



actual size

# Oscillator · Spread Spectrum

SMD Spread Spectrum Crystal Oscillator · 5.0 x 3.2 mm

- different spread widths /modulations available
- reduced EMI type
- reflow soldering temperature: 260 °C max.
- ceramic/metal package



## General Data

type	JSS53	
frequency range	12.0 ~ 168.0 MHz	
frequency stability over all*	± 50ppm / ± 100ppm (see table 1)	
center spread modulation	± 0.5% / ± 1.0% / ± 2.0%	
down spread modulation	-1.0% / -2.0% / -4.0%	
current consumption	see table 2	
supply voltage V <sub>DC</sub>	3.3 V ± 5%	
temperature	operating	-10 °C ~ +70 °C / -40 °C ~ +85 °C
	storage	-40 °C ~ +85 °C
output	rise & fall time	see table 2
	load max.	15pF
	current max.	8 mA
	low level max.	0.2 x V <sub>DC</sub>
	high level min.	0.8 x V <sub>DC</sub>
output enable time max.	10ms	
output disable time max.	10ns	
start-up time max.	10ms	
standby function	stop	
jitter	see table 4	
symmetry at 50% of V <sub>pp</sub>	45% ~ 55% typ. (40% ± 60% max.)	

Table 1: Frequency Stability Code

stability code	A	B		
	± 100 ppm	± 50 ppm		
-10 °C ~ +70 °C		○		
-40 °C ~ +85 °C	○	○		

● standard ○ on request

\* 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:	
12.0 ~ 28.0 MHz	13 mA
28.1 ~ 80.0 MHz	15 mA
80.1 ~ 168.0 MHz	30 mA

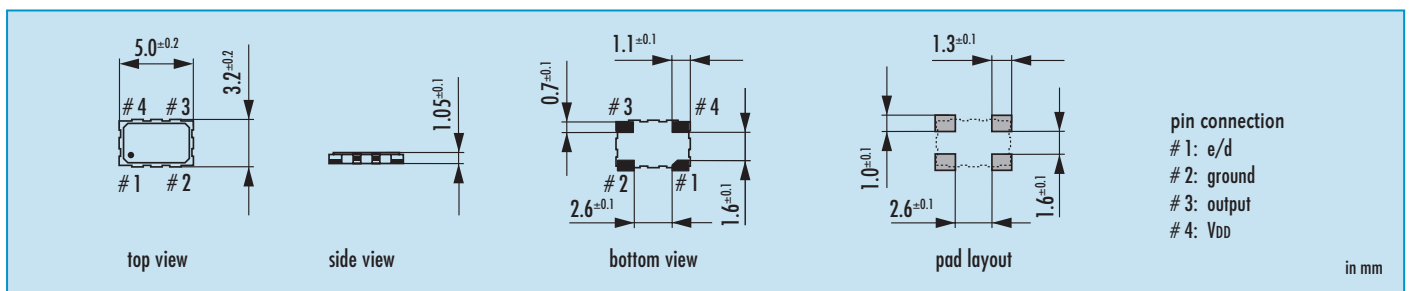
Table 3: Rise & Fall Time max.

5ns: 12.0 ~ 80.0 MHz	<b>note:</b> - specific data on request
4ns: 80.1 ~ 168.0 MHz	

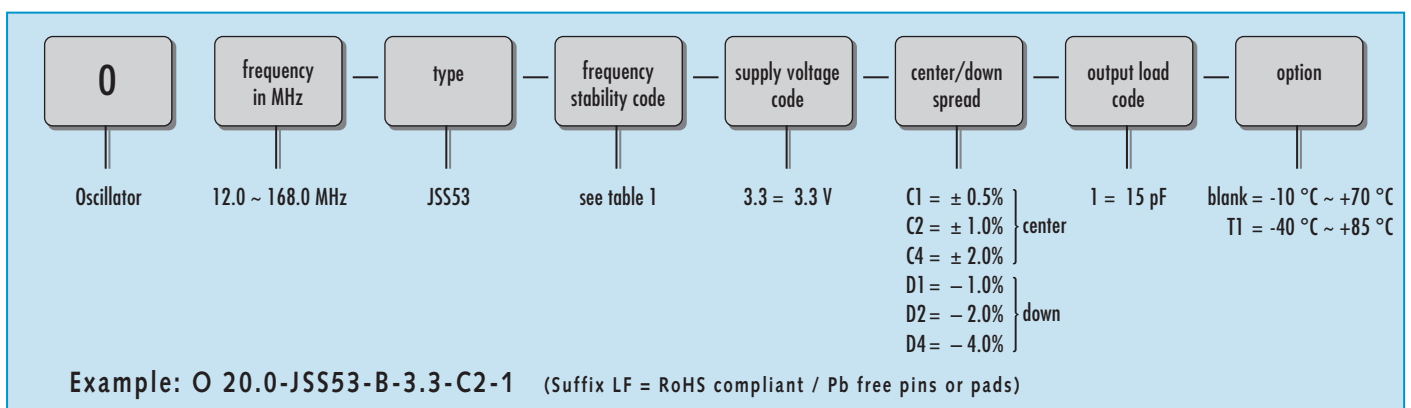
Table 4: Jitter

jitter (cycle to cycle, sigma)	200ps max. (at 10.0 ~ 19.9 MHz)
	100ps max. (at 20.0 ~ 168.0 MHz)

## Dimensions

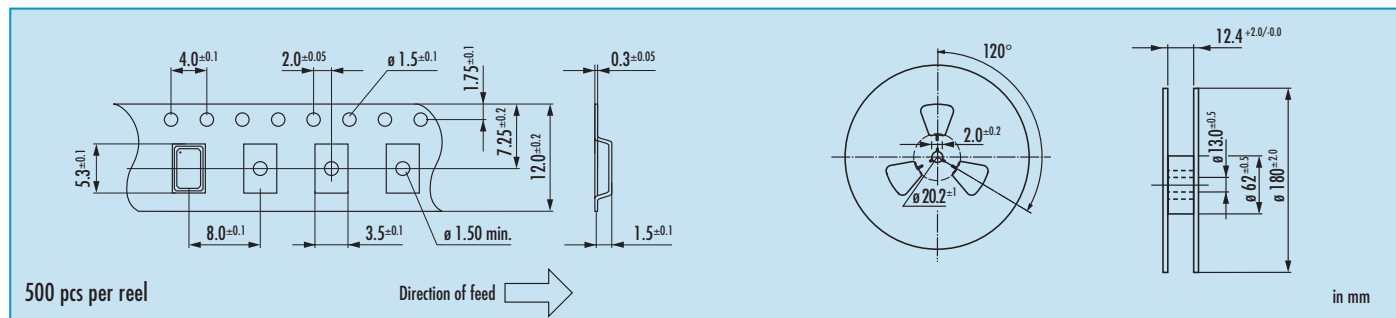


## Order Information



# Oscillator · Spread Spectrum · JSS53 · 3.3 V

## Taping Specification



## Enable / Disable Function

pin #1 (e/d control)	pin #3 (output)
open	active
high "1" ( $V_{IH} \geq 0.8 V_{DC}$ )	active
low "0" ( $V_{IL} \leq 0.2 V_{DC}$ )	high impedance

standby current: 20  $\mu$ A max.  
**stop function:**

- oscillator stops
- output high impedance

## Marking

S V<sub>DD</sub> C spread / frequency  
 stability / date code

date code:

A ~ M: Jan. - Dec.

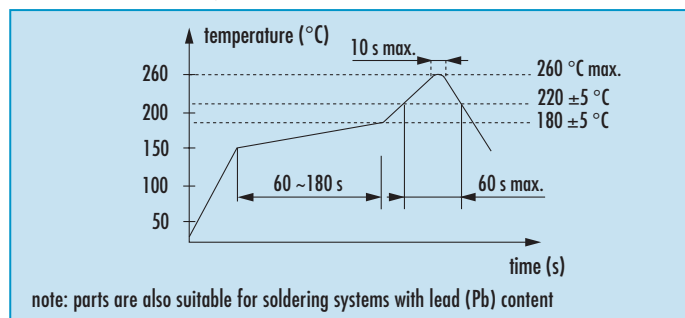
7: 2007

8: 2008

9: 2009

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

## Reflow Soldering Profile



## Packing Note

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