCXO

## TAPING SPECIFICATION



## REFLOW SOLDERING PROFILE



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

## MARKING

frequency

company code / stability code / date code

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

9: 2019    0: 2020    1: 2021    2: 2022    3: 2023    4: 2024

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 500 pieces per reel
- customized quantities on request