



actual size

# Oscillator JT53L(V) · (VC)TCXO

- Temp. Compensated Crystal Oscillator, 5.0 x 3.2 mm
- low power VCTCXO or TCXO
- temperature range -40 °C ~ +85 °C available
- reflow soldering temperature: 260 °C max.
- ceramic/metal package



RoHS compliant



Pb free



REACH compliant



Conflict mineral free

## GENERAL DATA

TYPE		JT53L / JT53LV	
frequency range		6.0 ~ 45.0 MHz	
frequency stability	at +25°C	± 0.5 ppm	
	temperature	± 1 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		2.5 mA max.	
supply voltage $V_{DC}$		2.5 V (± 4%) and 2.8 V / 3.0 V / 3.3 V / 5.0 V (± 5%)	
temperature	operating	see table 1	
	storage	-45 °C ~ +85 °C	
output	load nom.	10 K $\Omega$ // 10 pF	
	level min.	0.8 Vpp (clipped sine)	
external tuning range JT53LV		± 8 ppm min.	
external tuning voltage		1.5 V ± 1.0 V	
start-up time max.		2.5 ms	
phase noise	at 100 Hz	-113 dBc/Hz typ.	
	at $f_0$	at 1 KHz	-135 dBc/Hz typ.
		at 10 KHz	-140 dBc/Hz typ.

## TABLE 1: FREQUENCY STABILITY VS. TEMPERATURE

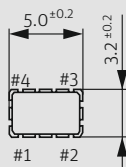
operating temperature code	frequency stability code / ppm					
	Y	Z	A	B	C	D
A: -30 °C ~ +80 °C	± 5.0	± 3.0	± 2.5	± 2.0	± 1.5	± 1.0
B: -20 °C ~ +70 °C	○	○	○	○	○	○
C: -10 °C ~ +60 °C	○	○	○	○	○	○
D: 0 °C ~ +85 °C	○	○	○	○	○	○
E: 0 °C ~ +55 °C	○	○	○	○	○	○
F: -10 °C ~ +70 °C	○	○	○	○	○	○
G: -30 °C ~ +75 °C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

○ on request

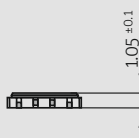
## NOTE

- TCXO JT53L: pin #1 connected to ground
- VCTCXO JT53LV: pin #1 connected to control voltage
- external AC coupling for output recommended

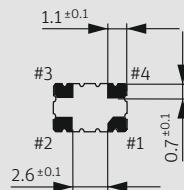
## DIMENSIONS



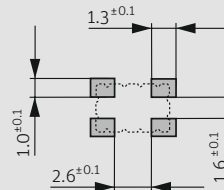
top view



side view



bottom view



pad layout

TCXO  
JT53L

- # 1: GND
- # 2: GND
- # 3: output
- # 4:  $V_{DC}$

pin connection

VCTCXO  
JT53LV

- # 1: Vcontrol
- # 2: GND
- # 3: output
- # 4:  $V_{DC}$

in mm

## ORDER INFORMATION

0

Oscillator

frequency

6.0 ~ 45.0 MHz

type

JT53L = TCXO  
JT53LV = VCTCXO

frequency stability code

A - Z  
see table 1

operating temp. code

A - M  
see table 1

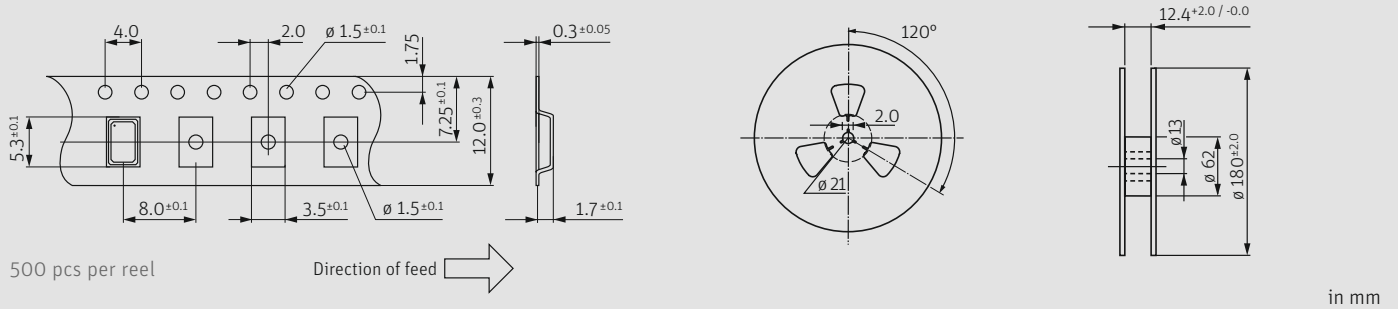
supply voltage

2.5 = 2.5 V ± 4%  
2.8 = 2.8 V  
3.0 = 3.0 V  
3.3 = 3.3 V  
5.0 = 5.0 V option  
} ± 5%

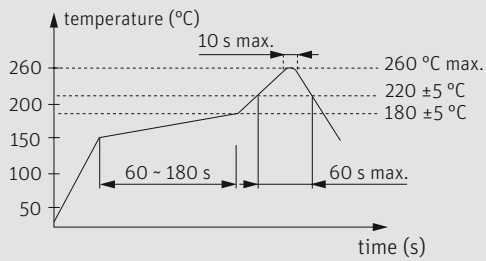
**Example: 0 26.0-JT53L-A-B-3.3-LF** (Suffix LF = RoHS compliant / Pb free)

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## TAPING SPECIFICATION



## REFLOW SOLDERING PROFILE



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

## MARKING

type / frequency

company code / date code

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

7: 2017    8: 2018    9: 2019    0: 2020    1: 2021    2: 2022

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
- non-multiple packing units are only supplied taped / bulk