



actual size

# Oscillator · TCXO · JT22G

Temp. Compensated Crystal Oscillator · 2.5 x 2.0 mm

- high stability TCXO for GPS applications
- temperature range -30 °C ~ +85 °C
- reflow soldering temperature: 260 °C max.
- ceramic/metal package



## General Data

type		JT22G
frequencies		ref. Table 1
stability	at +25 °C	± 2.0 ppm*
	temperature	± 0.5 ppm
	aging first year	± 1 ppm
	supply voltage	± 0.2 ppm (at V <sub>DC</sub> ± 5%)
	load change	± 0.2 ppm
current consumption max.		2.0 mA max.
supply voltage V <sub>DC</sub>		1.8 / 2.8 / 3.0 / 3.3 V (± 5%)
temperature	operating	-30 °C ~ +85 °C
	storage	-40 °C ~ +85 °C
output	load nom.	10 KΩ // 10 pF
	level min.	0.8 Vpp (clipped sine)
start-up time max.		2.5 ms

\* including frequency change after double reflow

Table 1: Available Frequencies and Supply Voltages

supply voltage	Unit	available frequencies		Unit
2.8 / 3.0 / 3.3	V	16.3680	26.0	MHz
1.8	V	16.3690	26.0	MHz

Table 2: Phase Noise

offset →		@ 10 Hz	@ 100 Hz	@ 1 kHz	@ 10 kHz	
frequency	Unit					Unit
16.368/16.369/19.2	MHz	-90	-115	-135	-150	dBc/Hz
26.0	MHz	-70	-105	-130	-145	dBc/Hz

## Note

- external AC coupling for output recommended
- for supply voltage noise rejection, connect a capacitor closely to the supply voltage pins

## Dimensions

top view

side view

bottom view

pad layout

TCXO  
JT22G  
# 1: GND  
# 2: N.C.  
# 3: GND  
# 4: output  
# 5: N.C.  
# 6: Vcc

pin connection

in mm

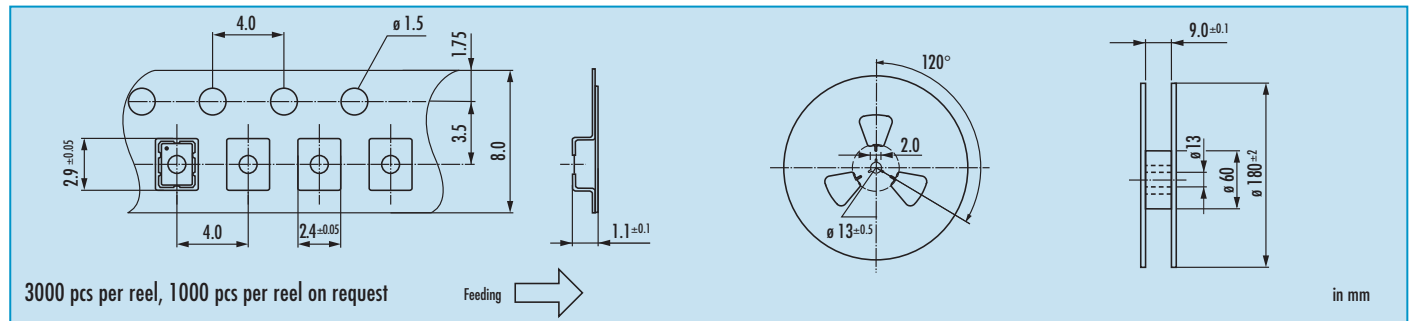
## Order Information

0	frequency in MHz	—	type	—	frequency stability code	—	operating temp. code	—	supply voltage
Oscillator	ref. Table 1		JT22G = TCXO		E = ± 0.5 ppm		M = -30 °C ~ +85 °C		1.8 = 1.8 V 2.8 = 2.8 V 3.0 = 3.0 V 3.3 = 3.3 V ref. Table 1

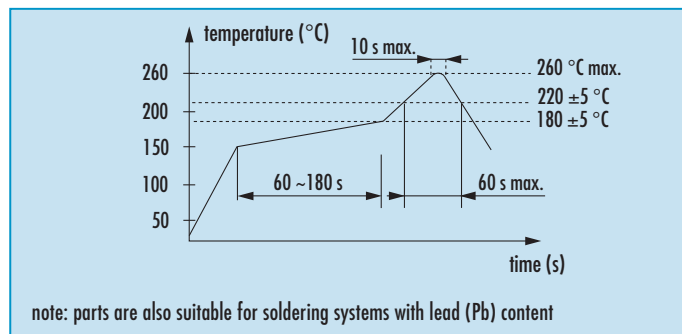
Example: O 16.3680-JT22G-E-M-3.3-LF (Suffix LF = RoHS compliant / Pb free pads)

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## Taping Specification



## Reflow Soldering Profile



## Marking

lot no.

internal code / frequency / date code (YM)

date code:

A ~ M: Jan.- Dec.

J: 2009

K: 2010

A: 2011

B: 2012

C: 2013

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

## Packing Note

- standard packing units are 3000 pieces per reel
- non-multiple packing units are only supplied taped / bulk