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With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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actual size

# Oscillator JT33(V) · (VC)TCXO

- Temp. Compensated Crystal Oscillator, 3.2 x 2.5 mm
- low power VCTCXO or TCXO
- temperature range -40 °C ~ +85 °C available
- ± 1.0 ppm stability available
- ceramic/metal package



RoHS compliant



Pb free



REACH compliant



Conflict mineral free

## GENERAL DATA

TYPE		JT33 / JT33V
frequency range		8.0 ~ 52.0 MHz
frequency tolerance/ stability	at +25°C	± 1.5 ppm (incl. 2x reflow)
	temperature	± 1 ppm ~ ± 5 ppm (table 1)
	aging first year	± 1 ppm
	supply voltage	± 0.2 ppm (at $V_{DC} \pm 5\%$ )
	load change	± 0.2 ppm
current consumption		2.5 mA max.
supply voltage $V_{DC}$		1.8 / 2.5 / 2.8 / 3.0 / 3.3 (±5%)
temperature	operating	see table 1
	storage	-40 °C ~ +85 °C
output	load nom.	10 KΩ // 10 pF
	level min.	0.8 Vpp (clipped sine)
external tuning range JT33V		±8 ppm min.
external tuning voltage JT33V		0.9 V ± 0.9 V at $V_{DC} = 1.8$ V (standard)
		1.5 V ± 1.0 V at $V_{DC} \geq 2.5$ V (standard)
		1.4 V ± 1.0 V at $V_{DC} \geq 2.5$ V (option)
start-up time max.		2.5 ms
phase noise	at 100 Hz	-109 dBc/Hz typ.
	at $f_0$	at 1 KHz
26 MHz	at 10 KHz	-148 dBc/Hz typ.

## TABLE 1: FREQUENCY STABILITY VS. TEMPERATURE

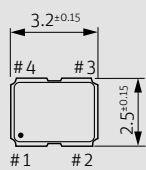
operating temperature code	frequency stability code / ppm					
	Y	Z	A	B	C	D
A: -30°C ~ +80°C	○	○	○	○	○	○
B: -20°C ~ +70°C	○	○	○	○	○	○
C: -10°C ~ +60°C	○	○	○	○	○	○
D: 0°C ~ +85°C	○	○	○	○	○	○
E: 0°C ~ +55°C	○	○	○	○	○	○
F: -10°C ~ +70°C	○	○	○	○	○	○
G: -30°C ~ +75°C	○	○	○	○	○	○
H: -20°C ~ +75°C	○	○	○	○	○	○
K: -40°C ~ +85°C	○	○	○	○	○	○
L: -20°C ~ +85°C	○	○	○	○	○	○
M: -30°C ~ +85°C	○	○	○	○	○	○

○ on request

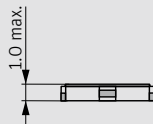
## NOTE

- TCXO JT33: pin #1 connected to GND
- VCTCXO JT33V: pin #1 is control voltage  $V_C$
- external AC coupling for output recommended

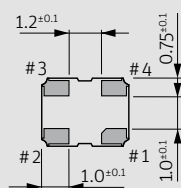
## DIMENSIONS



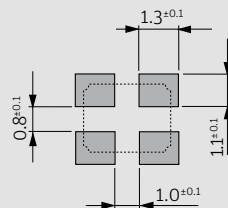
top view



side view



bottom view



pad layout

TCXO JT33	VCTCXO JT33V
# 1: GND	# 1: Vcontrol
# 2: GND	# 2: GND
# 3: output	# 3: output
# 4: $V_{DC}$	# 4: $V_{DC}$

pin connection

in mm

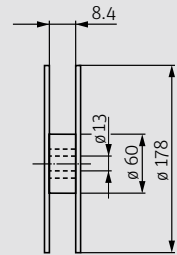
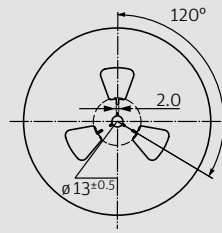
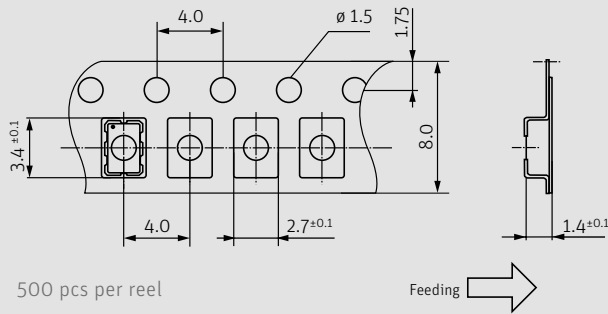
## ORDER INFORMATION

0	frequency	type	frequency stability code	operating temp. code	supply voltage	control voltage (for JT33V only)
Oscillator	8.0 ~ 45.0 MHz	JT33 = TCXO JT33V = VCTCXO	A - Z see table 1	A - M see table 1	1.8 = 1.8 V 2.5 = 2.5 V 2.8 = 2.8 V 3.0 = 3.0 V 3.3 = 3.3 V	$0.9 = V_C$ $0.9 V \pm 0.9 V$ at $V_{DC} = 1.8 V$ $1.5 = V_C$ $1.5 V \pm 1.0 V$ at $V_{DC} \geq 2.5 V$ $1.4 = V_C$ $1.4 V \pm 1.0 V$ at $V_{DC} \geq 2.5 V$ see General Data

Example: **0 26.0-JT33V-A-G-3.3-1.5-LF** (Suffix LF = RoHS compliant / Pb free)

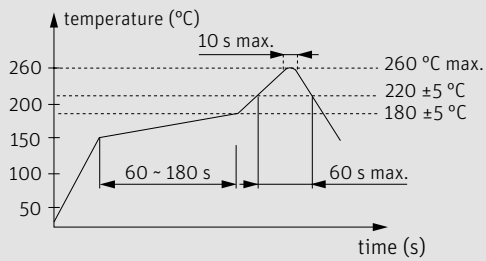
# Oscillator JT33(V) · (VC)TCXO

## TAPING SPECIFICATION



in mm

## REFLOW SOLDERING PROFILE



## MARKING

type / frequency  
company code / data code

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

7: 2017   8: 2018   9: 2019   0: 2020   1: 2021   2: 2022

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