



actual size

Oscillator · VCXO · JV53 · 3.3 V

SMD Voltage Control Crystal Oscillator · 5.0 x 3.2 mm

- pulling range up to ± 100 ppm min.
- reflow soldering temperature: 260 °C max.
- ceramic/metal package



General Data

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 V $\pm 10\%$	
frequency pulling range min.	± 100 ppm (± 150 ppm typ.)	
pulling	control voltage	1.65 V ± 1.35 V*
	linearity	<10%
	input imp. min.	100 K Ω
	modulation min.	20 KHz
temperature	operating	-20 °C ~ +70 °C / -40 °C ~ +85 °C
	storage	-55 °C ~ +125 °C
output	rise & fall time	see table 3
	load max.	15pF
	current max.	4 mA
	low level max.	0.1 x V_{DC}
	high level min.	0.9 x V_{DC}
standby function	no	
start-up time max.	10 ms	
symmetry at 0.5 x V_{DC}	45% ~ 55% max.	

Table 1: Frequency Stability Code

stability code	B	G	C			
	± 50 ppm	± 30 ppm	± 25 ppm			
-20 °C ~ +70 °C	○	○	○			
-40 °C ~ +85 °C	○	○				

● standard ○ available

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

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.

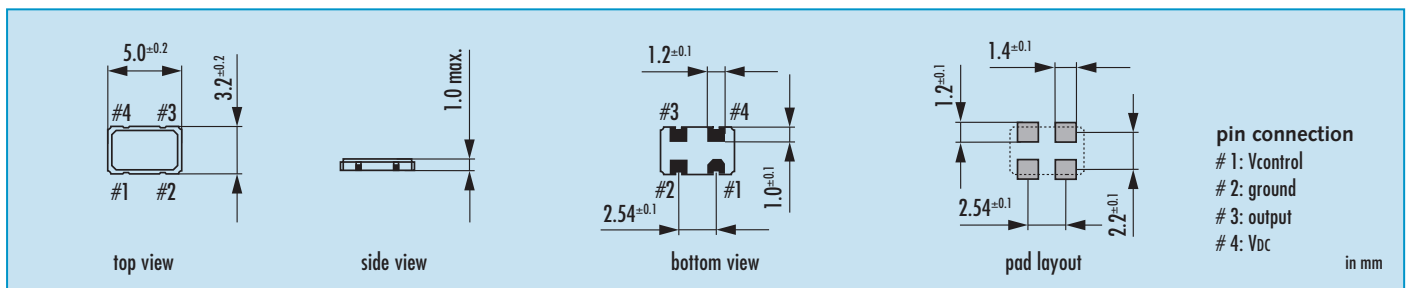
6.0 ns: > 10.0 MHz	note: - specific data on request - rise time: 0.1 V_{DC} ~ 0.9 V_{DC} - fall time: 0.9 V_{DC} ~ 0.1 V_{DC}
10.0 ns: < 10.0 MHz	

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



Order Information

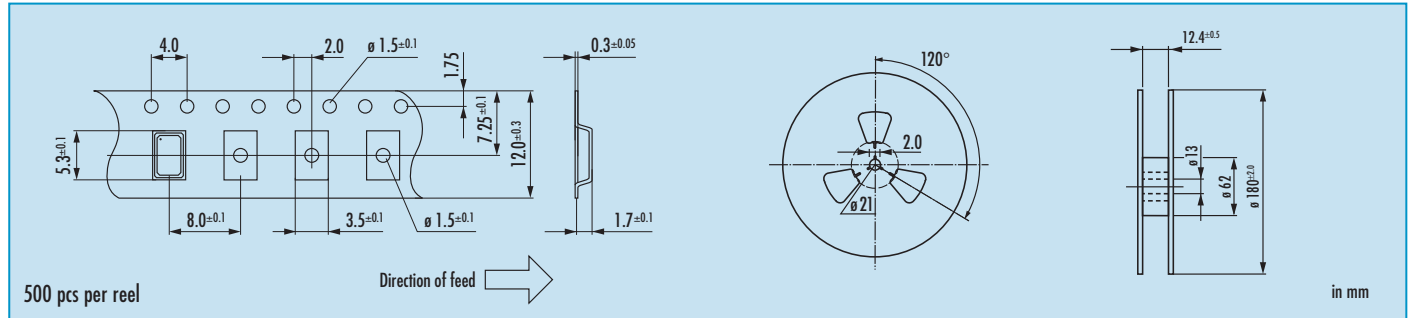
0	frequency in MHz	type	frequency stability in ppm	supply voltage in Volt	pulling range in ppm	option
Oscillator	2.0 ~ 54.0 MHz	JV53	C = ± 25 ppm G = ± 30 ppm B = ± 50 ppm	3.3 = 3.3 V	10 = ± 100 ppm	blank = -20 °C ~ +70 °C T1 = -40 °C ~ +85 °C on request

Example: O 27.0-JV53-B-3.3-10-LF (Suffix LF = RoHS compliant / Pb free pins or pads)

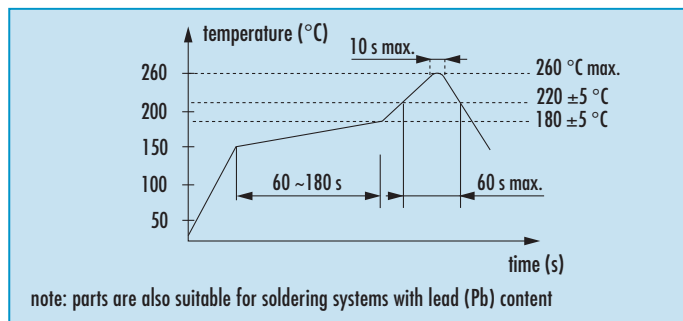


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Taping Specification



Reflow Soldering Profile



Marking

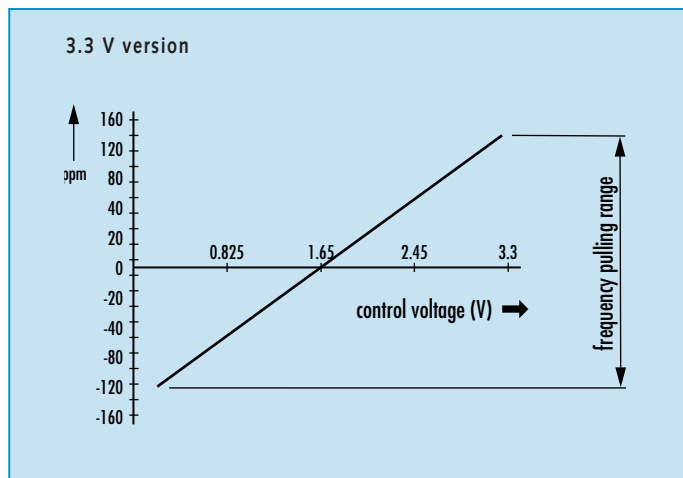
frequency
type / date code

date code:

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

A ~ M: Jan. - Dec.
0: 2010 3: 2013
1: 2011 4: 2014
2: 2012 5: 2015

Control Voltage Characteristic



Packing Note

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