



actual size

Oscillator JO22H · 3.3 V

- High Stability Oscillator with Stop Function · 2.5 x 2.0 mm
- Stability suitable for wireless application (Bluetooth, WiFi etc.)
- LVCMOS / HCMOS compatible output
- Low phase jitter, no PLL
- Flat seam sealed ceramic/metal package



RoHS compliant



Pb free



REACH
compliant



Conflict
mineral free

GENERAL DATA

TYPE		JO22H 3.3 V
frequency range		13.0 ~ 54.0 MHz (15 pF max.)
frequency stability over all*		± 10ppm ~ ± 20ppm
		see table 1
current consumption		7 mA max.
supply voltage V_{DC}		3.3 V ± 5%
temperature	operating	-20 °C ~ +70 °C / -40 °C ~ +85 °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 V x V_{DC}
	high level min.	0.9 V x V_{DC}
output enable time max.		3 ms
output disable time max.		250 ns
start-up time max.		3 ms
standby function		stop
standby current max.		10 µA
phase jitter 12 kHz ~20 MHz		< 3.0 ps RMS typ.
symmetry at 0.5 x V_{DC}		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 ± 20 ppm	E ±15 ppm	F ± 10 ppm	
-20 °C ~ +70 °C	○	○	○	
-40 °C ~ +85 °C	○	○	○	

○ available

TABLE 2: RISE & FALL TIME MAX.

5 ns: 13.0 ~ 54.0 MHz

note:

- specific data on request
- rise time: 0.1 V_{DC} ~ 0.9 V_{DC}
- fall time: 0.9 V_{DC} ~ 0.1 V_{DC}

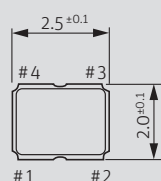
ENABLE / DISABLE FUNCTION

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

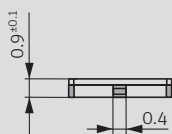
stop function:

- oscillator stops
- output high impedance

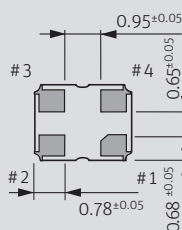
DIMENSIONS



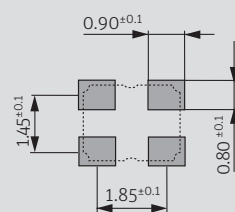
top view



side view



bottom view



pad layout

1: e/d
2: ground
3: output
4: V_{DC}

pin connection

in mm

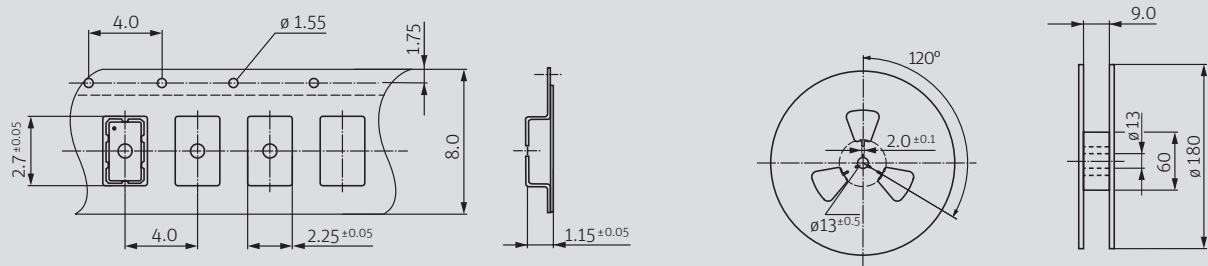
ORDER INFORMATION

0	frequency	type	frequency stability code	supply voltage code	output load code	option
Oscillator	13.0 ~ 54.0 MHz	JO22H	see table 1	3.3 = 3.3 V	1 = 15 pF	blank = -20 °C ~ +70 °C T1 = -40 °C ~ +85 °C

Example: 0 20.0-JO22H-F-3.3-1-T1 (Suffix LF = RoHS compliant / Pb free)

Oscillator J022H · 3.3 V · Low Power

TAPING SPECIFICATION



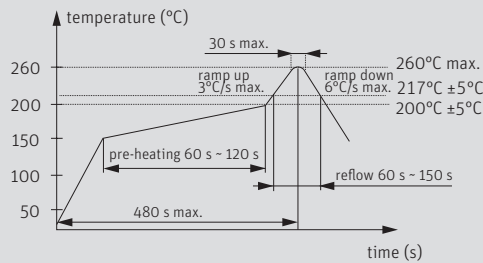
500 pcs per reel, 1000 pcs per reel on request

Feeding



in mm

REFLOW SOLDERING PROFILE



note: parts are also suitable for soldering systems with lead (Pb) content

MARKING

frequency

company stability code / date code

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

3: 2023 4: 2024 5: 2025 6: 2026 7: 2027 8: 2028

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