



actual size

Oscillator JV53 · VCXO · 3.3 V

- SMD Voltage Control Crystal Oscillator, 5.0 x 3.2 mm
- pulling range up to ± 100 ppm min.
- ceramic/metal package



RoHS compliant



Pb free



REACH compliant



Conflict mineral free

GENERAL DATA		JV53 3.3 V
TYPE	JV53 3.3 V	
frequency range	2.0 ~ 54.0 MHz	
frequency stability over all*	± 25 ppm / ± 30 ppm / ± 50 ppm	
	see table 1	
current consumption	see table 2	
supply voltage V_{DC}	3.3 ($\pm 10\%$)	
frequency pulling range min.	± 100 ppm (± 150 ppm typ.)	
pulling	control voltage	$1.65\text{ V} \pm 1.35\text{ V}^{**}$
	linearity	$<10\%$
	input imp. min.	100 K Ω
	modulation min.	20 KHz
temperature	operating	$-20\text{ }^\circ\text{C} \sim +70\text{ }^\circ\text{C}$ / $-40\text{ }^\circ\text{C} \sim +85\text{ }^\circ\text{C}$
	storage	$-55\text{ }^\circ\text{C} \sim +125\text{ }^\circ\text{C}$
output	rise & fall time	see table 3
	load max.	15pF
	current max.	4 mA
	low level max.	$0.1 \times V_{DC}$
	high level min.	$0.9 \times V_{DC}$
standby function	no	
start-up time max.	10 ms	
symmetry at $0.5 \times V_{DC}$	45% ~55% max.	

* 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 ± 50 ppm	G ± 30 ppm	C ± 25 ppm			
$-20\text{ }^\circ\text{C} \sim +70\text{ }^\circ\text{C}$	○	○	○			
$-40\text{ }^\circ\text{C} \sim +85\text{ }^\circ\text{C}$	○	○				

○ available

TABLE 2: CURRENT CONSUMPTION MAX.

Current at 15pF load:

2.0 ~ 19.9 MHz	10 mA
20.0 ~ 29.9 MHz	15 mA
30.0 ~ 39.9 MHz	20 mA
40.0 ~ 54.0 MHz	25 mA

TABLE 3: RISE & FALL TIME MAX.

6.0 ns:	> 10.0 MHz
10.0 ns:	< 10.0 MHz

note:

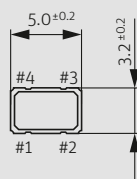
- specific data on request
- rise time: $0.1 V_{DC} \sim 0.9 V_{DC}$
- fall time: $0.9 V_{DC} \sim 0.1 V_{DC}$

** RECOMMENDATION

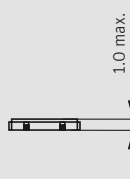
To avoid phase noise or FM modulation in the output frequency spectrum, we recommend to feed the Vcontrol input pin by a low source impedance.

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

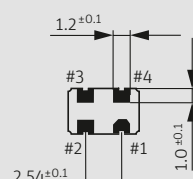
DIMENSIONS



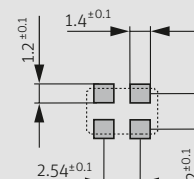
top view



side view



bottom view



pad layout

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

pin connection

in mm

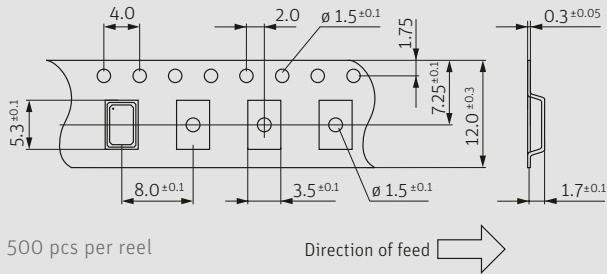
ORDER INFORMATION

0	frequency	type	frequency stability code	supply voltage	pulling range	option
Oscillator	2.0 ~ 54.0 MHz	JV53	C = ± 25 ppm G = ± 30 ppm B = ± 50 ppm	3.3 = 3.3 V	$10 = \pm 100$ ppm	blank = $-20\text{ }^\circ\text{C} \sim +70\text{ }^\circ\text{C}$ T1 = $-40\text{ }^\circ\text{C} \sim +85\text{ }^\circ\text{C}$ on request

Example: 0 27.0-JV53-B-3.3-10-LF (Suffix LF = RoHS compliant / Pb free)

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TAPING SPECIFICATION

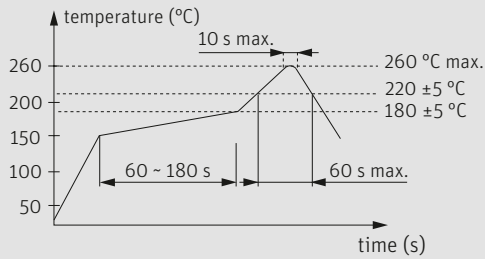


500 pcs per reel

Direction of feed →

in mm

REFLOW SOLDERING PROFILE



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

MARKING

type / frequency

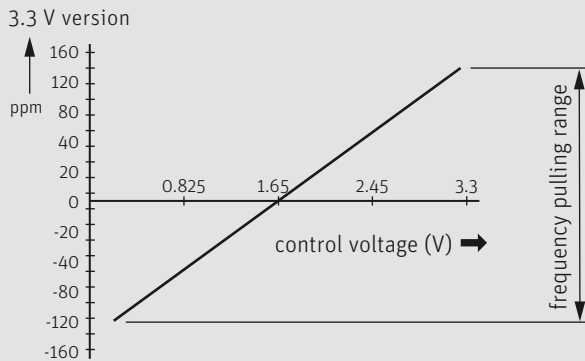
company code / data code

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

CONTROL VOLTAGE CHARACTERISTIC



PACKAGING NOTE

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