



actual size

# Oscillator JOE53 · PECL · 3.3 V

- SMD Low Voltage PECL Oscillator, 5.0 x 3.2 mm
- drives fast PECL logic
- complementary outout, low EMI
- compact & flat ceramic / metal package



RoHS compliant



Pb free



REACH compliant



Conflict mineral free

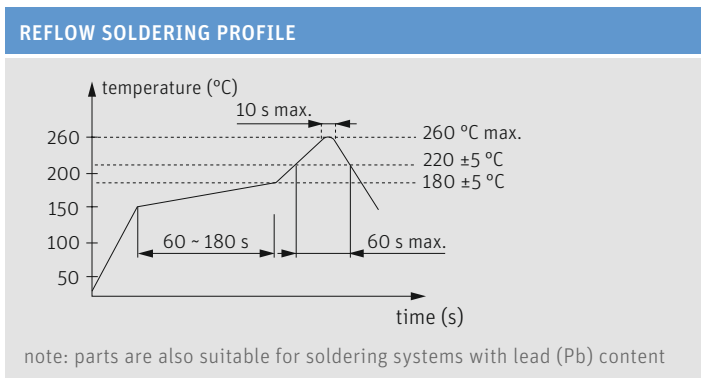
GENERAL DATA		JOE53 3.3V (3rd OT)	
TYPE	JOE53 3.3V (3rd OT)		
frequency range	65.0 ~ 190.0 MHz		
frequency stability over all*	±25 ppm ~ ±100 ppm (see table 1)		
current consumption	60 mA max.		
supply voltage V <sub>DC</sub>	3.3 V ±5%		
temperature	operating	-20 °C ~ +70 °C (T0)	
		-40 °C ~ +85 °C (T1)	
		-40 °C ~ +105 °C (T2 Δ)	
		-40 °C ~ +125 °C (T3 Δ)	
output	storage	-55 °C ~ +125 °C	
		rise & fall time	0.4 ns (20% ~ 80% of V <sub>pp</sub> )
		load nom.	50 Ω at 1.3 V
		low level max.	1.68 V
		high level min.	2.27 V
output enable time max.	10 ms		
output disable time max.	200 ns		
start-up time max.	10 ms		
standby function	stop		
standby current max.	10 μA		
phase jitter 12 kHz ~ 20.0 MHz	< 0.5 ps RMS		
symmetry at 50% of V <sub>pp</sub>	45% ~ 55% (40% ~ 60% if T3)		

Δ ask for availability of higher temperature ranges and frequency stabilities

TABLE 1: FREQUENCY STABILITY CODE					
stability code	temp. code*	A	B	G	C
		±100 ppm	±50 ppm	±30 ppm	±25 ppm
-20 °C ~ +70 °C	T0	○	○	○	○
-40 °C ~ +85 °C	T1	○	○	○	
-40 °C ~ +105 °C	T2 Δ	○	○		
-40 °C ~ +125 °C	T3 Δ	○	○		

\* includes stability at 25 °C, operating temp. range, supply voltage change, shock and vibration, aging 1st year.

ENABLE / DISABLE FUNCTION	
pin #1 (e/d control)	pin #4 / #5 (outputs)
open or ≥ 0.7 V <sub>CC</sub>	enable
gnd or ≤ 0.3 V <sub>CC</sub>	high impedance



### DIMENSIONS

top view

side view

bottom view

pad layout

# 1: e/d  
# 2: nc  
# 3: ground  
# 4: output 1  
# 5: output 2  
# 6: V<sub>CC</sub>

pin connection

in mm

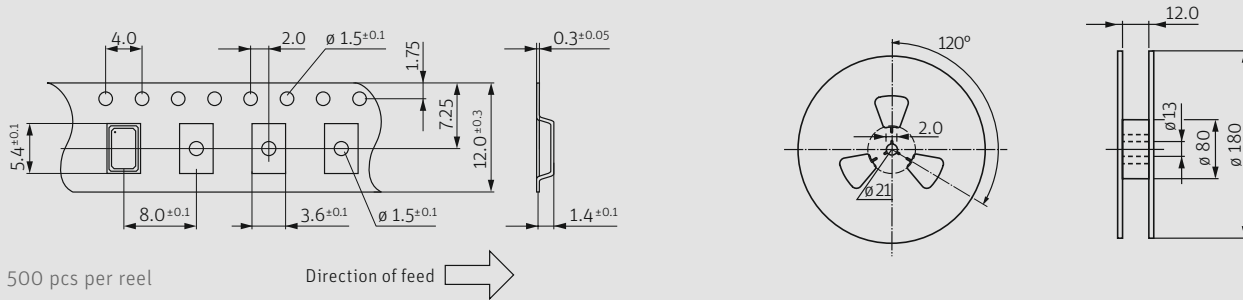
### ORDER INFORMATION

0	frequency	type	frequency stability code	supply voltage code	option
Oscillator	65.0 ~ 190.0 MHz	JOE53	see table 1	3.3 = 3.3 V	T0 = -20 °C ~ +70 °C T1 = -40 °C ~ +85 °C T2 = -40 °C ~ +105 °C please ask T3 = -40 °C ~ +125 °C please ask

**Example: 0 156.250-JOE53-B-2.5-T1-LF** (Suffix LF = RoHS compliant / Pb free)

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## TAPING SPECIFICATION



in mm

## PACKAGING NOTE

- standard packing unit is 500 pieces per reel
- non-multiple packing units are only supplied taped / bulk

## MARKING

**company code / frequency**

□ **CB / internal code / date 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