



actual size

# Oscillator JO32H · 2.5 V

- High Stability Oscillator with Stop Function · 3.2 x 2.5 mm
- Stability suitable for wireless application (Bluetooth, WiFi etc.)
- LVCMOS / HCMOS compatible output
- Low phase jitter, no PLL
- Seam sealed ceramic/metal package



RoHS compliant



Pb free



REACH compliant



Conflict mineral free

## GENERAL DATA

TYPE		JO32H 2.5 V
frequency range	2.5 ~ 60.0 MHz (15 pF max.)	
frequency stability over all*	± 8 ppm ~ ± 20 ppm see table 1	
aging 1 st year	±2 ppm max.	
current consumption	7 mA max.	
supply voltage V <sub>DC</sub>	2.5 V ± 10%	
temperature	operating	-20 °C ~ +70 °C up to -40 °C ~ +105 °C
	storage	-40 °C ~ +85 °C
output	rise & fall time	5 nsec max.
	load max.	15 pF
	current max.	4.0 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.	1 ms	
output disable time max.	250 ns	
start-up time max.	2 ms	
standby function	stop	
standby current max.	5 µA	
phase jitter 12 kHz ~20 MHz	< 1.0 ps RMS	
symmetry at 0.5 x V <sub>DC</sub>	45% ~ 55% max.	

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

## TABLE 1: FREQUENCY STABILITY CODE

stability code	D	E	F	H
	± 20 ppm	±15 ppm	± 10 ppm	± 8 ppm
-20 °C ~ +70 °C	○	○	○	○
-40 °C ~ +85 °C	○	○	○	
-40 °C ~ +105 °C	○			

○ available

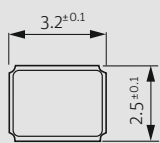
## TABLE 2: RISE & FALL TIME MAX.

5 ns: 2.5 ~ 60.0 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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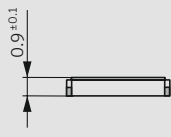
## ENABLE / DISABLE FUNCTION

pin #1 (e/d control)	pin #4 (output)
open	active
high "1" (V <sub>IH</sub> > 0.7 V <sub>DC</sub> )	active
low "0" (V <sub>IL</sub> ≤ 0.3 V <sub>DC</sub> )	high impedance
<b>stop function:</b>	
• oscillator stops	
• output high impedance	

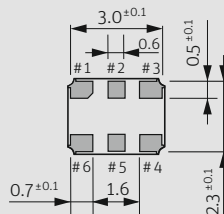
## DIMENSIONS



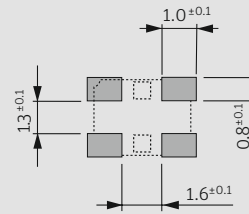
top view



side view



bottom view



pad layout

- # 1: e/d
- # 2: nc
- # 3: ground
- # 4: output
- # 5: nc
- # 6: V<sub>DC</sub>

pin connection

in mm

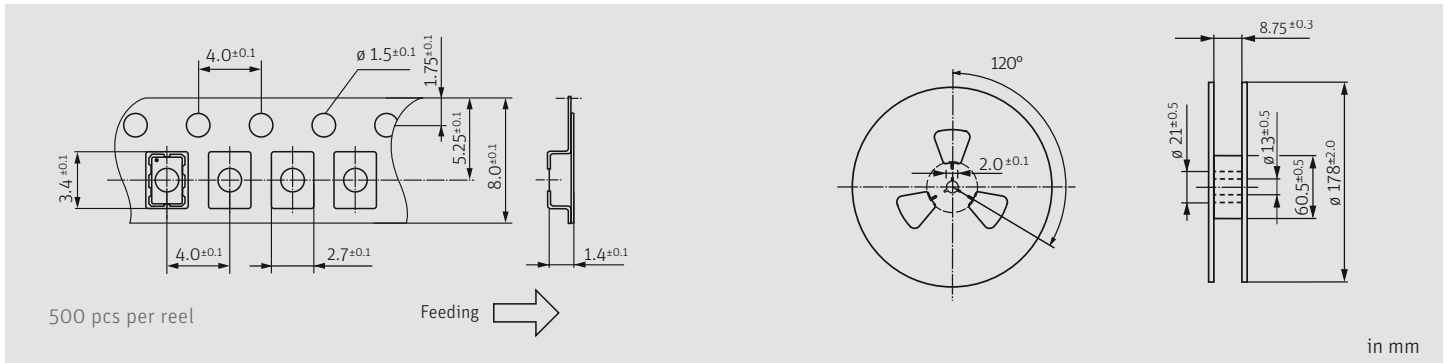
## ORDER INFORMATION

0	frequency	type	frequency stability code	supply voltage code	output load code	option
Oscillator	2.50 ~ 60.0 MHz	JO32H	see table 1	2.5 = 2.5 V	1 = 15 pF	blank = -20 °C ~ +70 °C T1 = -40 °C ~ +85 °C T2 = -40 °C ~ +105 °C

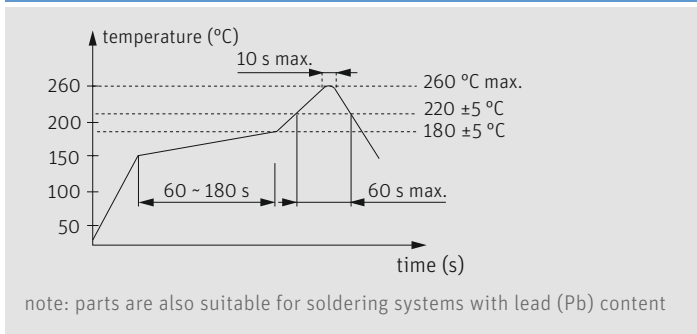
**Example: 0 20.0-JO32H-F-2.5-1-T1-LF** (Suffix LF = RoHS compliant / Pb free)

# Oscillator J032H · 2.5 V · Low Power

## TAPING SPECIFICATION



## REFLOW SOLDERING PROFILE



## MARKING

### frequency

### company stability code / date code

date code: A ~ M: Jan. - Dec.

7: 2017    8: 2018    9: 2019    0: 2020    1: 2021    2: 2022

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

## PACKAGING NOTE

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