

actual size

# Oscillator JT53C · TCXO

- TCXO with HCMOS output, 5.0 x 3.2 mm
- excellent phase noise
- operating temperature range -40 °C ~ +85 °C
- ceramic/metal package



RoHS compliant



Pb free



REACH compliant



Conflict mineral free

## GENERAL DATA

TYPE		JT53C
frequency range	10.0 ~ 54.0 MHz	
frequency stability	at +25°C	± 2.0 ppm (incl. 2x reflow)
	temperature	± 2.5 ppm (others on request)
	aging first year	± 1.0 ppm
	supply voltage	± 0.2 ppm (at $V_{DC} \pm 5\%$ )
	load change	± 0.2 ppm
current consumption	see table 1	
supply voltage $V_{DC}$	2.5 / 2.8 / 3.3 (± 5%)	
temperature	operating	-30 °C ~ +75 °C / -40 °C ~ +85 °C
	storage	-40 °C ~ +105 °C
output	rise & fall time	5.0 ns max.
	load max.	15 pF
	current max.	4.0 mA
	low level max.	0.1 x $V_{DC}$
	high level min.	0.9 x $V_{DC}$
harmonics distortion max.	-5.0 dBc	
symmetry at 0.5 x $V_{DC}$	45% ~ 55% max.	
start-up time max.	3 ms	
standby current max.	10 µA	
output enable time max.	3 ms	
output disable time max.	250 ns	
jitter 1σ	3.0 ps	
phase jitter 12 kHz ~ 20 MHz	< 0.35 ps RMS max. / 0.2 ps RMS typ.	

## TABLE 1: CURRENT CONSUMPTION MAX.

	10 ~ 20 MHz	~ 30 MHz	~ 40 MHz	~ 54 MHz
2.5 V	3.7 mA	4.2 mA	4.6 mA	5.5 mA
2.8 V	4.1 mA	4.7 mA	5.2 mA	6.0 mA
3.3 V	4.8 mA	5.5 mA	6.0 mA	7.0 mA

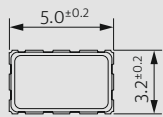
## ENABLE / DISABLE FUNCTION

PIN #1 (E/D CONTROL)	PIN #3 (OUTPUT)
open	active
high "1" ( $V_{IH} \geq 0.7 V_{DC}$ )	active
low "0" ( $V_{IL} \leq 0.3 V_{DC}$ )	high impedance
stop function: - oscillator stops - output high impedance	

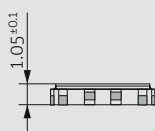
## NOTE

4 user pins (e/d, GND, output,  $V_{DC}$ )  
leave the other pins unconnected!

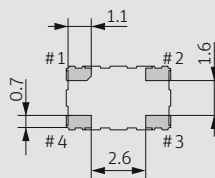
## DIMENSIONS



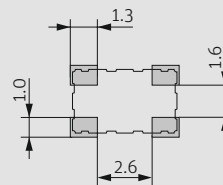
top view



side view



bottom view



pad layout

TCXO  
JT53C  
# 1: e/d  
# 2: GND  
# 3: output  
# 4:  $V_{DC}$

pin connection

in mm

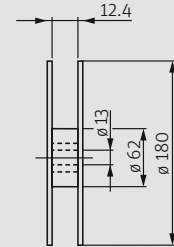
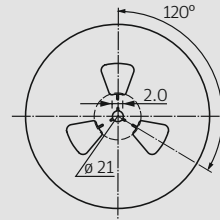
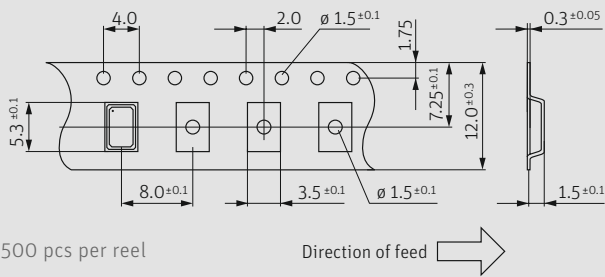
## ORDER INFORMATION

0	frequency	type	frequency stability code	operating temp. code	supply voltage
Oscillator	10.0 ~ 54.0 MHz	JT53C = TCXO	A = ±2.5 ppm	G = -30 °C ~ +75 °C K = -40 °C ~ +85 °C	2.5 = 2.5 V 2.8 = 2.8 V 3.3 = 3.3 V

**Example: 0 16.3680-JT53C-A-K-3.3-LF** (Suffix LF = RoHS compliant / Pb free)

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## TAPING SPECIFICATION

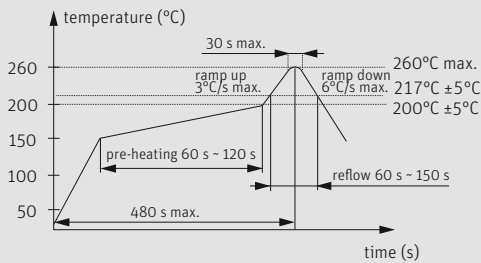


500 pcs per reel

Direction of feed →

in mm

## 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 packing unit is 500 pieces per reel
- non-multiple packing units are only supplied taped / bulk