



actual size

Oscillator JO23HT · 1.8 V ~ 3.3 V

- high stability oscillator with HCMOS output · 2.5 x 2.0 mm
- wide operating temperature range up to +105 °C
- variable supply voltage, excellent phase noise
- with standby function, very low standby current
- seam sealed ceramic/metal package



RoHS compliant



Pb free



REACH compliant



Conflict mineral free

GENERAL DATA		JO23HT 1.8 V ~ 3.3 V
TYPE	JO23HT 1.8 V ~ 3.3 V	
frequency range	12.0 ~ 52.0 MHz	
frequency stability over all*	± 10 ppm ~ ± 20 ppm / ± 25 ppm (T2) see table 1	
aging 1st year	± 2 ppm max.	
current consumption max.	5 mA ≤ 26.0 MHz / 7 mA ≤ 52.0 MHz	
supply voltage V _{DC}	1.8 V -5% ~ 3.3 V +10% variable	
temperature	operating	-20 °C ~ +70 °C up to -40 °C ~ +105 °C
	storage	-40 °C ~ +105 °C
output	rise & fall time	5 nsec max. (at 0.1 V _{DC} ↔ 0.9 V _{DC})
	load max.	15 pF
	current max.	0.4 mA
	low level max.	0.2 x V _{DC}
	high level min.	0.8 x V _{DC}
output enable time max.	3 ms	
output disable time max.	150 ns	
start-up time max.	3 ms	
standby function	stop	
standby current	1 µA typ. / 10 µA max.	
phase jitter 12 kHz ~ 20.0 MHz	< 0.5 ps RMS max. / 0.3 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 / temperature code	C	D	E	F
	± 25 ppm	±20 ppm	± 15 ppm	± 10 ppm
-20 °C ~ +70 °C		○	○	○
-40 °C ~ +85 °C	T1	○	○	○
-40 °C ~ +105 °C	T2	○	○	

○ available

ENABLE / DISABLE FUNCTION	
PIN #1 (E/D CONTROL)	PIN #3 (OUTPUT)
high "1" (V _{IH} ≥ 0.8 V _{DC})	active (see note)
low "0" (V _{IH} ≥ 0.2 V _{DC})	high impedance
stop funktion:	
- oscillator stops and output changes to high impedance	

NOTE

- e/d control pin #1 has a weak internal pull-up, use external pull-up of 10kOhm to ensure TCXO activation
- for best supply noise rejection, connect a capacitor closely to the supply voltage pins; a separate voltage supply rail ensures best phase noise

PHASE NOISE AT FO 40.0 MHz	
at 100 Hz	-115 dBc/Hz typ.
at 1 kHz	-135 dBc/Hz typ.
at 10 kHz	-149 dBc/Hz typ.

DIMENSIONS

top view side view bottom view pad layout pin connection in mm

JO23HT
1: e/d
2: ground
3: output
4: V_{DC}

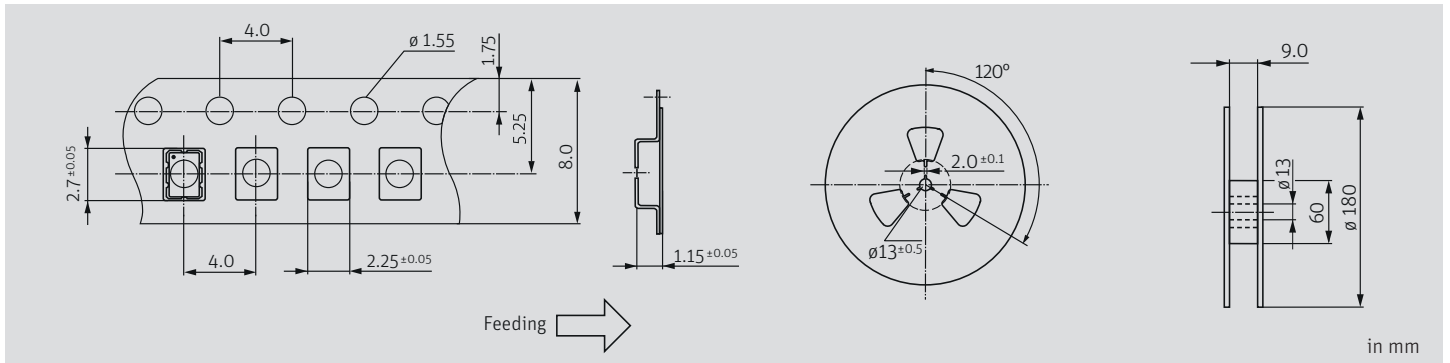
ORDER INFORMATION

0	frequency	type	frequency stability code	supply voltage code	output load code	option
Oscillator	12.0 ~ 52.0 MHz	JO23HT	see table 1	1V3 = 1.8 V ~ 3.3 V	1 = 15 pF	blank = -20 °C ~ +70 °C T1 = -40 °C ~ +85 °C T2 = -40 °C ~ +105 °C

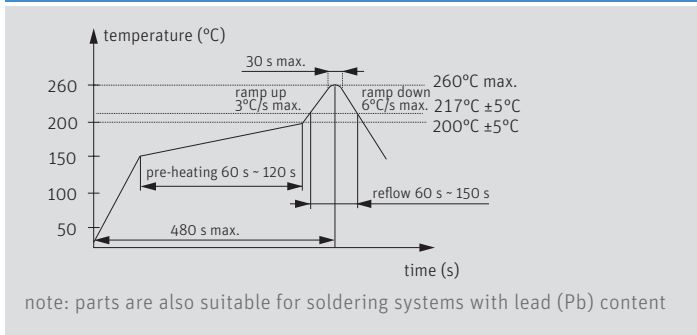
Example: 0 20.0-JO23HT-F-1V3-1-T1-LF (Suffix LF = RoHS compliant / Pb free)

Oscillator J023HT · 1.8 V ~ 3.3 V · High Stability Low Power Oscillator

TAPING SPECIFICATION



REFLOW SOLDERING PROFILE



* hand soldering temperature should not exceed 280 °C

MARKING

frequency

company stability code / date code

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

5: 2025 6: 2026 7: 2027 8: 2028 9: 2029 0: 2030

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

- packing unit is 1000 or 3000 pieces per reel
- non-multiple packing units are only supplied taped / bulk