



actual size

Oscillator · PECL · JOE75 · 2.5 V

SMD Oscillator Low Voltage PECL · 7.5 x 5.2 mm

- drives fast PECL logic
- complementary output, low EMI
- reflow soldering temperature: 260 °C max.
- ceramic/metal package



General Data

type	JOE75 2.5 V
frequency range	40.0 ~ 170.0 MHz
higher frequencies on request	170.0 – 270.0 MHz
frequency stability over all*	± 25 ppm / ± 50 ppm / ± 100 ppm see table 1
current consumption	see table 2
supply voltage V_{DC}	2.5 V ± 5%
temperature	operating: -10 °C ~ +70 °C / -40 °C ~ +85 °C storage: -55 °C ~ +125 °C
output	rise & fall time: 0.7 ns (20% ~ 80% of V_{pp}) load nom.: 50Ω at 0.5 V low level max.: 1.195 V high level min.: 1.415 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.	30 µA
phase jitter 12 kHz ~ 20.0 MHz	< 1.0 ps RMS
period jitter	< 5.0 ps RMS
symmetry at 50% of V_{pp}	45% ~ 55% max.

Table 1: Frequency Stability Code

stability code	A	B	C			
	± 100 ppm	± 50 ppm	± 25 ppm			
-10 °C ~ +70 °C	○	○	▲			
-40 °C ~ +85 °C	○	○				
● standard ○ available ▲ excludes shock & vibration						

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

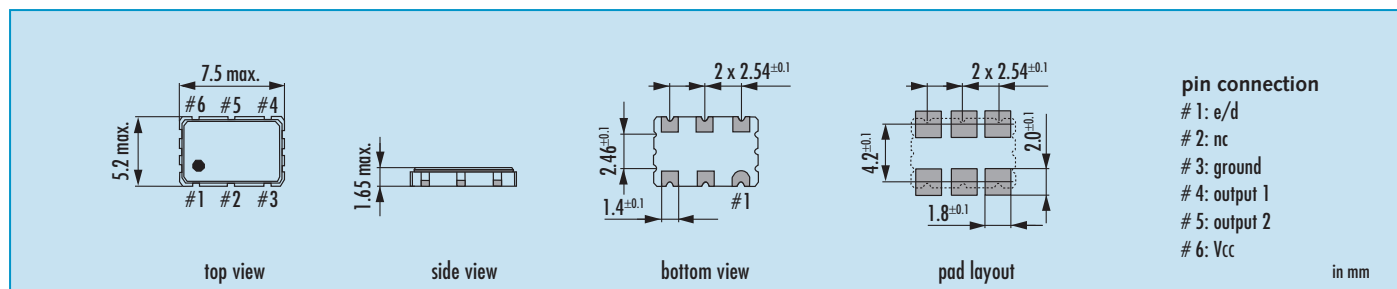
Table 2: Current Consumption max.

Current consumption at nominal load:	
40.0 ~ 170.0 MHz	60 mA
170.0 ~ 270.0 MHz	88 mA

Enable / Disable Function

pin #1 (e/d control)	pin #4 / #5 (outputs)	
open or ≥ 0.7 V_{CC}	enable	
gnd or ≤ 0.3 V_{CC}	high impedance	

Dimensions



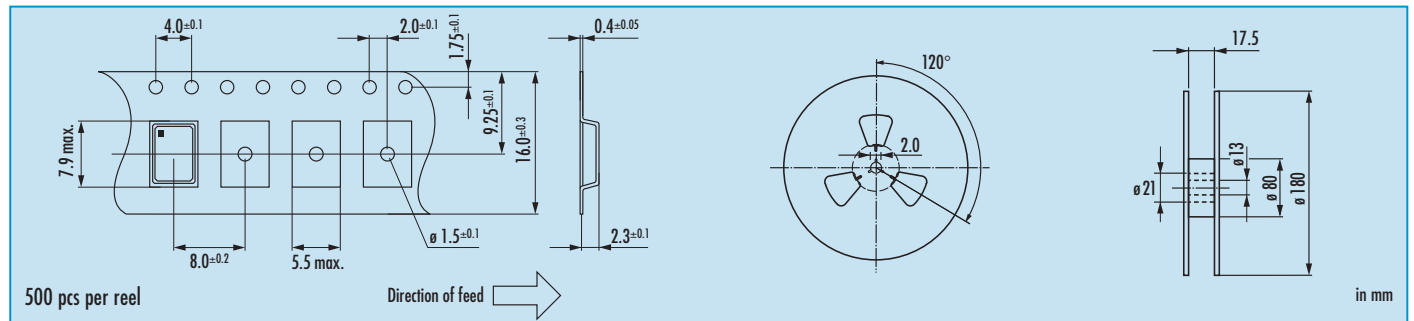
Order Information

0	frequency in MHz	—	type	—	frequency stability code	—	supply voltage in Volt	—	option
Oscillator	40.0 ~ 170.0 MHz > 170 MHz on request		JOE75		see table 1		2.5 = 2.5 V		blank = -10 °C ~ +70 °C T1 = -40 °C ~ +85 °C on request

Example: O 155.520-JOE75-B-2.5-T1-LF (Suffix LF = RoHS compliant / Pb free pins or pads)

Oscillator · PECL · JOE75 · 2.5 V

Taping Specification



Packing Note

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

Marking

type / frequency
company code / date code

date code:

A ~ M: Jan. - Dec.

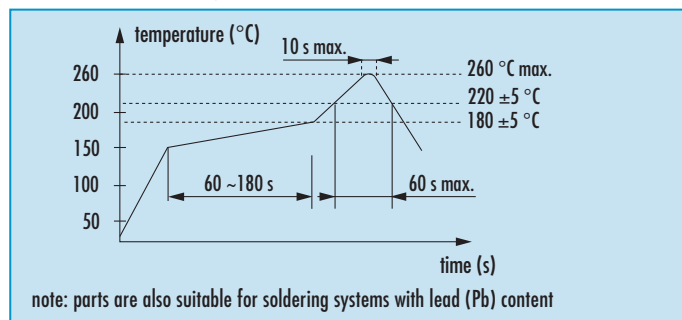
9: 2009

0: 2010

1: 2011

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

Reflow Soldering Profile





actual size

Oscillator · PECL · JOE75 · 3.3 V

SMD Oscillator Low Voltage PECL · 7.5 x 5.2 mm

- drives fast PECL logic
- complementary output, low EMI
- reflow soldering temperature: 260 °C max.
- ceramic/metal package



General Data

type	JOE75 3.3 V
frequency range	40.0 ~ 170.0 MHz
higher frequencies on request	170.0 ~ 270.0 MHz
frequency stability over all*	± 25ppm / ± 50ppm / ± 100ppm see table 1
current consumption	see table 2
supply voltage V_{DC}	3.3 V ± 5%
temperature	operating: -10 °C ~ +70 °C / -40 °C ~ +85 °C storage: -55 °C ~ +125 °C
output	rise & fall time: 1ns (20% ~ 80% of V_{pp}) load nom.: 50Ω at 1.3 V low level max.: 1.7 V high level min.: 2.2 V
output enable time max.	10ms
output disable time max.	200ns
start-up time max.	10ms
standby function	stop
standby current max.	30μA
phase jitter 12 kHz ~ 20.0 MHz	< 1.0ps RMS
period jitter	< 5.0ps RMS
symmetry at 50% of V_{pp}	45% ~ 55% max.

Table 1: Frequency Stability Code

stability code	A	B	C			
	± 100 ppm	± 50 ppm	± 25 ppm			
-10 °C ~ +70 °C	○	○	▲			
-40 °C ~ +85 °C	○	○				
● standard ○ available ▲ excludes shock & vibration						

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

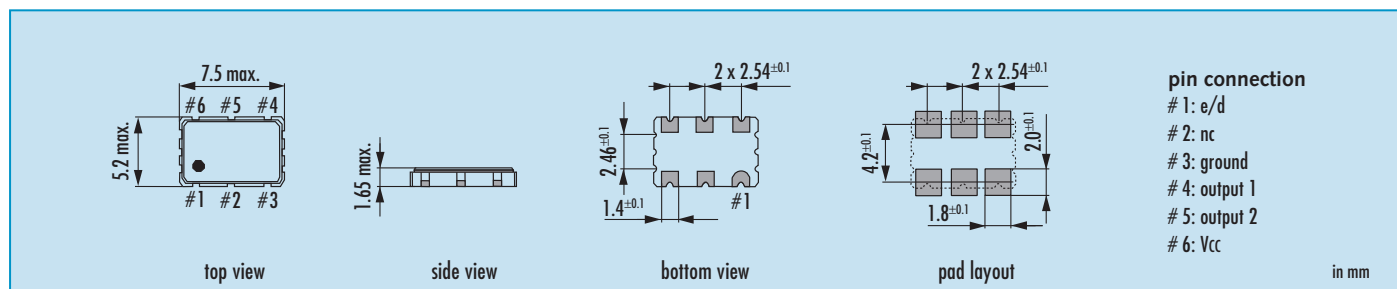
Table 2: Current Consumption max.

Current consumption at nominal load:	
40.0 ~ 170.0 MHz	60 mA
170.0 ~ 270.0 MHz	88 mA

Enable / Disable Function

pin #1 (e/d control)	pin #4 / #5 (outputs)	
open or ≥ 0.7 V_{CC}	enable	
gnd or ≤ 0.3 V_{CC}	high impedance	

Dimensions



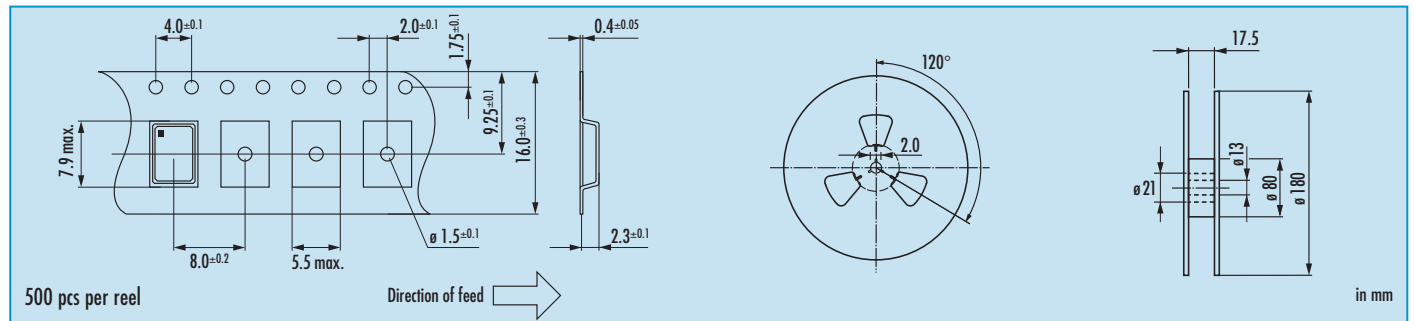
Order Information

0	frequency in MHz	—	type	—	frequency stability code	—	supply voltage in Volt	—	option
Oscillator	40.0 ~ 170.0 MHz > 170 MHz on request		JOE75		see table 1		3.3 = 3.3 V		blank = -10 °C ~ +70 °C T1 = -40 °C ~ +85 °C

Example: O 155.520-JOE75-B-3.3-T1-LF (Suffix LF = RoHS compliant / Pb free pins or pads)

Oscillator · PECL · JOE75 · 3.3 V

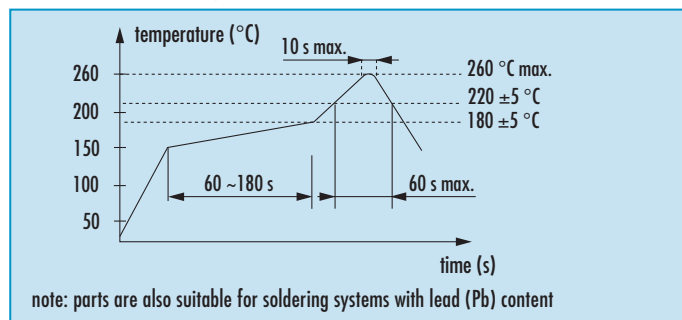
Taping Specification



Packing Note

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

Reflow Soldering Profile



Marking

type / stability code / voltage code

frequency

company code / date code

date code:

A ~ M: Jan.- Dec.

9: 2009

0: 2010

1: 2011

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



actual size

Oscillator · PECL · VCXO

SMD PECL VCXO · 7.5 x 5.2 mm

- uses quartz crystal in MESA technology
- low phase noise + jitter
- complementary PECL output, low EMI
- ceramic/metal package



General Data

type	JVE75A
frequency range	50.0 ~ 700.0 MHz
frequency stability over all*	± 25ppm / ± 50ppm (see table 1)
frequency pulling range min.	± 80ppm
pulling control voltage	1.65 V ± 1.5 V*
pulling control input impd. min.	60 kΩ
current consumption	120mA max.
supply voltage V _{DC}	3.3 V ± 5%
temperature	operating -10 °C ~ +70 °C / -40 °C ~ +85 °C
	storage -40 °C ~ +85 °C
output	rise & fall time 0.5ns (20% ~ 80% of V _{pp})
	load nom. 50Ω at 1.3 V
	low level max. 1.7 V
	high level min. 2.2 V
standby function	yes
output enable time max.	10ms
output disable time max.	50ns
start-up time max.	10ms
phase jitter 12 kHz ~ 20.0 MHz	< 1.0ps RMS
symmetry at 50% of V _{pp}	45% ~ 55% typ. (40% ± 60% max.)

Table 1: Frequency Stability Code

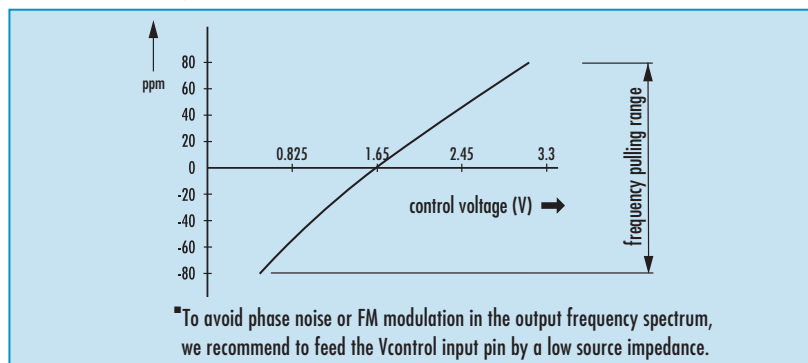
stability code	B	C			
	± 50 ppm	± 25 ppm			
-10 °C ~ +70 °C	○	○			
-40 °C ~ +85 °C	○				
● standard ○ available					

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

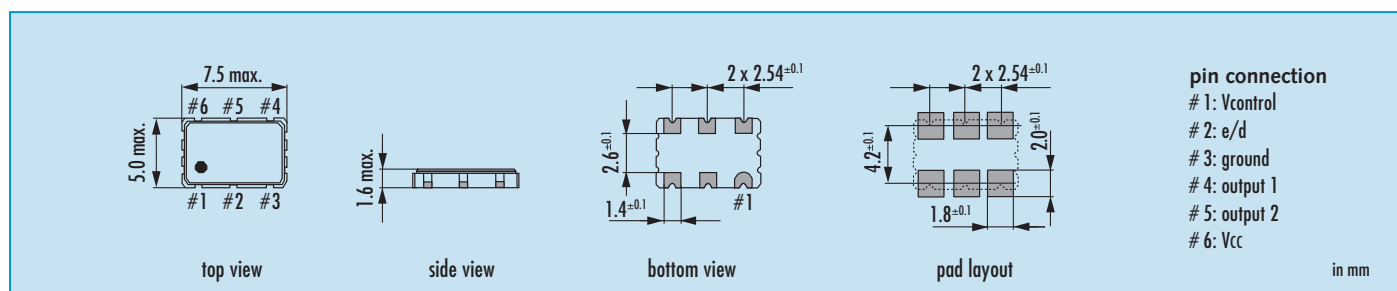
Enable / Disable Function

pin #2 (e/d control)	pin #4 / #5 (outputs)	
open or ≥ 2.4 V	active	
gnd or ≤ 0.4 V	high impedance	

Control Voltage Characteristic



Dimensions



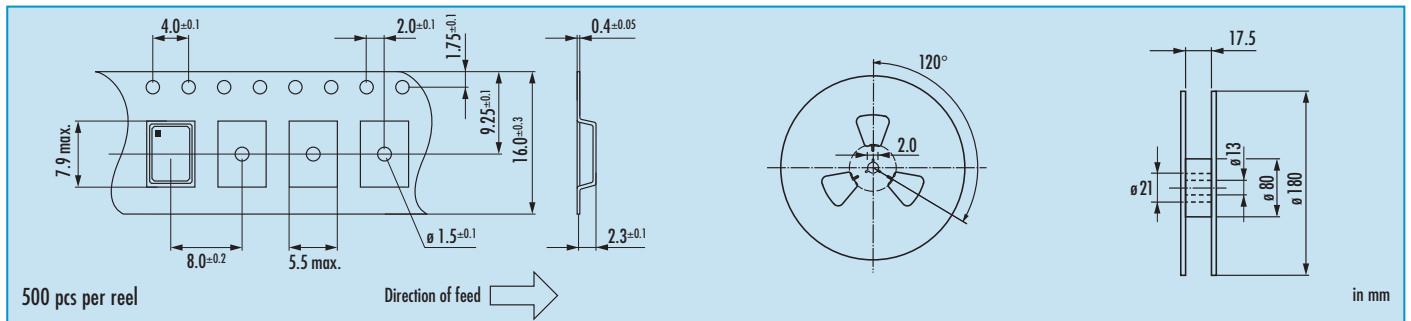
Order Information

0	frequency	type	stability at 25 °C in ppm	supply voltage	pulling range in ppm	option
Oscillator	50.0 ~ 700.0 MHz	JVE75A	B = ± 50 ppm C = ± 25 ppm	3.3 = 3.3 V	08 = ± 80 ppm	blank = -10 °C ~ +70 °C T1 = -40 °C ~ +85 °C

Example: O 155.520-JVE75A-B-3.3-08 (Suffix LF = RoHS compliant / Pb free pins or pads)

Oscillator · PECL · VCXO · JVE75A

Taping Specification



Packing Note

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

Marking

type / frequency / date code

date code:

A ~ M: Jan.- Dec.

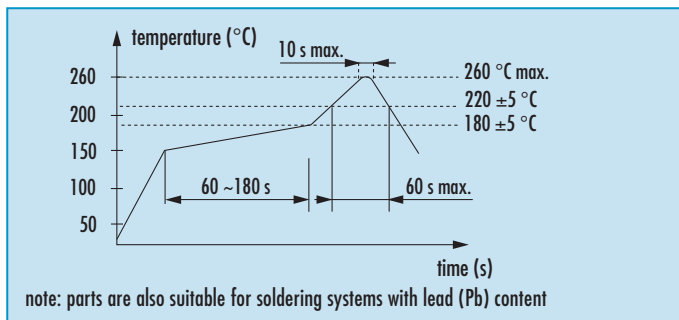
9: 2009

0: 2010

1: 2011

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

Reflow Soldering Profile





actual size

Oscillator · PECL · VCXO

SMD PECL VCXO · 7.5 x 5.2 mm

- uses quartz crystal at fundamental mode and PLL
- high pulling range ± 150 ppm
- complementary PECL output, low EMI
- ceramic/metal package



General Data

type	JVE75B
frequency range	12.0 ~ 800.0 MHz
frequency stability over all*	± 25 ppm / ± 50 ppm (see table 1)
frequency pulling range min.	± 150 ppm
pulling control voltage	1.65 V $\pm$ 1.5 V*
pulling control input impd. min.	60 k Ω
current consumption	120mA max.
supply voltage V_{DC}	3.3 V $\pm$ 5%
temperature	operating: -10 °C ~ +70 °C / -40 °C ~ +85 °C storage: -40 °C ~ +85 °C
output	rise & fall time: 1.0ns (20% ~ 80% of Vpp)* load nom.: 50 Ω at 1.3 V low level max.: 1.7 V high level min.: 2.2 V
standby function	yes
output enable time max.	10ms
output disable time max.	50ns
start-up time max.	10ms
phase jitter 12 kHz ~ 20.0 MHz	< 5.0ps RMS
Osymmetry at 50% of Vpp	45% ~ 55% typ. (40% $\pm$ 60% max.)

* 0.5ns, if >100.0 MHz

Table 1: Frequency Stability Code

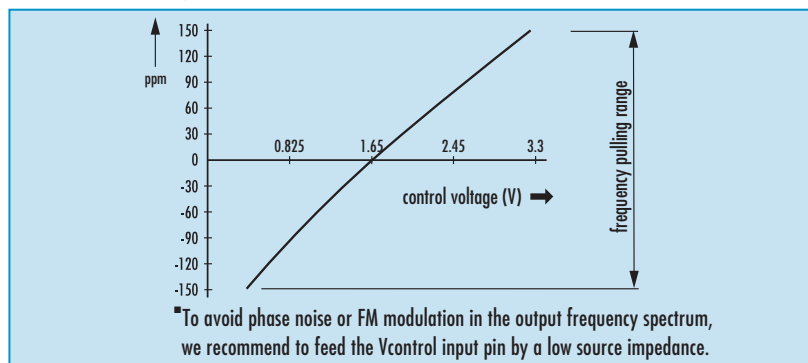
stability code	B	C				
	± 50 ppm	± 25 ppm				
-10 °C ~ +70 °C	○	○				
-40 °C ~ +85 °C	○					
● standard ○ available						

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

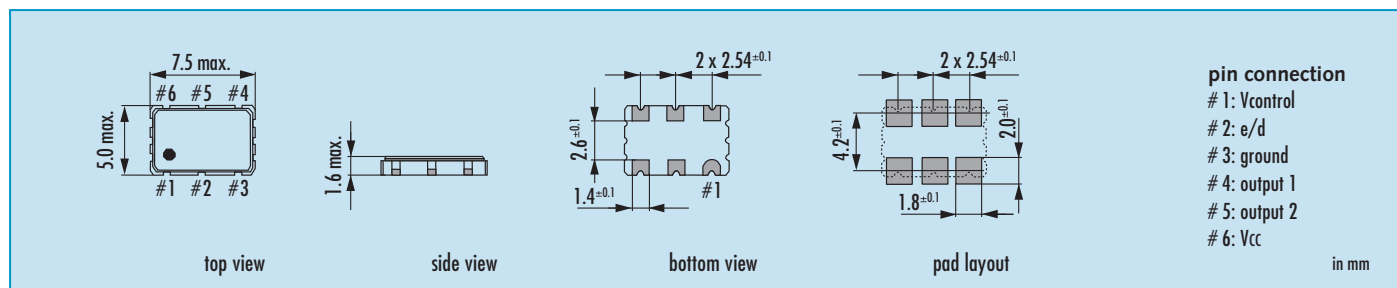
Enable / Disable Function

pin #2 (e/d control)	pin #4 / #5 (outputs)	
open or ≥ 2.4 V	active	
gnd or ≤ 0.4 V	high impedance	

Control Voltage Characteristic



Dimensions



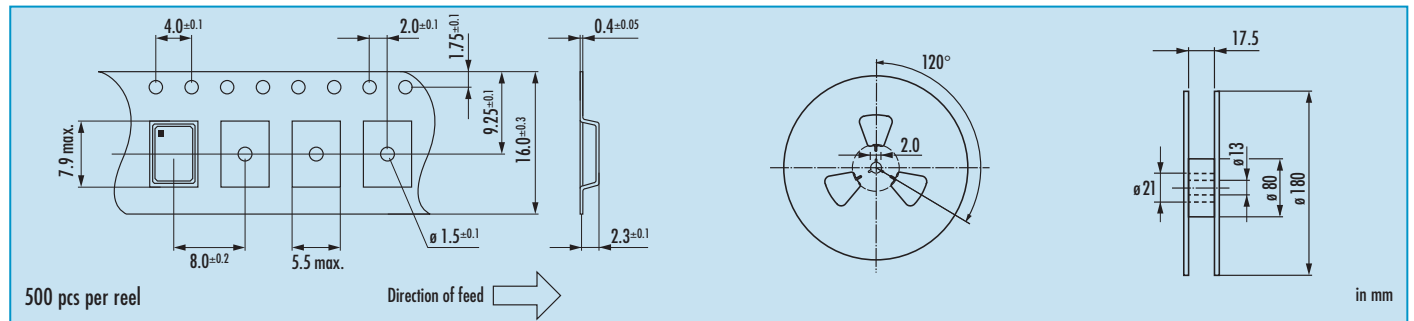
Order Information

0	frequency	type	stability at 25 °C in ppm	supply voltage	pulling range in ppm	option
Oscillator	12.0 ~ 800.0 MHz	JVE75B	B = ± 50 ppm C = ± 25 ppm	3.3 = 3.3 V	15 = ± 150 ppm	blank = -10 °C ~ +70 °C T1 = -40 °C ~ +85 °C

Example: O 155.520-JVE75B-B-3.3-15-T1 (Suffix LF = RoHS compliant / Pb free pins or pads)

Oscillator · PECL · VCXO · JVE75B

Taping Specification



Packing Note

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

Marking

type / frequency / date code

date code:

A ~ M: Jan.- Dec.

9: 2009

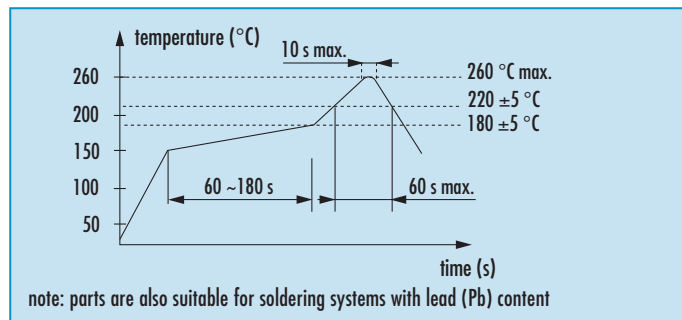
0: 2010

1: 2011

Jan.	Febr.	Mar.	Apr.	May	June
A	B	C	D	E	F

July	Aug.	Sept.	Oct.	Nov.	Dec.
G	H	J	K	L	M

Reflow Soldering Profile





actual size

Oscillator · LVDS · JOD75

SMD Low Voltage LVDS Oscillator · 7.5 x 5.2 mm

- drives fast LVDS logic
- complementary output, low EMI
- reflow soldering temperature: 260 °C max.
- ceramic/metal package



General Data

type	JOD75 3.3 V & 2.5 V
frequency range	75.0 ~ 170.0 MHz
higher frequencies on request	170.0 ~ 270.0 MHz
frequency stability over all*	± 25 ppm ~ ± 100 ppm see table 1
current consumption	66mA max.
supply voltage V _{DC}	3.3 V ± 5% / 2.5 V ± 5%
temperature	operating: -10 °C ~ +70 °C / -40 °C ~ +85 °C storage: -55 °C ~ +125 °C
output	rise & fall time: 0.7ns (20% ~ 80% of V _{pp}) load nom.: 100Ω differential swing: 0.35Vp-p typ. / 0.25Vp-p min. offset voltage: 1.25V ± 0.125V
output enable time max.	10ms
output disable time max.	200ns
start-up time max.	10ms
standby function	stop
standby current max.	30μA
phase jitter 12 kHz ~ 20.0 MHz	< 1.0ps RMS
period jitter	< 5.0ps RMS
symmetry at 50% of V _{pp}	45% ~ 55% max.

Table 1: Frequency Stability Code

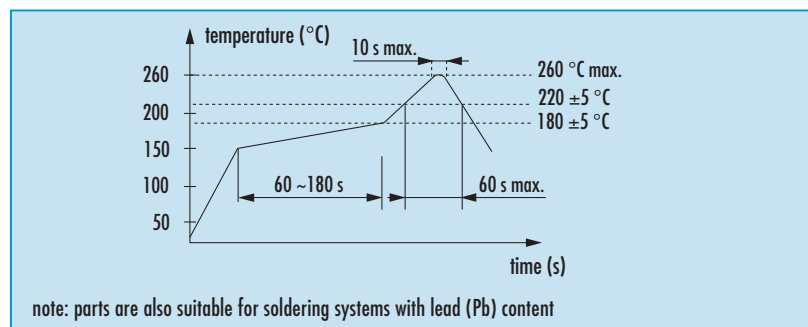
stability code	A	B	C			
	± 100 ppm	± 50 ppm	± 25 ppm			
-10 °C ~ +70 °C	○	○	▲			
-40 °C ~ +85 °C	○	○				
● standard ○ available ▲ excludes shock & vibration						

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

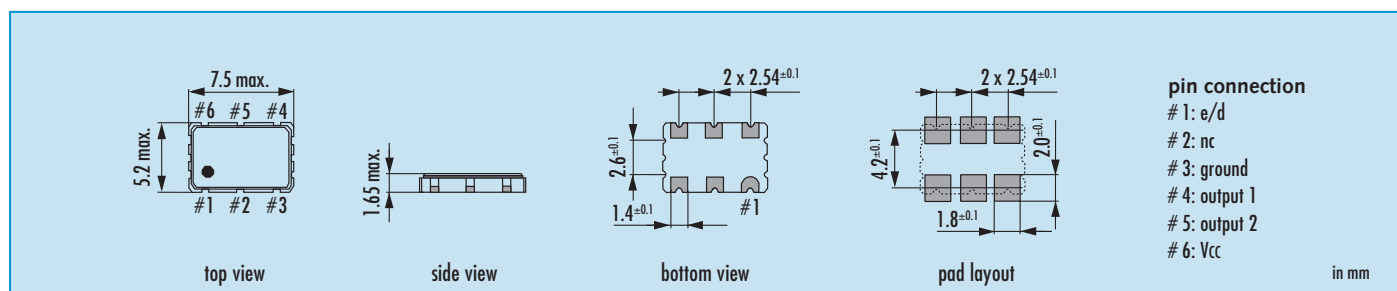
Enable / Disable Function

pin #1 (e/d control)	pin #4 / #5 (outputs)	
open or ≥ 0.7 V _{CC}	enable	
gnd or ≤ 0.3 V _{CC}	high impedance	

Reflow Soldering Profile



Dimensions



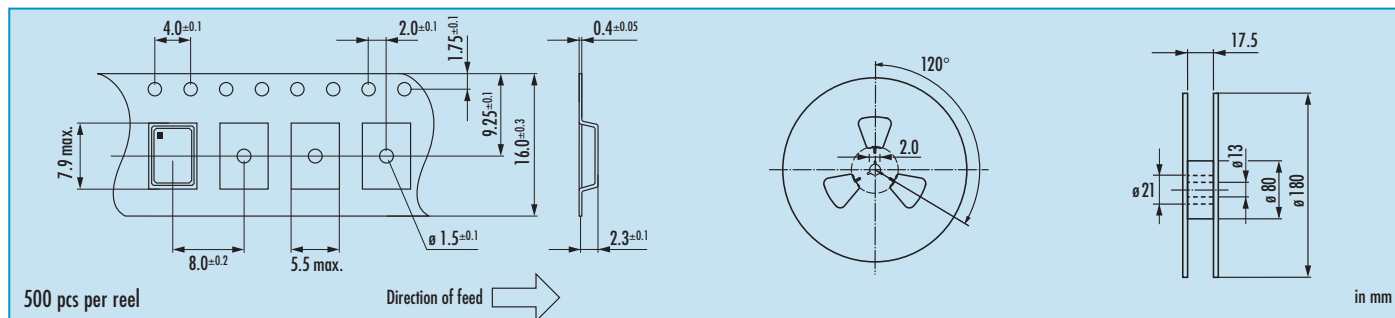
Order Information

0	frequency in MHz	—	type	—	frequency stability code	—	supply voltage in Volt	—	option
Oscillator	75.0 ~ 170.0 MHz >170.0 MHz on request		JOD75		see table 1		3.3 = 3.3 V 2.5 = 2.5 V		blank = -10 °C ~ +70 °C T1 = -40 °C ~ +85 °C on request
Example: O 155.520-JOD75-B-3.3-T1 (Suffix LF = RoHS compliant / Pb free pins or pads)									



Oscillator · LVDS · JOD75

Taping Specification



Packing Note

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

Marking

type / stability code / voltage code

frequency

company code / date code

date code:

A ~ M: Jan.- Dec.

9: 2009

0: 2010

1: 2011

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



actual size

Oscillator · LVDS · VCXO

SMD LVDS VCXO · 7.5 x 5.0 mm

- uses quartz crystal in MESA technology
- low phase noise + jitter
- complementary LVDS output, low EMI
- ceramic/metal package



General Data

type	JVD75A
frequency range	50.0 ~ 700.0 MHz
frequency stability over all*	± 25ppm / ± 50ppm (see table 1)
frequency pulling range min.	± 80ppm
pulling control voltage	1.65 V ± 1.5 V*
pulling control input imp. min.	60 kΩ
current consumption	80mA max.
supply voltage V _{DC}	3.3 V ± 5%
temperature	
operating	-10 °C ~ +70 °C / -40 °C ~ +85 °C
storage	-40 °C ~ +85 °C
output	
rise & fall time	1.0ns (20% ~ 80% of V _{pp})
load nom.	100Ω differential
swing min.	0.35V _{p-p}
offset voltage	1.25 V ± 0.125V
standby function	yes
output enable time max.	10ms
output disable time max.	150ns
start-up time max.	10ms
phase jitter 12 kHz ~ 20.0 MHz	< 1.0ps RMS
symmetry at 50% of V _{pp}	45% ~ 55% typ. (40% ± 60% max.)

Table 1: Frequency Stability Code

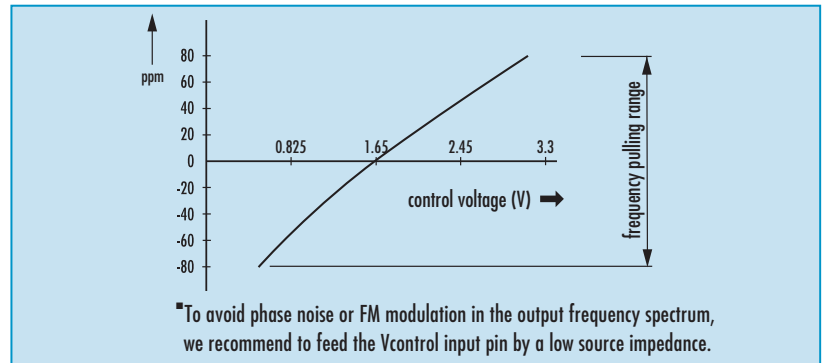
stability code	B	C			
	± 50 ppm	± 25 ppm			
-10 °C ~ +70 °C	○	○			
-40 °C ~ +85 °C	○				
● standard ○ available					

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

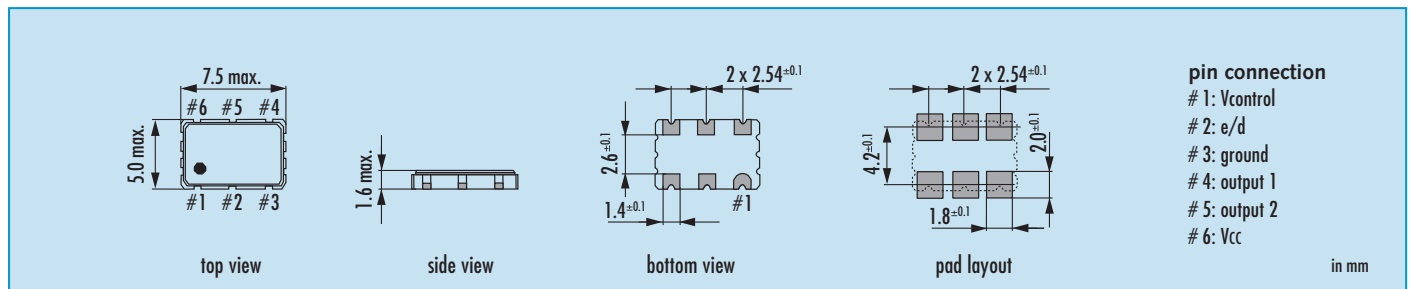
Enable / Disable Function

pin #2 (e/d control)	pin #4 / #5 (outputs)	
open or ≥ 2.4 V	active	
gnd or ≤ 0.4 V	high impedance	

Control Voltage Characteristic



Dimensions



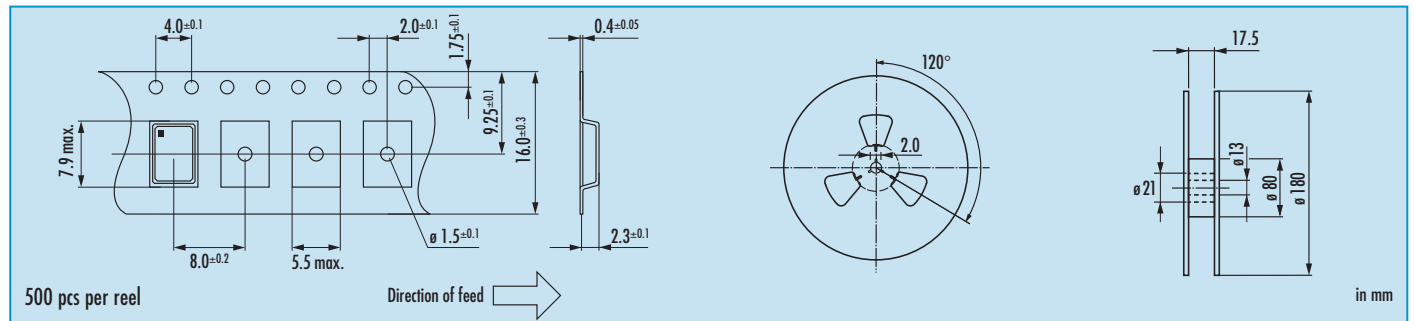
Order Information

0	frequency	type	stability at 25 °C in ppm	supply voltage	pulling range in ppm	option
Oscillator	50.0 ~ 700.0 MHz	JVD75A	B = ± 50 ppm C = ± 25 ppm	3.3 = 3.3 V	08 = ± 80 ppm	blank = -10 °C ~ +70 °C T1 = -40 °C ~ +85 °C

Example: O 155.520-JVD75A-B-3.3-08 (Suffix LF = RoHS compliant / Pb free pins or pads)

Oscillator · LVDS · VCXO · JVD75A

Taping Specification



Packing Note

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

Marking

type / frequency / date code

date code:

A ~ M: Jan.- Dec.

9: 2009

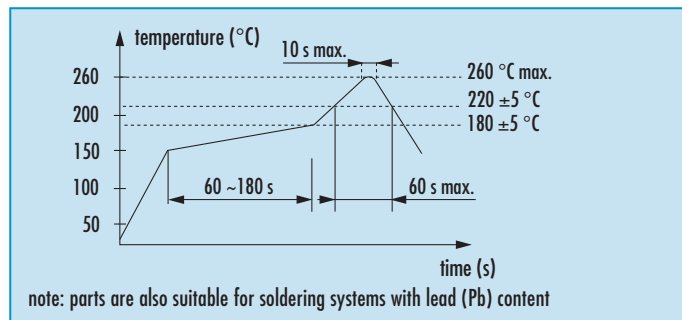
0: 2010

1: 2011

Jan.	Febr.	Mar.	Apr.	May	June
A	B	C	D	E	F

July	Aug.	Sept.	Oct.	Nov.	Dec.
G	H	J	K	L	M

Reflow Soldering Profile





actual size

Oscillator · LVDS · VCXO

SMD LVDS VCXO · 7.5 x 5.0 mm

- uses quartz crystal at fundamental mode and PLL
- high pulling range ± 150 ppm
- complementary LVDS output, low EMI
- ceramic/metal package



General Data

type	JVD75B
frequency range	12.0 ~ 800.0 MHz
frequency stability over all*	± 25 ppm / ± 50 ppm (see table 1)
frequency pulling range min.	± 150 ppm
pulling control voltage	$1.65 \text{ V} \pm 1.5 \text{ V}^*$
pulling control input imp. min.	60 k Ω
current consumption	80mA max.
supply voltage V_{DC}	$3.3 \text{ V} \pm 5\%$
temperature	operating: $-10^\circ\text{C} \sim +70^\circ\text{C}$ / $-40^\circ\text{C} \sim +85^\circ\text{C}$ storage: $-40^\circ\text{C} \sim +85^\circ\text{C}$
output	rise & fall time: 1.0ns (20% ~ 80% of V_{pp}) load nom.: 100 Ω differential swing min.: 0.35Vp-p offset voltage: $1.25 \text{ V} \pm 0.125 \text{ V}$
standby function	yes
output enable time max.	10ms
output disable time max.	150ns
start-up time max.	10ms
phase jitter 12 kHz ~ 20.0 MHz	< 5.0ps RMS
symmetry at 50% of V_{pp}	45% ~ 55% typ. (40% $\pm$ 60% max.)

Table 1: Frequency Stability Code

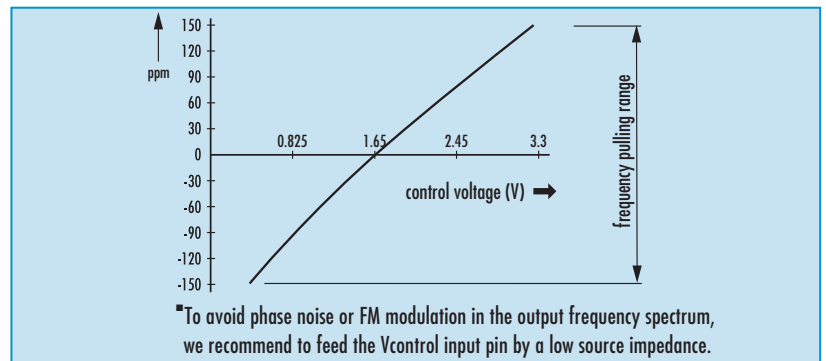
stability code	B	C			
	± 50 ppm	± 25 ppm			
$-10^\circ\text{C} \sim +70^\circ\text{C}$	○	○			
$-40^\circ\text{C} \sim +85^\circ\text{C}$	○				
● standard ○ available					

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

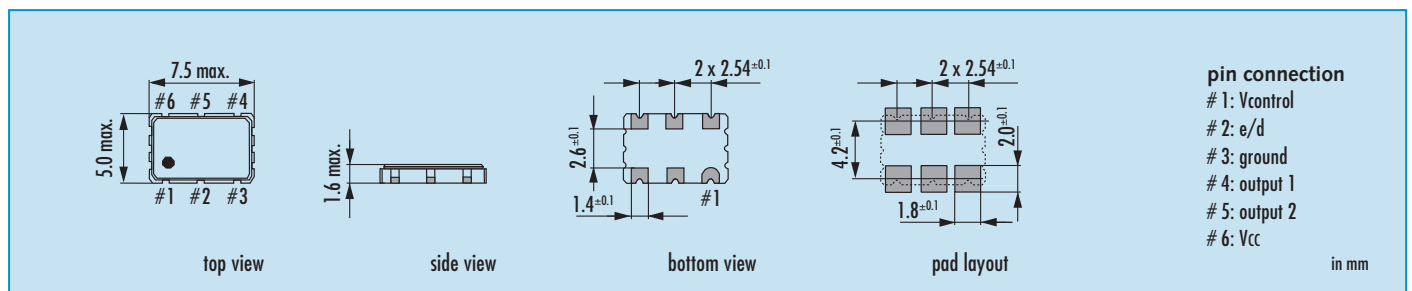
Enable / Disable Function

pin #2 (e/d control)	pin #4 / #5 (outputs)	
open or $\geq 2.4 \text{ V}$	active	
gnd or $\leq 0.4 \text{ V}$	high impedance	

Control Voltage Characteristic



Dimensions



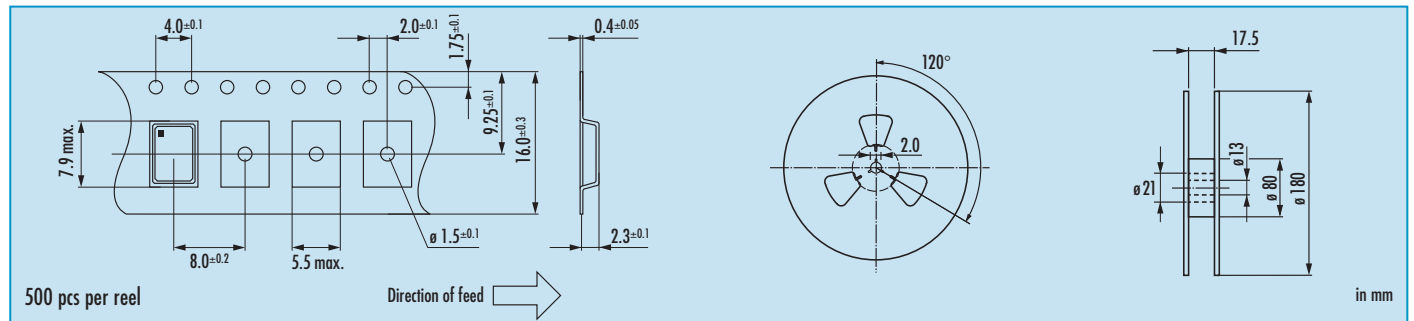
Order Information

0	frequency	type	stability at 25 °C in ppm	supply voltage	pulling range in ppm	option
Oscillator	12.0 ~ 800.0 MHz	JVD75B	B = ± 50 ppm C = ± 25 ppm	3.3 = 3.3 V	15 = ± 150 ppm	blank = $-10^\circ\text{C} \sim +70^\circ\text{C}$ T1 = $-40^\circ\text{C} \sim +85^\circ\text{C}$

Example: O 155.520-JVD75B-B-3.3-15-T1 (Suffix LF = RoHS compliant / Pb free pins or pads)

Oscillator · LVDS · VCXO · JVD75B

Taping Specification



Packing Note

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

Marking

type / frequency / date code

date code:

A ~ M: Jan.- Dec.

9: 2009

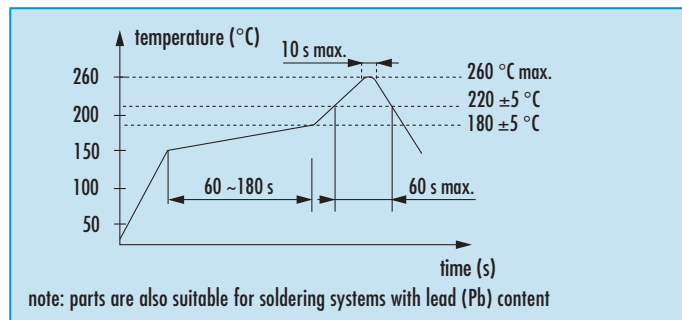
0: 2010

1: 2011

Jan.	Febr.	Mar.	Apr.	May	June
A	B	C	D	E	F

July	Aug.	Sept.	Oct.	Nov.	Dec.
G	H	J	K	L	M

Reflow Soldering Profile





actual size

Oscillator · JRO32

Low Power/Low Frequency Oscillator

- low power type for Real Time Clocks (RTC)
- uses tuning fork crystal
- RoHS compliant, ceramic/metal package
- reflow soldering temperature: 260 °C max.



General Data

type	JRO32 for Real Time Clock
frequency	32.768 kHz
frequency tolerance at 25°C	+5 ±20 ppm
frequency stability over temp. (ref to frequ. at +25°C)	-90 ppm ~ +10 ppm for -20 °C ~ +70 °C -140 ppm ~ +10 ppm for -40 °C ~ +85 °C
current consumption (no load)	2.5 µA (5.0 V), 1.5 µA (3.3 V)
supply voltage range V _{DC}	1.5 V ±10% ~ 5.0 V ±10%
temperature	operating: -10 °C ~ +70 °C / -40 °C ~ +85 °C storage: -55 °C ~ +125 °C
output	rise & fall time: 200 ns load max.: 15 pF current max.: 400 µA low level max.: 0.4 V high level min.: V _{DC} - 0.4 V
output enable time	0.15 s/typ. 0.5 s/max.
output disable time max.	150 ns
start-up time max.	1 s
standby function	tristate
standby current max.	1 µA
symmetry at 0.5 x V _{DC}	40% ~ 60% max.

Enable / Disable Function

pin #1 (e/d control)	pin #3 (output)
open	undefined
high "1" (V _{IH} ≥ 0.8 V _{DC})	active
low "0" (V _{IL} ≤ 0.2 V _{DC})	high impedance
disabled conditions: - internal oscillator active - output disabled, high impedance	
enable condition: pull the e/d pin to „H“ if the oscillator should always be enabled	

Current Consumption

V _{DC}	at 15 pF
5.0 V	7.0 µA
3.3 V	5.5 µA
2.8 V	5.0 µA
2.5 V	4.5 µA
1.8 V	3.5 µA
1.5 V	3.0 µA

Marking

frequency / date code

date code:

A ~ M: Jan. - Dec.

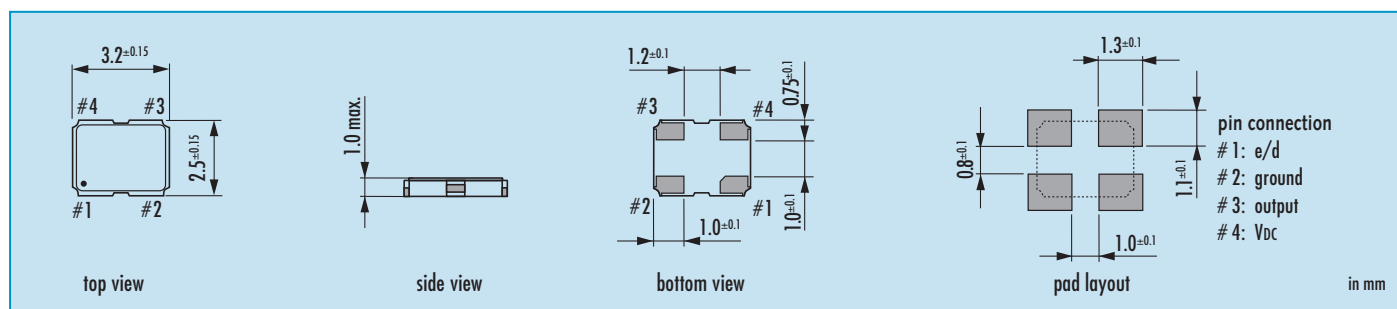
0: 2010 3: 2013

1: 2011 4: 2014

2: 2012 5: 2015

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

Dimensions



Order Information

0	frequency	type	frequency stability code	supply voltage code	output load code	option
Oscillator	0.032768 MHz	JRO32	TF = tuning fork characteristics	V = variable supply voltage	1 = 15 pF	blank = -20 °C ~ +70 °C T1 = -40 °C ~ +85 °C

Example: O 0.032768-JRO32-TF-V-1-T1-LF (LF = RoHS compliant / Pb free pads)

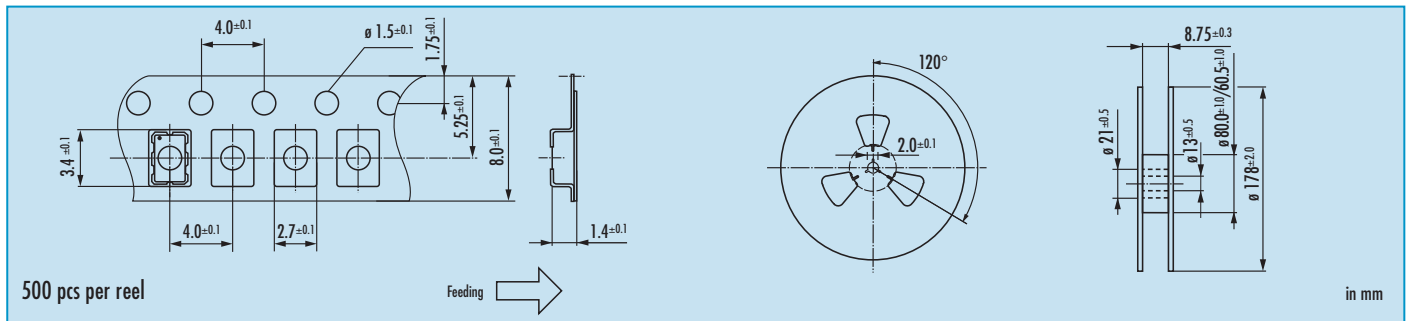


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full data can be found under: www.jauch.de / www.jauch.co.uk / www.jauch.fr / www.jauchusa.com
All specifications are subject to change without notice

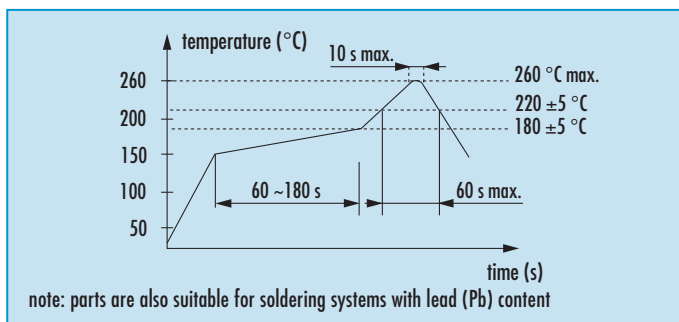
040211-18

JRO32 · Low Power / Low Frequency Oscillator

Taping Specification



Reflow Soldering Profile



Packing Note

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

Nominal Temperature Characteristic

