



actual size

# Oscillator JV54 · VCXO · 3.3 V

- SMD Voltage Control Crystal Oscillator, 5.0 x 3.2 mm
- frequency tuning range up to  $\pm 100$  ppm min.
- with enable/disable function
- ceramic/metal package



RoHS compliant



Pb free



REACH compliant



Conflict mineral free

## GENERAL DATA

TYPE	JV54 3.3 V	
frequency range	1.0 ~ 125.0 MHz	
frequency stability over all*	$\pm 25$ ppm / $\pm 50$ ppm (see table 1)	
supply voltage $V_{DC}$	3.3 V $\pm 5\%$	
current consumption	see table 2	
frequency tuning range min.	$\pm 50$ ppm / $\pm 100$ ppm	
tuning control voltage	1.65 V $\pm 1.50$ V**	
tuning linearity max.	$\pm 10\%$	
input impedance min.	5 M $\Omega$	
modulation cutoff frequency	> 20 kHz	
temperature	operating	-20 °C ~ +70 °C / -40 °C ~ +85 °C
	storage	-40 °C ~ +85 °C
output	rise & fall time	see table 3
	load max.	15 pF
	current max.	4 mA
	low level max.	0.4 V / $0.1 \times V_{DC}^{1)}$
	high level min.	$V_{DC} - 0.4$ V / $0.9 \times V_{DC}^{1)}$
standby function	stop, see table 4 (page 2)	
standby current (see page 2)	10 $\mu$ A	
start-up time max.	10 ms	
symmetry at $0.5 \times V_{DC}$	45% ~55% typ. (40% ~ 60% max.)	

<sup>1)</sup> only at pure capacitive load

\* includes stability at 25 °C, operating temp. range, supply voltage change, shock and vibration, aging 1st year.

## TABLE 1: FREQUENCY STABILITY CODE

stability code	B	C		
	$\pm 50$ ppm	$\pm 25$ ppm		
-20 °C ~ +70 °C	○	○		
-40 °C ~ +85 °C	○	○		

○ available

## TABLE 2: CURRENT CONSUMPTION MAX.

Supply current at 15 pF load:

1.0 ~ 49.9 MHz	10 mA	80.0 ~ 99.9 MHz	20 mA
50.0 ~ 79.9 MHz	15 mA	100.0 ~ 125.0 MHz	28 mA

## TABLE 3: RISE & FALL TIME MAX.

5.0 ns:	< 90.0 MHz
3.0 ns:	$\geq 90.0$ MHz

note:

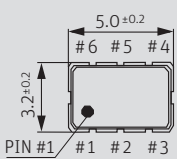
- specific data on request
- rise time:  $0.1 V_{DC} \sim 0.9 V_{DC}$
- fall time:  $0.9 V_{DC} \sim 0.1 V_{DC}$

## \*\* RECOMMENDATION

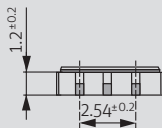
To avoid phase noise or FM modulation in the output frequency spectrum, we recommend to feed the Vcontrol input pin by a low source impedance.

For supply voltage noise reduction, connect a capacitor close to the oscillator's supply voltage pins.

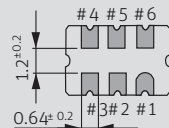
## DIMENSIONS



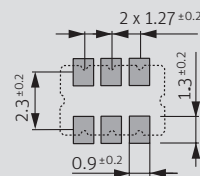
top view



side view



bottom view



pad layout

standard pin connection B

- # 1:  $V_{control}$
- # 2: e/d
- # 3: ground
- # 4: output
- # 5: nc
- # 6:  $V_{DC}$

pin connection

optional pin connection B

- # 1:  $V_{control}$
- # 2: nc
- # 3: ground
- # 4: output
- # 5: e/d
- # 6:  $V_{DC}$

in mm

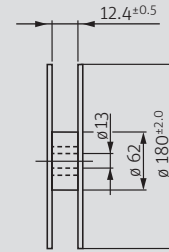
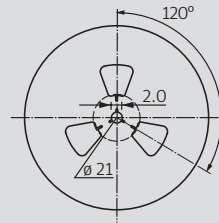
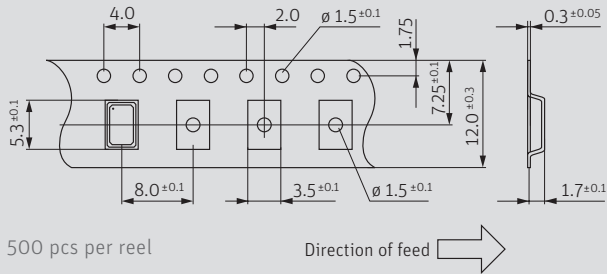
## ORDER INFORMATION

0	frequency	type	frequency stability code	supply voltage	tuning range	pin version	option
Oscillator	1.0 ~ 125.0 MHz	JV54	C = $\pm 25$ ppm B = $\pm 50$ ppm	3.3 = 3.3 V	05 = $\pm 50$ ppm 10 = $\pm 100$ ppm	B = standard A = optional	blank = -20 °C ~ +70 °C T1 = -40 °C ~ +85 °C

Example: **0 16.3840-JV54-B-3.3-10-B-T1-LF** (Suffix LF = RoHS compliant / Pb free)

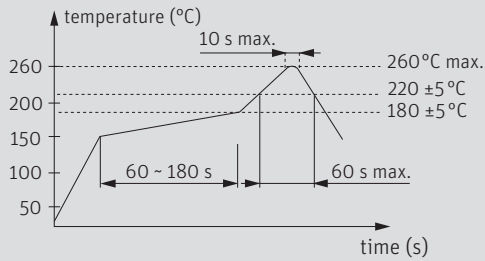
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## TAPING SPECIFICATION



in mm

## REFLOW SOLDERING PROFILE



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

## MARKING

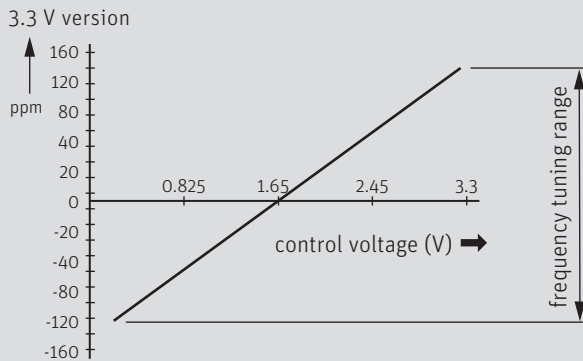
company code / type / stability code / voltage code / tuning code  
frequency / date code (YM)

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

3: 2023 4: 2024 5: 2025 6: 2026 7: 2027 8: 2028

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

## CONTROL VOLTAGE CHARACTERISTIC



## PACKAGING NOTE

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

## TABLE 4: ENABLE / DISABLE FUNCTION

pin #2	pin #4
open or $\geq 0.7 V_{DC}$	output activated
gnd or $\geq 0.3 V_{DC}$	high impedance, internal circuits deactivated

stop function: - internal circuits deactivated  
- output high impedance