



actual size

# Oscillator · JO22 · 2.8 V

## SMD Oscillator with Stop Function · 2.5 x 2.0 mm

- low current consumption
- low phase noise type for WLAN available\*\*
- reflow soldering temperature: 260 °C max.
- ultra flat ceramic / metal package



### General Data

<b>type</b>	<b>JO22 2.8 V</b>	
<b>frequency range</b>	0.75 ~ 50.0 MHz	
<b>frequency stability over all*</b>	± 25 ppm ~ ± 100 ppm	
	see table 1	
<b>current consumption</b>	see table 2	
<b>supply voltage V<sub>DC</sub></b>	2.8 V ± 5%	
<b>temperature</b>	<b>operating</b>	-20 °C ~ +70 °C up to -40 °C ~ +105 °C
	<b>storage</b>	-55 °C ~ +105 °C
<b>output</b>	<b>rise &amp; fall time</b>	see table 3
	<b>load max.</b>	15 pF
	<b>current max.</b>	4 mA
	<b>low level max.</b>	0.4 V
	<b>high level min.</b>	V <sub>DC</sub> - 0.4 V
<b>output enable time max.</b>	10 ms	
<b>output disable time max.</b>	50 µs	
<b>start-up time max.</b>	10 ms	
<b>standby function</b>	stop	
<b>standby current max.</b>	10 µA	
<b>phase jitter 12 kHz ~ 20.0 MHz</b>	< 1.0 ps RMS**	
<b>symmetry at 0.5 x V<sub>DC</sub></b>	45 % ~ 55 % max.	

Table 1: Frequency Stability Code

stability code	A	B	G	C		
	± 100 ppm	± 50 ppm	± 30 ppm	± 25 ppm		
-20 °C ~ +70 °C		○	○	△		
-40 °C ~ +85 °C	○	○	○			
-40 °C ~ +105 °C	○	○				

● standard ○ available △ excludes aging

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

Table 2: Current Consumption max.

2.8 V: current at 15pF load:

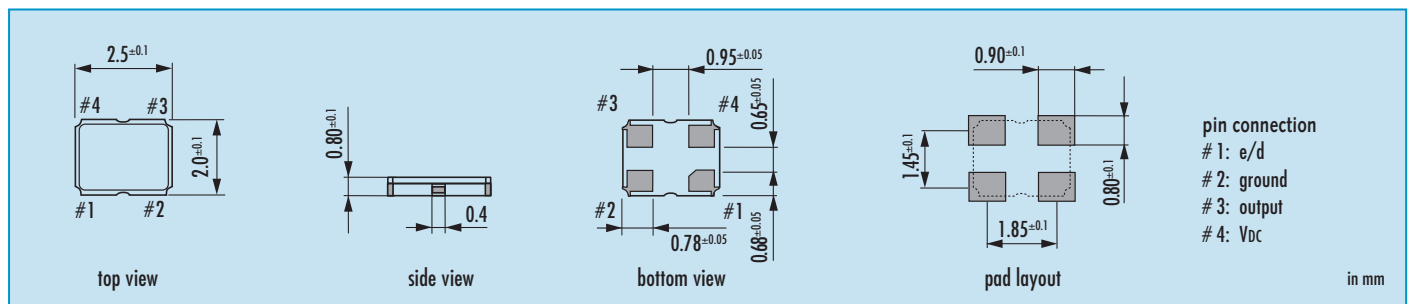
0.75 ~ 19.9 MHz	5 mA
20.00 ~ 39.9 MHz	6 mA
40.00 ~ 50.0 MHz	7 mA

Table 3: Rise & Fall Time max.

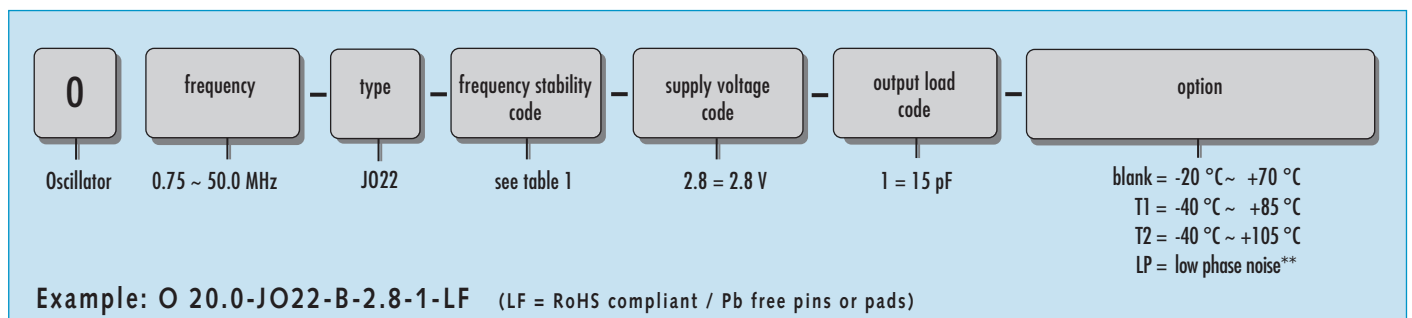
5 ns: 0.75 ~ 50.0 MHz	<b>note:</b> - specific data on request - rise time: 0.1 V <sub>DC</sub> ~ 0.9 V <sub>DC</sub> - fall time: 0.9 V <sub>DC</sub> ~ 0.1 V <sub>DC</sub>
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\*\* detailed data and available frequencies for option - LP upon request

### Dimensions

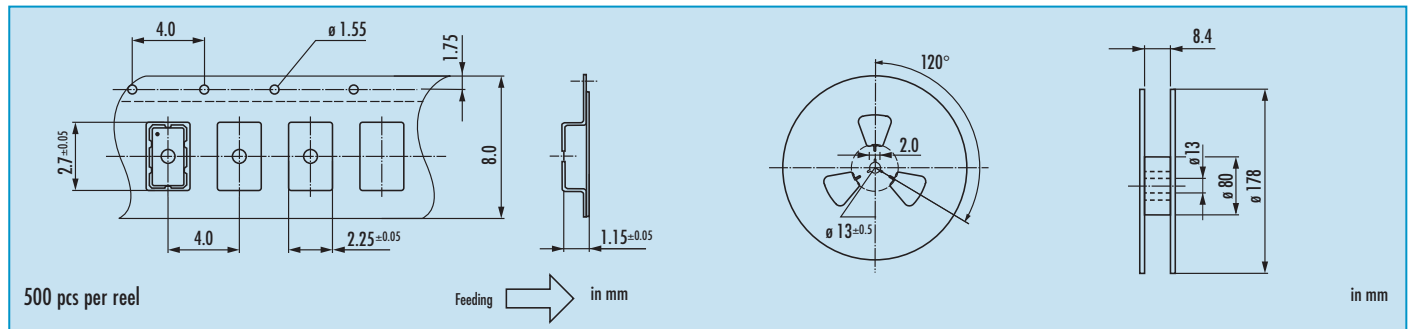


### Order Information



# Oscillator · JO22 · 2.8 V · Stop Function

## Taping Specification



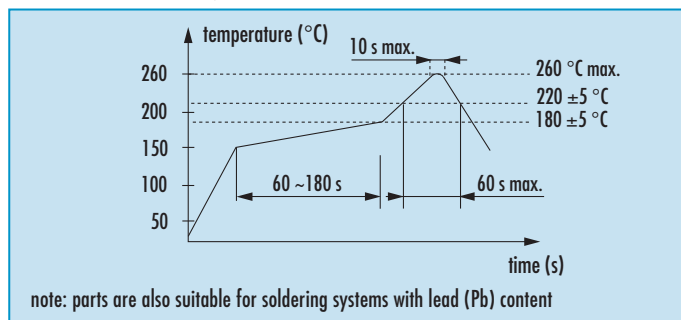
## Enable / Disable Function

<b>pin #1 (e/d control)</b>	<b>pin #3 (output)</b>
open	active
high "1" ( $V_{IH} \geq 0.8 V_{DC}$ )	active
low "0" ( $V_{IL} \leq 0.2 V_{DC}$ )	high impedance
<b>stop function:</b>	
<ul style="list-style-type: none"> <li>• oscillator stops</li> <li>• output high impedance</li> </ul>	

## Marking

frequency					
company code / frequency stability code / date code					
date code:					
A ~ M: Jan. - Dec.					
A	B	C	D	E	F
0: 2010    3: 2013					
1: 2011    4: 2014					
2: 2012    5: 2015					
Jan.	Febr.	Mar.	Apr.	May	June
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