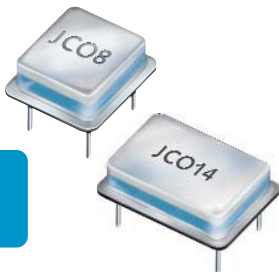




actual size



Oscillator · JCO · 3.3 V

Pin Type Oscillator

- soldering temperature: 260 °C max.
- metal package



General Data

type	JCO8 / JCO14 3.3 V	
frequency range	1.0 ~ 160.0 MHz (15pF max.)	
	1.0 ~ 50.00 MHz (15pF~30pF max.)	
frequency stability over all	± 15ppm ~ ± 100ppm (table 1)	
current consumption	see table 2	
supply voltage V_{DC}	3.3 V ± 10%	
temperature	operating	-10 °C ~ +70 °C / -40 °C ~ +85 °C
	storage	-55 °C ~ +125 °C
output	rise & fall time	see table 3
	load max.	15pF / 30pF
	current max.	8mA
	low level max.	+0.5 V
	high level min.	V _{DC} -0.5 V
output enable time max.	10ms	
output disable time max.	100ns	
start-up time max.	10ms	
standby function	optional	
phase jitter 12 kHz ~ 20.0 MHz	< 1.0ps RMS	
symmetry at 0.5 x V_{DC}	45% ~ 55% typ. (40% ~ 60% max.)	

Table 1: Frequency Stability Code

stability code	A	B	G	C	D	E
	± 100 ppm	± 50 ppm	± 30 ppm	± 25 ppm	± 20 ppm	± 15 ppm
-10 °C ~ +70 °C	○	●	○	○	○	○
-40 °C ~ +85 °C	●	○	○	○		
	● standard ○ on request					

Table 2: Current Consumption max.

Current at 15pF load:		Current at 30pF load:	
1.0 ~ 29.9 MHz	10 mA	1.0 ~ 29.9 MHz	20 mA
30.0 ~ 49.9 MHz	15 mA	30.0 ~ 50.0 MHz	35 mA
50.0 ~ 89.9 MHz	30 mA		
90.0 ~ 124.9 MHz	45 mA		
125.0 ~ 160.0 MHz	60 mA		

Table 3: Rise & Fall Time max.

6.0 ns:	1.0 ~ 49.9 MHz	note: - specific data on request - rise time: 0.1 V _{DC} ~ 0.9 V _{DC} - fall time: 0.9 V _{DC} ~ 0.1 V _{DC}
5.0 ns:	50.0 ~ 79.9 MHz	
4.0 ns:	80.0 ~ 99.9 MHz	
3.0 ns:	100.0 ~ 160.0 MHz	

Dimensions JCO14 / JCO8

JCO14

pin connection
1: not connected or e/d
7: ground
8: output
#14: supply voltage

JCO8

pin connection
1: not connected or e/d
4: ground
5: output
8: supply voltage

in mm

Order Information

0	frequency	type	e/d function	frequency stability	supply voltage code	option
Oscillator	1.0 ~ 160.0 MHz	JCO8 JCO14	2 = no 3 = yes/tristate	see table 1	3.3 V = 3.3 Volt	blank = -10 °C ~ +70 °C T1 = -40 °C ~ +85 °C

Example: O 20.0-JCO8-3-A-3.3V-T1 (LF = RoHS compliant / Pb free pins or pads)



Oscillator · JCO · 3.3 V

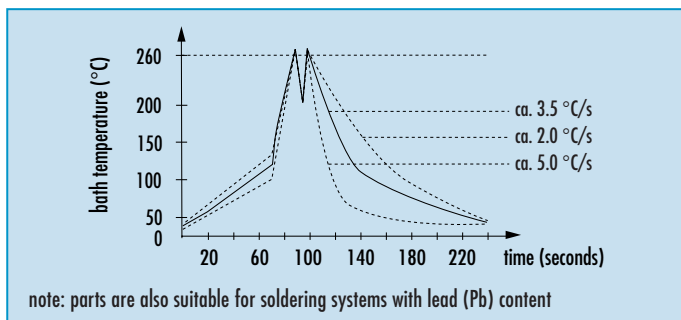
Enable / Disable Function

pin #1	pin #3
open or high	oscillation
gnd or low	high impedance

Marking

type
frequency
company code / date code

Wave Soldering Profile



Preferred Type

JCO8-3-B-3.3
JCO14-3-B-3.3

Packaging

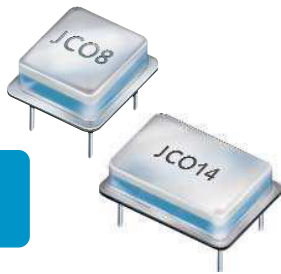
JCO8-3-B packed in antistatic plastic tubes, 40 pcs
JCO14-3-B packed in antistatic plastic tubes, 25 pcs

Oscillator · JCO · 5.0 V

Pin Type Oscillator



actual size



- soldering temperature: 260 °C max.
- metal package

General Data

type		JCO8 / JCO14 5.0 V
frequency range		1.0 ~ 160.0 MHz (15pF max.) 1.0 ~ 40.00 MHz (15pF~50pF max.)
frequency stability over all		± 15ppm ~ ± 100ppm (table 1)
current consumption		see table 2
supply voltage V _{DC}		5.0 V ± 10%
temperature	operating	-10 °C ~ +70 °C / -40 °C ~ +85 °C
	storage	-55 °C ~ +125 °C
output	rise & fall time	see table 3
	load max	15pF / 50pF
	current max.	16mA
	low level max.	+0.5 V
	high level min.	V _{DC} -0.5 V
output enable time max.		10ms
output disable time max.		100ns
start-up time max.		10ms
standby function		optional
phase jitter 12 kHz ~ 20.0 MHz		< 1.0ps RMS
symmetry at 0.5 x V _{DC}		45% ~ 55% typ. (40% ~ 60% max.)

Table 1: Frequency Stability Code

stability code	A	B	G	C	D	E
	± 100 ppm	± 50 ppm	± 30 ppm	± 25 ppm	± 20 ppm	± 15 ppm
-10 °C ~ +70 °C	○	●	○	○	○	○
-40 °C ~ +85 °C	●	○	○	○		
	● standard ○ on request					

Table 2: Current Consumption max.

Current at 15pF load:		Current at 50pF load:	
1.0 ~ 29.9 MHz	15 mA	1.0 ~ 19.9 MHz	20 mA
30.0 ~ 49.9 MHz	25 mA	20.0 ~ 40.0 MHz	35 mA
50.0 ~ 89.9 MHz	40 mA		
90.0 ~ 124.9 MHz	50 mA		
125.0 ~ 160.0 MHz	60 mA		

Table 3: Rise & Fall Time max.

6.0 ns: 1.0 ~ 49.9 MHz	note: - specific data on request - rise time: 0.1 V _{DC} ~ 0.9 V _{DC} - fall time: 0.9 V _{DC} ~ 0.1 V _{DC}
5.0 ns: 50.0 ~ 79.9 MHz	
4.0 ns: 80.0 ~ 99.9 MHz	
3.0 ns: 100.0 ~ 160.0 MHz	

Dimensions JCO14 / JCO8

JCO14

pin connection
 # 1: not connected or e/d
 # 7: ground
 # 8: output
 #14: supply voltage

JCO8

pin connection
 # 1: not connected or e/d
 # 4: ground
 # 5: output
 # 8: supply voltage

in mm

Order Information

0	frequency	type	e/d function	frequency stability	supply voltage code	option
Oscillator	1.0 ~ 160.0 MHz	JCO8 JCO14	2 = no 3 = yes/tristate	see table 1	blank = 5.0 Volt	blank = -10 °C ~ +70 °C T1 = -40 °C ~ +85 °C

Example: O 20.0-JCO8-3-A-T1 (LF = RoHS compliant / Pb free pins or pads)



Oscillator · JCO · 5.0 V

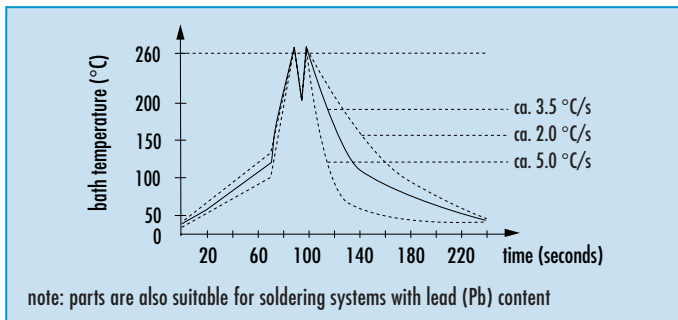
Enable / Disable Function

pin #1	pin #3
open or high	oscillation
gnd or low	high impedance

Marking

type
frequency
company code / date code

Wave Soldering Profile



Preferred Type

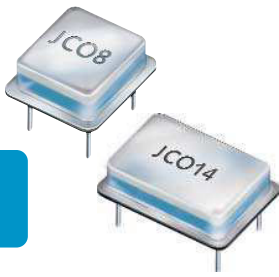
JCO8-3-B
JCO14-3-B

Packaging

JCO8-3-B packed in antistatic plastic tubes, 40 pcs
JCO14-3-B packed in antistatic plastic tubes, 25 pcs



actual size



Oscillator · JCO · 3.3 V

Pin Type Oscillator

- soldering temperature: 260 °C max.
- metal package



General Data

type	JCO8 / JCO14 3.3 V	
frequency range	1.0 ~ 160.0 MHz (15pF max.)	
	1.0 ~ 50.00 MHz (15pF~30pF max.)	
frequency stability over all	± 15ppm ~ ± 100ppm (table 1)	
current consumption	see table 2	
supply voltage V_{DC}	3.3 V ± 10%	
temperature	operating	-10 °C ~ +70 °C / -40 °C ~ +85 °C
	storage	-55 °C ~ +125 °C
output	rise & fall time	see table 3
	load max.	15pF / 30pF
	current max.	8mA
	low level max.	+0.5 V
	high level min.	V _{DC} -0.5 V
output enable time max.	10ms	
output disable time max.	100ns	
start-up time max.	10ms	
standby function	optional	
phase jitter 12 kHz ~ 20.0 MHz	< 1.0ps RMS	
symmetry at 0.5 x V_{DC}	45% ~ 55% typ. (40% ~ 60% max.)	

Table 1: Frequency Stability Code

stability code	A	B	G	C	D	E
	± 100 ppm	± 50 ppm	± 30 ppm	± 25 ppm	± 20 ppm	± 15 ppm
-10 °C ~ +70 °C	○	●	○	○	○	○
-40 °C ~ +85 °C	●	○	○	○		
	● standard ○ on request					

Table 2: Current Consumption max.

Current at 15pF load:		Current at 30pF load:	
1.0 ~ 29.9 MHz	10 mA	1.0 ~ 29.9 MHz	20 mA
30.0 ~ 49.9 MHz	15 mA	30.0 ~ 50.0 MHz	35 mA
50.0 ~ 89.9 MHz	30 mA		
90.0 ~ 124.9 MHz	45 mA		
125.0 ~ 160.0 MHz	60 mA		

Table 3: Rise & Fall Time max.

6.0 ns:	1.0 ~ 49.9 MHz	note: - specific data on request - rise time: 0.1 V _{DC} ~ 0.9 V _{DC} - fall time: 0.9 V _{DC} ~ 0.1 V _{DC}
5.0 ns:	50.0 ~ 79.9 MHz	
4.0 ns:	80.0 ~ 99.9 MHz	
3.0 ns:	100.0 ~ 160.0 MHz	

Dimensions JCO14 / JCO8

JCO14

pin connection
1: not connected or e/d
7: ground
8: output
#14: supply voltage

JCO8

pin connection
1: not connected or e/d
4: ground
5: output
8: supply voltage

in mm

Order Information

0	frequency	type	e/d function	frequency stability	supply voltage code	option
Oscillator	1.0 ~ 160.0 MHz	JCO8 JCO14	2 = no 3 = yes/tristate	see table 1	3.3 V = 3.3 Volt	blank = -10 °C ~ +70 °C T1 = -40 °C ~ +85 °C

Example: O 20.0-JCO8-3-A-3.3V-T1 (LF = RoHS compliant / Pb free pins or pads)



Oscillator · JCO · 3.3 V

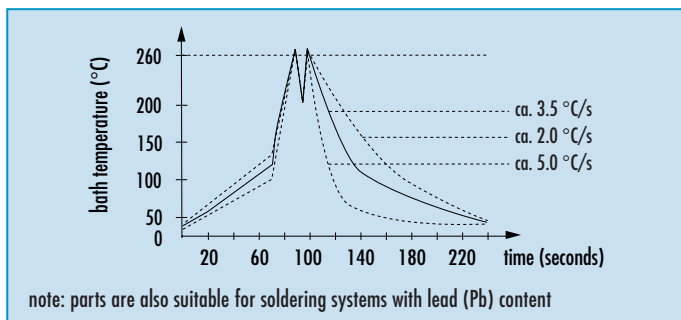
Enable / Disable Function

pin #1	pin #3
open or high	oscillation
gnd or low	high impedance

Marking

type
frequency
company code / date code

Wave Soldering Profile



Preferred Type

JCO8-3-B-3.3
JCO14-3-B-3.3

Packaging

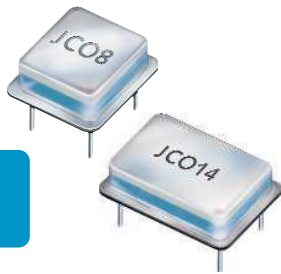
JCO8-3-B packed in antistatic plastic tubes, 40 pcs
JCO14-3-B packed in antistatic plastic tubes, 25 pcs

Oscillator · JCO · 5.0 V

Pin Type Oscillator



actual size



- soldering temperature: 260 °C max.
- metal package

General Data

type		JCO8 / JCO14 5.0 V
frequency range		1.0 ~ 160.0 MHz (15pF max.) 1.0 ~ 40.00 MHz (15pF~50pF max.)
frequency stability over all		± 15ppm ~ ± 100ppm (table 1)
current consumption		see table 2
supply voltage V _{DC}		5.0 V ± 10%
temperature	operating	-10 °C ~ +70 °C / -40 °C ~ +85 °C
	storage	-55 °C ~ +125 °C
output	rise & fall time	see table 3
	load max	15pF / 50pF
	current max.	16mA
	low level max.	+0.5 V
	high level min.	V _{DC} -0.5 V
output enable time max.		10ms
output disable time max.		100ns
start-up time max.		10ms
standby function		optional
phase jitter 12 kHz ~ 20.0 MHz		< 1.0ps RMS
symmetry at 0.5 x V _{DC}		45% ~ 55% typ. (40% ~ 60% max.)

Table 1: Frequency Stability Code

stability code	A	B	G	C	D	E
	± 100 ppm	± 50 ppm	± 30 ppm	± 25 ppm	± 20 ppm	± 15 ppm
-10 °C ~ +70 °C	○	●	○	○	○	○
-40 °C ~ +85 °C	●	○	○	○		
	● standard ○ on request					

Table 2: Current Consumption max.

Current at 15pF load:		Current at 50pF load:	
1.0 ~ 29.9 MHz	15 mA	1.0 ~ 19.9 MHz	20 mA
30.0 ~ 49.9 MHz	25 mA	20.0 ~ 40.0 MHz	35 mA
50.0 ~ 89.9 MHz	40 mA		
90.0 ~ 124.9 MHz	50 mA		
125.0 ~ 160.0 MHz	60 mA		

Table 3: Rise & Fall Time max.

6.0 ns: 1.0 ~ 49.9 MHz	note: - specific data on request - rise time: 0.1 V _{DC} ~ 0.9 V _{DC} - fall time: 0.9 V _{DC} ~ 0.1 V _{DC}
5.0 ns: 50.0 ~ 79.9 MHz	
4.0 ns: 80.0 ~ 99.9 MHz	
3.0 ns: 100.0 ~ 160.0 MHz	

Dimensions JCO14 / JCO8

JCO14

pin connection
 # 1: not connected or e/d
 # 7: ground
 # 8: output
 #14: supply voltage

JCO8

pin connection
 # 1: not connected or e/d
 # 4: ground
 # 5: output
 # 8: supply voltage

in mm

Order Information

0	frequency	type	e/d function	frequency stability	supply voltage code	option
Oscillator	1.0 ~ 160.0 MHz	JCO8 JCO14	2 = no 3 = yes/tristate	see table 1	blank = 5.0 Volt	blank = -10 °C ~ +70 °C T1 = -40 °C ~ +85 °C

Example: O 20.0-JCO8-3-A-T1 (LF = RoHS compliant / Pb free pins or pads)



Oscillator · JCO · 5.0 V

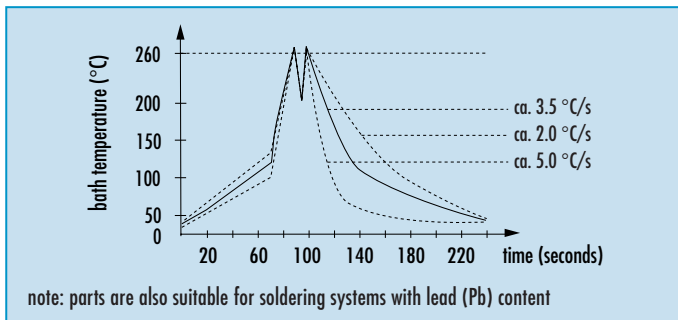
Enable / Disable Function

pin #1	pin #3
open or high	oscillation
gnd or low	high impedance

Marking

type
frequency
company code / date code

Wave Soldering Profile



Preferred Type

JCO8-3-B
JCO14-3-B

Packaging

JCO8-3-B packed in antistatic plastic tubes, 40 pcs
JCO14-3-B packed in antistatic plastic tubes, 25 pcs