



actual size

Oscillator JO33H · 1.8 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		JO33H 1.8 V
frequency range		4.0 ~ 54.0 MHz (15 pF max.)
frequency stability over all*		± 10 ppm ~ ± 20 ppm see table 1
aging 1 st year		±2 ppm max.
current consumption max.		3.5 mA ≤ 20.0 MHz / 5.0 mA ≤ 54.0 MHz
supply voltage V _{DC}		1.8 V ± 5%
temperature	operating	-20 °C ~ +70 °C / -40 °C ~ +85 °C
	storage	-40 °C ~ +105 °C
output	rise & fall time	5 nsec max.
	load max.	15 pF
	current max.	4.0 mA
	low level max.	0.4 V
	high level min.	V _{DC} - 0.4 V
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		< 0.4 ps RMS (fo ≥ 26.0 MHz)
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

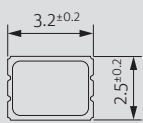
TABLE 2: RISE & FALL TIME MAX.

5 ns: 4.0 ~ 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}
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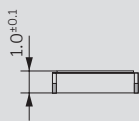
ENABLE / DISABLE FUNCTION

pin #1 (e/d control)	pin #4 (output)
open	active
high "1" (V _{IH} ≥ 0.7 V _{DC})	active
low "0" (V _{IL} ≤ 0.3 V _{DC})	high impedance
stop function:	
• oscillator stops	
• output high impedance	

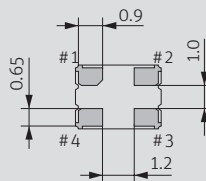
DIMENSIONS



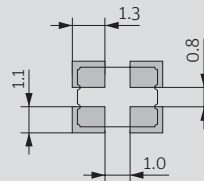
top view



side view



bottom view



pad layout

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

pin connection

in mm

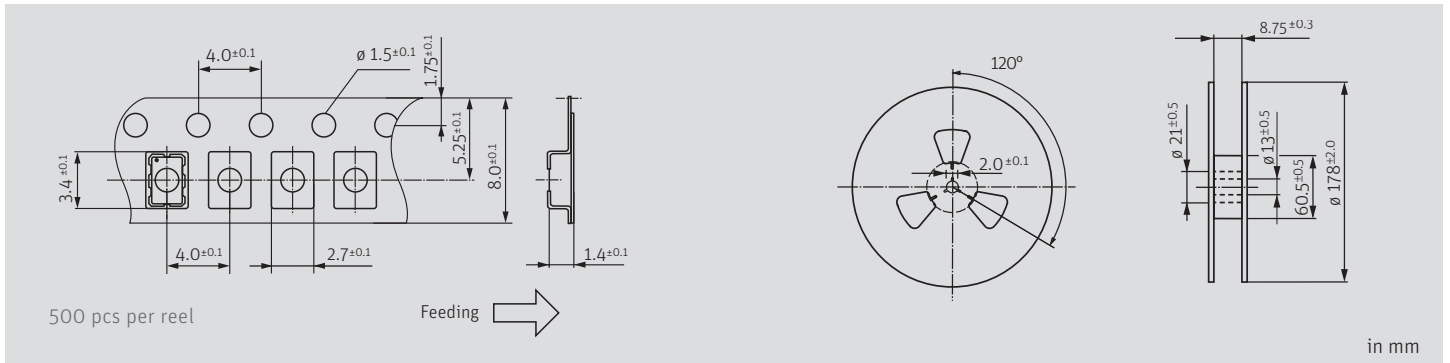
ORDER INFORMATION

0	frequency	type	frequency stability code	supply voltage code	output load code	option
Oscillator	4.0 ~ 54.0 MHz	JO33H	see table 1	1.8 = 1.8 V	1 = 15 pF	blank = -20 °C ~ +70 °C T1 = -40 °C ~ +85 °C

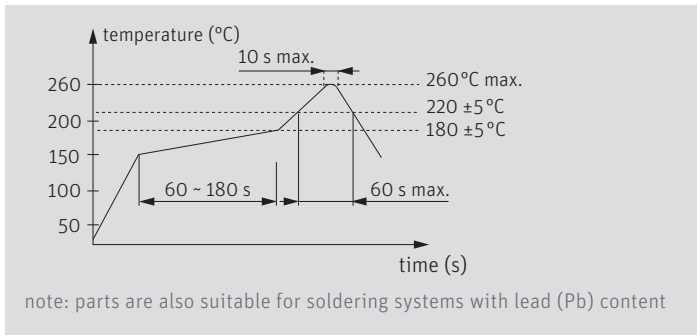
Example: 0 40.0-JO33H-F-1.8-1-T1-LF (Suffix LF = RoHS compliant / Pb free)

Oscillator J033H · 1.8 V · High Stability Low Power Oscillator

TAPING SPECIFICATION



REFLOW SOLDERING PROFILE



MARKING

frequency

company stability code / date code

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

1: 2021 2: 2022 3: 2023 4: 2024 5: 2025 6: 2026

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