



actual size

Oscillator JT21GLE · GPS TCXO

- temp. compensated crystal Oscillator, 2.0 x 1.6 mm
- special type for navigation systems (GPS etc.)
- low voltage 1.2 V ~ 1.8 V, with clipped sine output
- high stability ± 0.5 ppm, temperature range up to -40 °C ~ $+85$ °C
- with enable / disable function



RoHS compliant



Pb free



REACH compliant



Conflict mineral free

GENERAL DATA		JT21GLE TCXO with E/D
frequency range	26.0 / 52.0 MHz (other frequ. case by case)	
frequency tolerance/ stability	at +25°C	± 2.0 ppm (incl. 2x reflow)
	temperature	± 0.5 ppm (stability code E)
	aging first year	± 1 ppm
	supply voltage	± 0.2 ppm (at any $V_{DC} \pm 5\%$)
	load change	± 0.2 ppm (at 10 K Ω 10 pF +/-10 %)
current consumption max.	1.5 mA at 26.0 MHz / 2.5 mA at 52.0 MHz	
supply voltage V_{DC}	1.2 V -5 % ~ 1.8 V +5 % (variable)	
temperature	operating	-30 °C ~ +85 °C (temperature code M) -40 °C ~ +85 °C (temperature code K)
	storage	-40 °C ~ +85 °C
output	load nom.	10 K Ω // 10 pF
	level min.	0.8 Vpp (clipped sine)
temperature slope max.	0.1 ppm / °C (at max. temp step 2 °C)	
static frequency hysteresis	0.6 ppm max. (* see note)	
start-up time max.	3.0 ms	
enable time max.	3.0 ms	
disable time max.	150 ns	
phase noise	at 100 Hz	-117 dBc/Hz typ.
at f_0	at 1 KHz	-137 dBc/Hz typ.
	at 10 KHz	-149 dBc/Hz typ.

ENABLE / DISABLE FUNCTION	
PIN #1 (E/D CONTROL)	PIN #3 (OUTPUT)
high "1" ($V_{IH} \geq 0.8 V_{DC}$)	active (see information below)
low "0" ($V_{IL} \leq 0.2 V_{DC}$)	high impedance
stop function (JT21GLE only):	
- oscillator stops	
- output high impedance	
- disabled supply current: 1 μ A max.	
important: to activate the JT21GLE TCXO permanently, please connect an external pull-up resistor of 10 k Ω to pin #1	

NOTE
- JT21GLE: pin #1 is enable/disable, external pull-up resistor required
- for navigation applications at higher supply voltages 1.8 V / 2.5 V / 3.3 V please refer to JT21G
- for standard applications at low supply voltages 1.2 V ~ 1.8 V please refer to JT21LE
- external AC coupling for output recommended
- for best supply noise rejection, connect a capacitor closely to the supply voltage pins
- a separate voltage supply rail ensures best phase noise
* maximal difference at +25°C, measured before and after a full cold-hot-cold cycle

PACKAGING NOTE
- standard packing unit is 1000 pieces per reel
- customized quantities on request

DIMENSIONS

top view

side view

bottom view

pad layout

TCXO with e/d
JT21GLE
1: e/d
2: GND
3: output
4: V_{DC}

pin connection

in mm

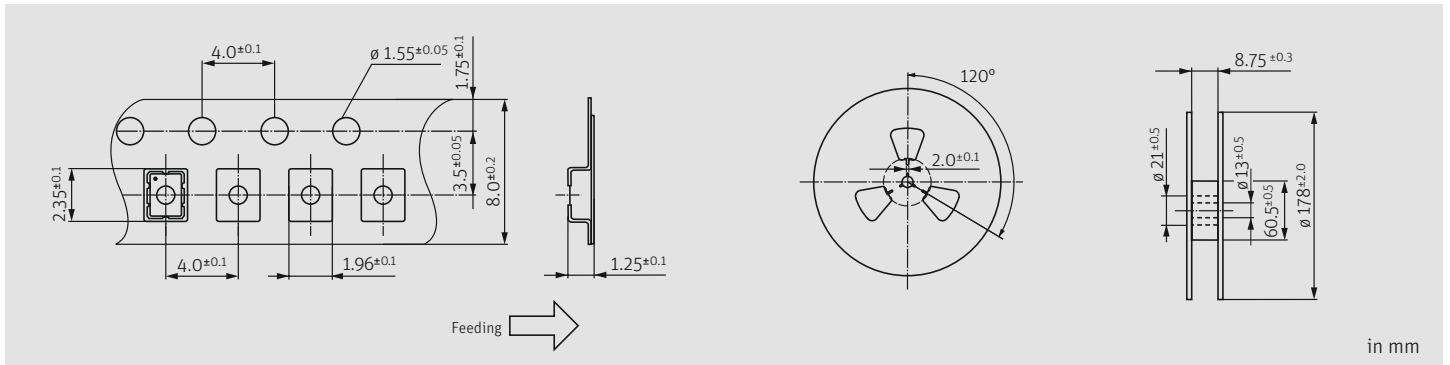
ORDER INFORMATION

0	frequency	type	frequency stability code	operating temp. code	supply voltage
Oscillator	26.0 = 26.0 MHz 52.0 = 52.0 MHz	JT21GLE	E = ± 0.5 ppm	M = -30 °C ~ +85 °C K = -40 °C ~ +85 °C	V = variable supply voltage 1.2 V -5 % ~ 1.8 V +5 %

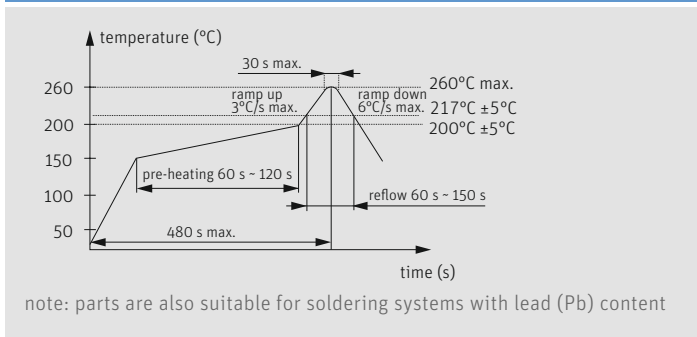
Example: 0 26.0-JT21GLE-E-M-V-LF (Suffix LF = RoHS compliant / Pb free)

Oscillator JT21GLE · TCXO for GPS

TAPING SPECIFICATION



REFLOW SOLDERING PROFILE



MARKING

frequency

company code / stability code / date code

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

4: 2024 5: 2025 6: 2026 7: 2027 8: 2028 9: 2029

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