



actual size

# Oscillator JT22P(V) · (VC)TCXO

- Temp. Compensated Crystal Oscillator, 2.5 x 2.0 mm
- low power VCTCXO or TCXO
- temperature range -30 °C ~ +85 °C available
- ± 1.0 ppm stability available
- ceramic/metal package



RoHS compliant



Pb free



REACH compliant



Conflict mineral free

## GENERAL DATA

TYPE		JT22P / JT22PV
frequency range		8.0 ~ 52.0 MHz
frequency tolerance/stability	at +25°C	± 2.0 ppm (incl. 2x reflow)
	temperature	± 1 ppm ~ ± 5 ppm (table 1)
	aging first year	± 1 ppm (at +25 °C)
	supply voltage	± 0.2 ppm (at V <sub>DC</sub> ±5%)
	load change	± 0.2 ppm (at 10Kohms    10 pF +/-10%)
current consumption		2.0 mA max.
supply voltage V <sub>DC</sub>		1.8 / 2.5 / 2.8 / 3.0 (±5%) *
temperature	operating	-30 °C ~ +85 °C
	storage	-40 °C ~ +85 °C
output	load nom.	10 KΩ // 10 pF
	level min.	0.8 Vpp (clipped sine)
external tuning range JT22PV		± 8 ppm min.
external tuning voltage JT22PV		0.9 V ± 0.9 V at V <sub>DC</sub> = 1.8 V (standard)
		1.5 V ± 1.0 V at V <sub>DC</sub> ≥ 2.5 V (standard)
		1.4 V ± 1.0 V at V <sub>DC</sub> ≥ 2.5 V (option)
start-up time max.		2.0 ms
phase noise	at 100 Hz	-120 dBc/Hz typ.
	at fo	
	at 1 KHz	-138 dBc/Hz typ.
	at 10 KHz	-145 dBc/Hz typ.

## TABLE 1: FREQUENCY STABILITY VS. TEMPERATURE

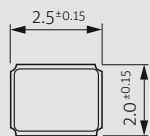
operating temperature code	frequency stability code / ppm					
	Y	Z	A	B	C	D
± 5.0	± 3.0	± 2.5	± 2.0	± 1.5	± 1.0	
M: -30 °C ~ +85 °C	○	○	○	○	○	○

○ available

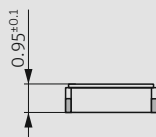
## NOTE

- TCXO JT22P: pin #1 connected to GND
- VCTCXO JT22PV: pin #1 is control voltage Vc
- external AC coupling for output recommended
- \* other nominal supply voltages within 1.8 V ~ 3.0 V need to be specified, ask for availability (supply voltage 3.3 V ± 5% not available)

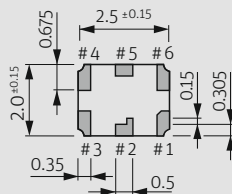
## DIMENSIONS



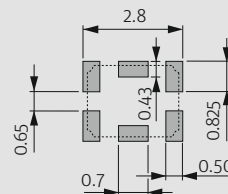
top view



side view



bottom view



pad layout

TCXO JT22P	VCTCXO JT22PV
# 1: GND	# 1: Vcontrol
# 2: N.C.	# 2: N.C.
# 3: GND	# 3: GND
# 4: output	# 4: output
# 5: N.C.	# 5: N.C.
# 6: Vcc	# 6: Vcc

pin connection

in mm

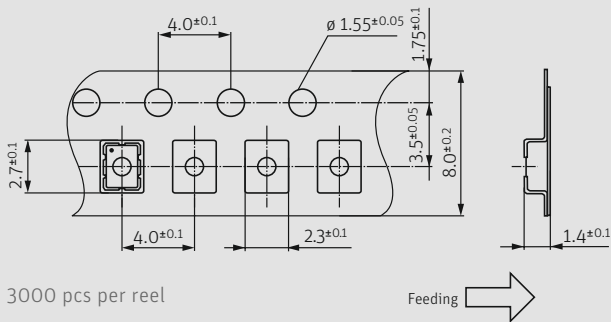
## ORDER INFORMATION

0	frequency	type	frequency stability code	operating temp. code	supply voltage	control voltage (for JT22PV only)
Oscillator	8.0 ~ 52.0 MHz	JT22P = TCXO JT22PV = VCTCXO	A - Z see table 1	M = -30 °C ~ +85 °C	1.8 = 1.8 V 2.5 = 2.5 V 2.8 = 2.8 V 3.0 = 3.0 V	0.9 = V <sub>C</sub> 0.9 V ± 0.9 V at V <sub>DC</sub> = 1.8 V 1.5 = V <sub>C</sub> 1.5 V ± 1.0 V at V <sub>DC</sub> ≥ 2.5 V 1.4 = V <sub>C</sub> 1.4 V ± 1.0 V at V <sub>DC</sub> ≥ 2.5 V see General Data

**Example: 0 26.0-JT22PV-D-M-3.0-1.5-LF** (Suffix LF = RoHS compliant / Pb free)

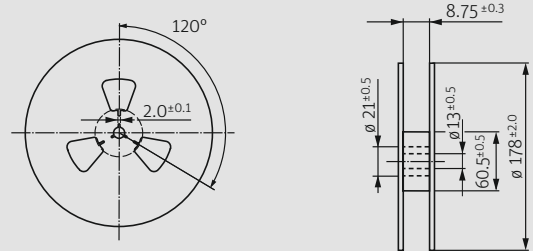
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## TAPING SPECIFICATION



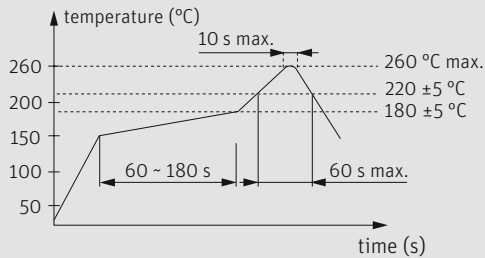
3000 pcs per reel

Feeding →



in mm

## REFLOW SOLDERING PROFILE



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

## PACKAGING NOTE

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

## MARKING

company code / date code / internal code  
frequency / internal code

		January	February	March	April	May	June	July	August	September	October	November	December
2017	2021	A	B	C	D	E	F	G	H	J	K	L	M
2018	2022	N	P	Q	R	S	T	U	V	W	X	Y	Z
2019	2023	a	b	c	d	e	f	g	h	j	k	l	m
2020	2024	n	p	q	r	s	t	u	v	w	x	y	z