



actual size

Oscillator · JO21 · 2.5 V

SMD Oscillator with Stop Function · 2.0 x 1.6 mm

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



General Data

type	JO21 2.5 V
frequency range	1.6250 ~ 54.0 MHz
frequency stability over all*	± 25 ppm ~ ± 100 ppm see table 1
current consumption	see table 2
supply voltage V_{DC}	2.5 V ± 10%
temperature	operating** -20 °C ~ +70 °C / -40 °C ~ +85 °C storage -65 °C ~ +125 °C
output	rise & fall time see table 3 load max 15 pF current max. 4 mA low level max. $0.1 \times V_{DC}$ high level min. $0.9 \times V_{DC}$
output enable time max.	10 ms
output disable time max.	200 ns
start-up time max.	10 ms
standby function	stop
standby current max.	10 µA
symmetry at $0.5 \times V_{DC}$	45% ~ 55% max.

** ask if a 105 °C version is available

Table 1: Frequency Stability Code

stability code	A	B	G	C		
	± 100 ppm	± 50 ppm	± 30 ppm	± 25 ppm		
-20 °C ~ +70 °C		○	○	D		
-40 °C ~ +85 °C	○	○				

● standard ○ available D excludes aging

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

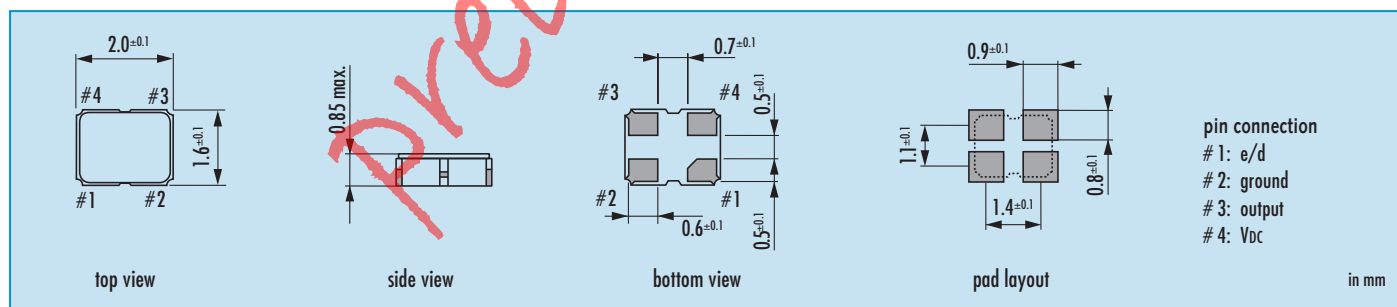
Table 2: Current Consumption max.

2.5 V: current at 15pF load:	
1.625 ~ 19.9 MHz	4.0 mA
20.000 ~ 39.9 MHz	5.5 mA
40.000 ~ 54.0 MHz	9.0 mA

Table 3: Rise & Fall Time max.

5 ns: 1.625 ~ 54.0 MHz	note: - specific data on request - rise time: $0.1 V_{DC} \sim 0.9 V_{DC}$ - fall time: $0.9 V_{DC} \sim 0.1 V_{DC}$
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Dimensions



Order Information

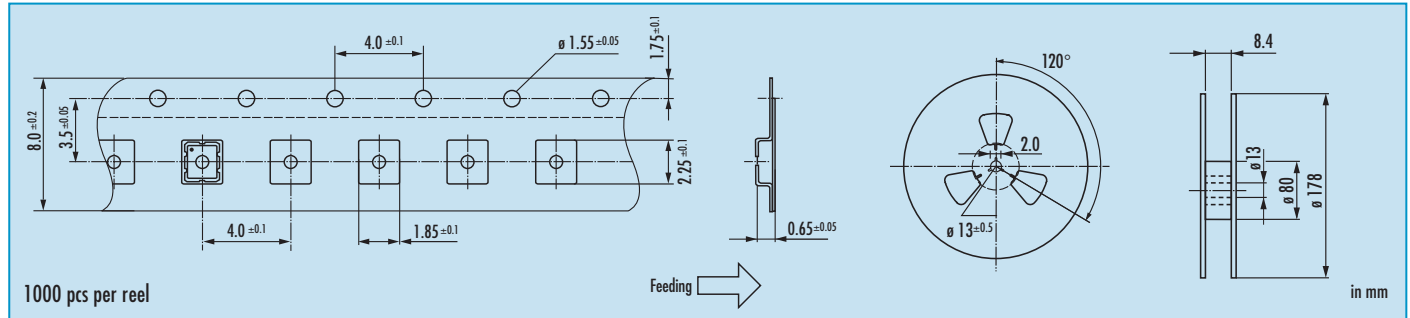
0	frequency	type	frequency stability code	supply voltage code	output load code	option
Oscillator	1.625 ~ 54.0 MHz	JO21	see table 1	2.5 = 2.5 V	1 = 15 pF	blank = -20 °C ~ +70 °C T1 = -40 °C ~ +85 °C

Example: O 20.0-JO21-B-2.5-1-T1-LF (LF = RoHS compliant / Pb free pins or pads)



Oscillator · JO21 · 2.5 V · Stop Function

Taping Specification



Enable / Disable Function

pin #1 (e/d control)	pin #3 (output)
open	active
high "1" ($V_{IH} \geq 0.7 V_{DC}$)	active
low "0" ($V_{IL} \leq 0.3 V_{DC}$)	high impedance

stop function:

- oscillator stops
- output high impedance

Marking

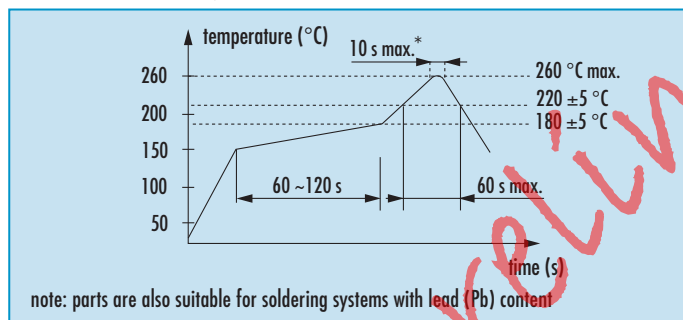
frequency
company code / frequency stability code / date code

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

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