



actual size

# Oscillator · (VC)TCXO · JT53L(V)

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



## General Data

type		JT53L / JT53LV
frequency range		6.0 ~ 45.0 MHz
frequency stability	at +25 °C	± 0.5ppm
	temperature	± 1ppm ~ ± 5ppm (table 1)
	aging first year	± 1ppm
	supply voltage	± 0.2ppm (at V <sub>DC</sub> ± 5%)
	load change	± 0.2ppm
current consumption max.		2.5mA max.
supply voltage V <sub>DC</sub>		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.	10KΩ // 10pF
	level min.	0.8Vpp (clipped sine)
external tuning range JT53LV		± 8ppm min.
external tuning voltage		1.5 V ± 1.0 V
start-up time max.		2.5 ms
phase noise	at 100Hz	-113 dBc/Hz
	at f <sub>o</sub>	-135 dBc/Hz
13 MHz	at 10KHz	-140 dBc/Hz

Table 1: Frequency Stability vs. Temperature

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

● standard ○ available

## 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: Vcc

VCTCXO  
JT53LV  
# 1: Vcontrol  
# 2: GND  
# 3: output  
# 4: Vcc

pin connection in mm

## Order Information

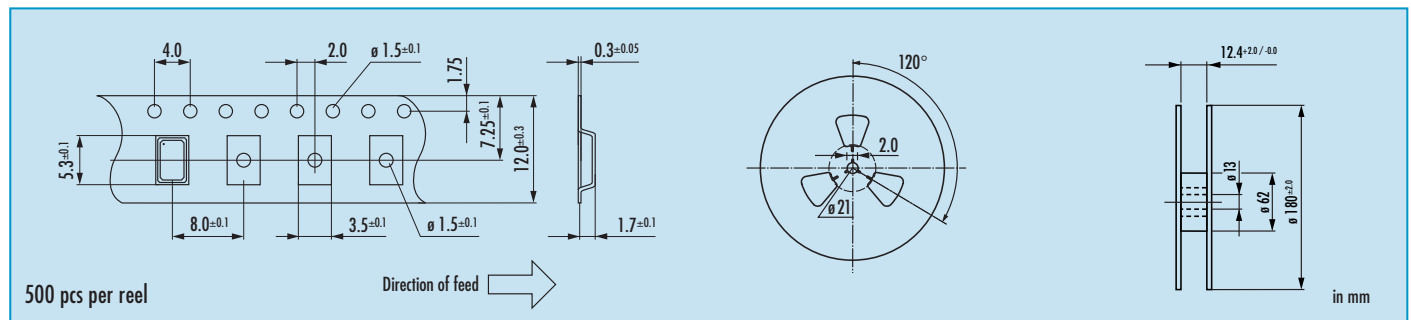
0	frequency in MHz	type	frequency stability code	operating temp. code	supply voltage
Oscillator	6.0 ~ 45.0 MHz	JT53L = TCXO JT53LV = VCTCXO	A ~ Z see table 1	A ~ K see table 1	2.5 = 2.5 V ± 4% 2.8 = 2.8 V 3.0 = 3.0 V } ± 5% 3.3 = 3.3 V 5.0 = 5.0 V option

**Example: O 13.0-JT53L-A-B-3.3** (Suffix LF = RoHS compliant / Pb free pads)

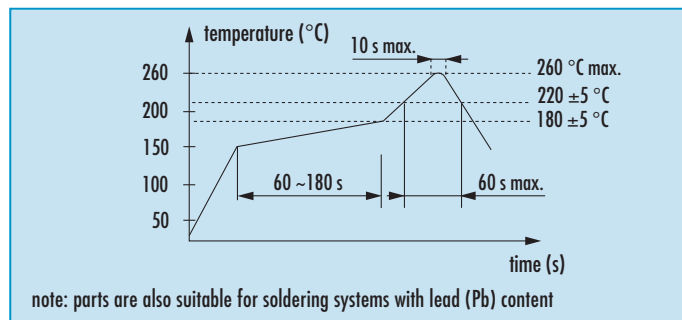


# Oscillator · (VC-)TCXO · JT53L(V)

## Taping Specification



## Reflow Soldering Profile



## Marking

frequency

company code / date code

date code:

A ~ M: Jan. - Dec.

9: 2009

0: 2010

1: 2011

Jan.	Febr.	Mar.	Apr.	May	June
A	B	C	D	E	F
July	Aug.	Sept.	Oct.	Nov.	Dec.
G	H	J	K	L	M

## Packing Note

- standard packing units are 500 pieces per reel
- non-multiple packing units are only supplied taped / bulk