



actual size

# Oscillator · JO21 · 1.8 V

SMD Oscillator with Stop Function · 2.0 x 1.6 mm

- ultra small package
- very low current consumption
- reflow soldering temperature: 260 °C max.
- ultra flat ceramic / metal package



## General Data

<b>type</b>	<b>JO21 1.8 V</b>	
frequency range	0.85 ~ 50.0 MHz	
frequency stability over all*	± 50 ppm ~ ± 100 ppm	
	see table 1	
current consumption	see table 2	
supply voltage V <sub>DC</sub>	1.8 V ± 5%	
temperature	operating	-20 °C ~ +70 °C / -40 °C ~ +85 °C
	storage	-55 °C ~ +100 °C
output	rise & fall time	see table 3
	load max.	15 pF
	current max.	4 mA
	low level max.	0.1 x V <sub>DC</sub>
	high level min.	0.9 x V <sub>DC</sub>
output enable time max.	10 ms	
output disable time max.	50 µs	
start-up time max.	10 ms	
standby function	stop	
standby current max.	5 µA	
symmetry at 0.5 x V <sub>DC</sub>	45% ~ 55% max.	

Table 1: Frequency Stability Code

stability code	A	B				
	± 100 ppm	± 50 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.

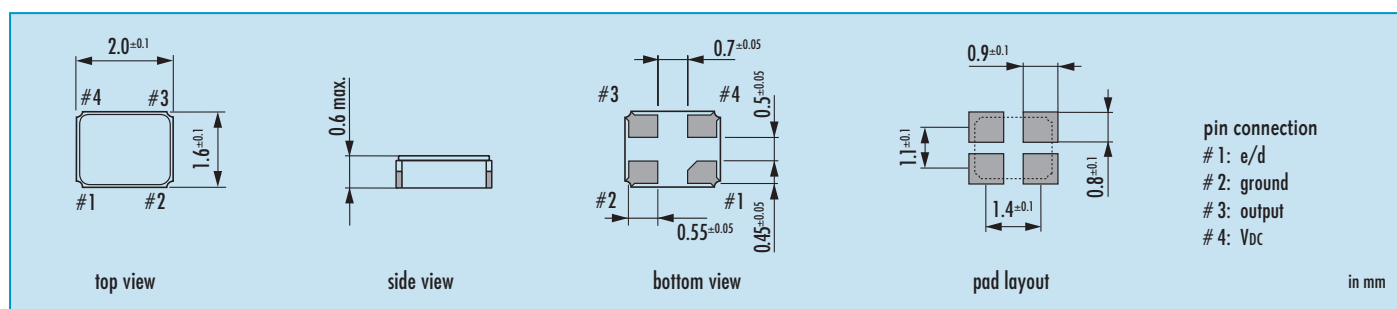
Table 2: Current Consumption max.

1.8 V: current at 15pF load:	
0.85 ~ 19.9 MHz	2.0 mA
20.00 ~ 39.9 MHz	3.0 mA
40.00 ~ 50.0 MHz	4.0 mA

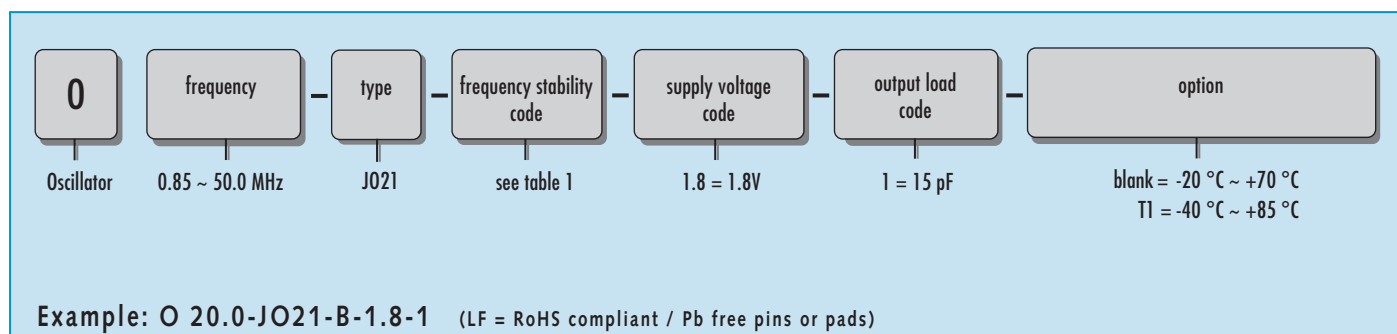
Table 3: Rise & Fall Time max.

6 ns: 0.85 ~ 50.0 MHz	<b>note:</b> - specific data on request - rise time: 0.1 V <sub>DC</sub> ~ 0.9 V <sub>DC</sub> - fall time: 0.9 V <sub>DC</sub> ~ 0.1 V <sub>DC</sub>
-----------------------	--

## Dimensions

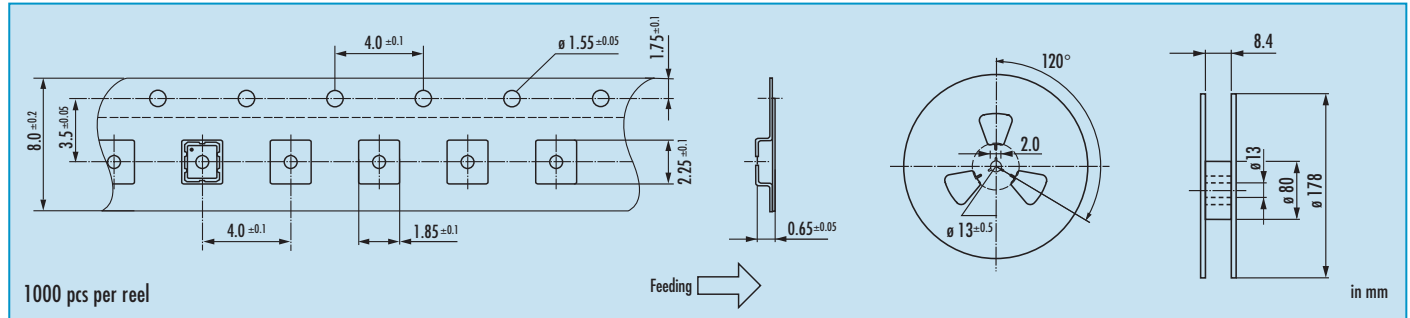


## Order Information



# Oscillator · JO21 · 1.8 V · Stop Function

## 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

**stop function:**

- oscillator stops
- output high impedance

## Marking

frequency

J / stability code / date code

date code:

A ~ M: Jan.- Dec.

9: 2009

0: 2010

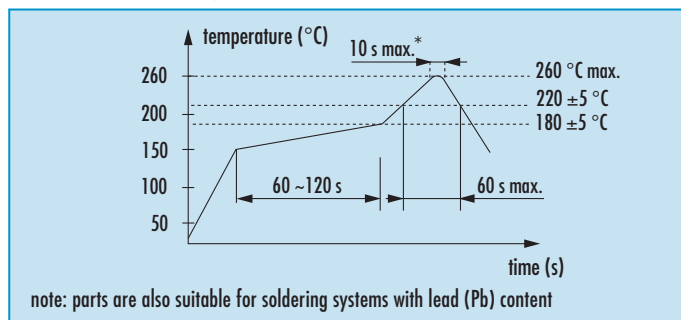
1: 2011

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 1000 pieces per reel
- non-multiple packing units are only supplied taped / bulk

\* hand soldering temperature should not exceed 280 °C