



actual size

Oscillator · JO53

Low Voltage Crystal Oscillator

Features

■ RoHS compliant

■ ceramic / metal package

General Data

type	JO53 2.8 V	JO53 2.5 V	JO53 1.8 V
frequency range	0.5 ~ 80.0 MHz	0.5 ~ 80.0 MHz	0.5 ~ 50.0 MHz
frequency stability over all*	± 25 ppm ~ ± 100 ppm	± 25 ppm ~ ± 100 ppm	± 25 ppm ~ ± 100 ppm
current consumption	see table 1	see table 1	see table 1
supply voltage	2.8 V ± 5 %	2.5 V ± 5 %	1.8 V ± 5 %
output	rise & fall time	see table 3	see table 3
	load	15 pF	15 pF
		30 pF (0.5 ~ 50.0 MHz)	30 pF (0.5 ~ 50.0 MHz)
	current max.	5 mA	4 mA
	low level max.	$V_{DC} \times 0.1$	$V_{DC} \times 0.1$
temperature	high level min.	$V_{DC} \times 0.9$	$V_{DC} \times 0.9$
	operating	-10 °C ~ +70 °C	-10 °C ~ +70 °C
	extended	-40 °C ~ +85 °C	-40 °C ~ +85 °C
	storage	-55 °C ~ +125 °C	-55 °C ~ +125 °C
phase jitter 12 kHz ~ 20.0 MHz	< 1.0 ps RMS	< 1.0 ps RMS	< 1.0 ps RMS
symmetry at 1/2 V_{DC}	< 45 / 55 % typical	< 45 / 55 % typical	< 45 / 55 % typical

* inclusive stability at 25°C, operating temperature range, input voltage change, aging, shock and vibration.

Table 1: current consumption max.

2.8 V version:	15 pF	30 pF
0.50 ~ 14.9 MHz	6 mA	8 mA
15.00 ~ 29.9 MHz	8 mA	10 mA
30.00 ~ 39.9 MHz	10 mA	15 mA
40.00 ~ 49.9 MHz	15 mA	20 mA
50.00 ~ 59.9 MHz	20 mA	25 mA
60.00 ~ 80.0 MHz	30 mA	35 mA
2.5 V version:	15 pF	30 pF
0.50 ~ 14.9 MHz	6 mA	8 mA
15.00 ~ 29.9 MHz	8 mA	10 mA
30.00 ~ 39.9 MHz	10 mA	15 mA
40.00 ~ 49.9 MHz	13 mA	20 mA
50.00 ~ 59.9 MHz	16 mA	25 mA
60.00 ~ 80.0 MHz	20 mA	35 mA
1.8 V version:	15 pF	30 pF
0.50 ~ 29.9 MHz	2 mA	5 mA
30.00 ~ 39.9 MHz	3 mA	8 mA
40.00 ~ 50.0 MHz	4 mA	10 mA
note:		
- specific data on request		

Table 2: frequency stability code

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

Table 3: rise & fall time max.

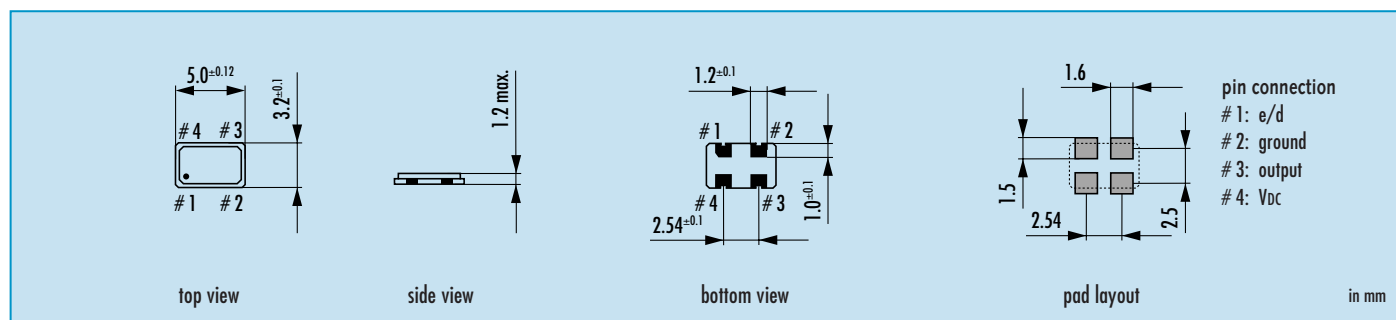
	2.8 V	2.5 V	1.8 V
0.500 ~ 32.0 MHz	5 ns	5 ns	7 ns
32.001 ~ 50.0 MHz	5 ns	5 ns	7 ns
50.001 ~ 80.0 MHz	5 ns	5 ns	
- specific data on request			

Order Information

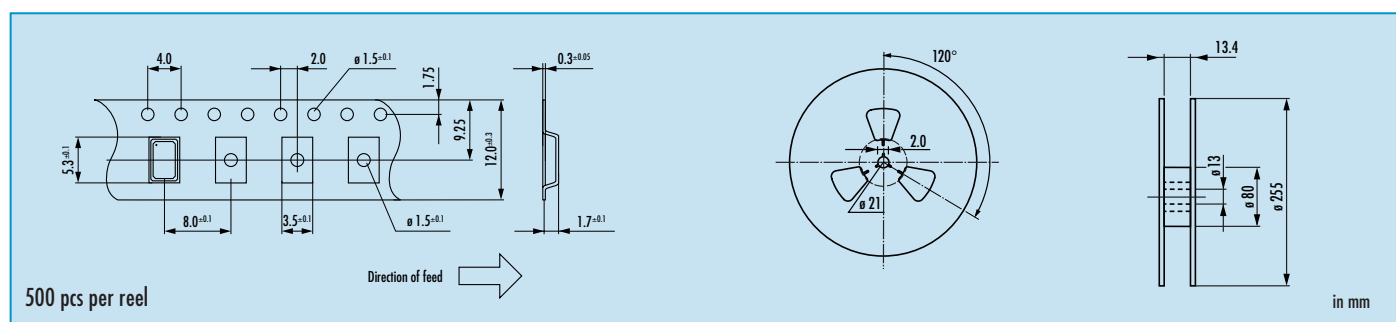
0	frequency in MHz	type	frequency stability	supply voltage	output load	option
Oscillator	0.5 ~ 80.0 MHz	JO53	A ~ D see table 2	1.8 = 1.8 V 2.5 = 2.5 V 2.8 = 2.8 V	1 = 15 pF 2 = 30 pF	blank = -10 °C ~ +70 °C std. T1 = -40 °C ~ +85 °C LF = Pb free contact pins / pads
Example: O 20.0-JO53-B-2.8-2						

Oscillator · JO53 · 2.8 V · 2.5 V · 1.8 V

Dimensions



Taping Specification



Enable / Disable Function

pin #1			pin #3
2.8 V type	2.5 V type	1.8 V type	
open	open	open	oscillation
$\geq 0.8 \text{ V}$	$\geq 0.8 \text{ V}$	$\geq 0.7 \text{ V}$	oscillation
$\leq 0.2 \text{ V}$	$\leq 0.2 \text{ V}$	$\leq 0.3 \text{ V}$	oscillator stop

start-up time: < 10 ms
standby current: 10 μA max.

Marking

frequency
type / date code

date code:

A ~ M: Jan.- Dec.

4: 2004

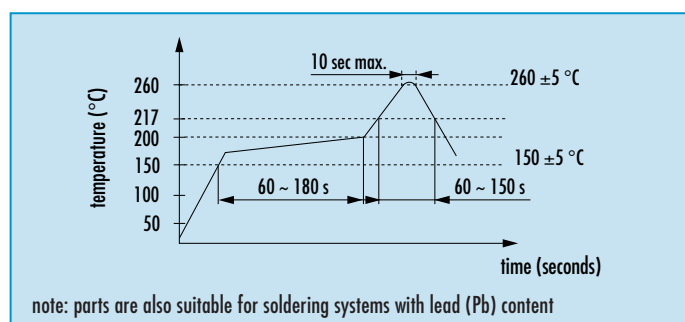
5: 2005

6: 2006

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



Packing Note

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



■ actual size

Oscillator · JO32

Surface Mount Crystal Oscillator

Features

■ RoHS compliant

■ ceramic / metal package

General Data

type		JO32 2.5 V	JO32 2.8 V	JO32 3.3 V
frequency range		0.75 ~ 75.0 MHz	0.75 ~ 75.0 MHz	0.75 ~ 75.0 MHz
frequency stability over all*		± 30 ppm ~ ± 100 ppm	± 30 ppm ~ ± 100 ppm	± 30 ppm ~ ± 100 ppm
current consumption		see table 1	see table 1	see table 1
supply voltage		2.5 V ± 5 %	2.8 V ± 5 %	3.3 V ± 5 %
output	rise & fall time	see table 3	see table 3	see table 3
	load	15 pF	15 pF	15 pF
	current max.	5 mA	5 mA	5 mA
	low level max.	$V_{DC} \times 0.1$	$V_{DC} \times 0.1$	$V_{DC} \times 0.1$
	high level min.	$V_{DC} \times 0.9$	$V_{DC} \times 0.9$	$V_{DC} \times 0.9$
temperature	operating	-20 °C ~ +70 °C	-20 °C ~ +70 °C	-20 °C ~ +70 °C
	extended	-40 °C ~ +85 °C	-40 °C ~ +85 °C	-40 °C ~ +85 °C
	storage	-55 °C ~ +125 °C	-55 °C ~ +125 °C	-55 °C ~ +125 °C
phase jitter 12 kHz ~ 20.0 MHz		< 1.0 ps RMS	< 1.0 ps RMS	< 1.0 ps RMS
symmetry at 1/2 V_{DC}		< 40 / 60 % max.	< 45 / 55 % max.	< 45 / 55 % max.

* inclusive stability at 25°C, operating temperature range, input voltage change, aging, shock and vibration.

Table 1: current consumption max.

2.5 V version:
 0.75 ~ 19.9 MHz 6 mA
 20.00 ~ 39.9 MHz 11 mA
 40.00 ~ 59.9 MHz 14 mA
 60.00 ~ 75.0 MHz 18 mA

2.8 V version:
 0.75 ~ 19.9 MHz 6 mA
 20.00 ~ 39.9 MHz 11 mA
 40.00 ~ 59.9 MHz 16 mA
 60.00 ~ 75.0 MHz 18 mA

3.3 V version:
 0.75 ~ 19.9 MHz 7 mA
 20.00 ~ 39.9 MHz 13 mA
 40.00 ~ 59.9 MHz 19 mA
 60.00 ~ 75.0 MHz 24 mA

note:
 - specific data on request

Table 2: frequency stability code

stability code	A ± 100 ppm	B ± 50 ppm	G ± 30 ppm			
-20 °C ~ +70 °C	○	○	○			
-40 °C ~ +85 °C	○	○				

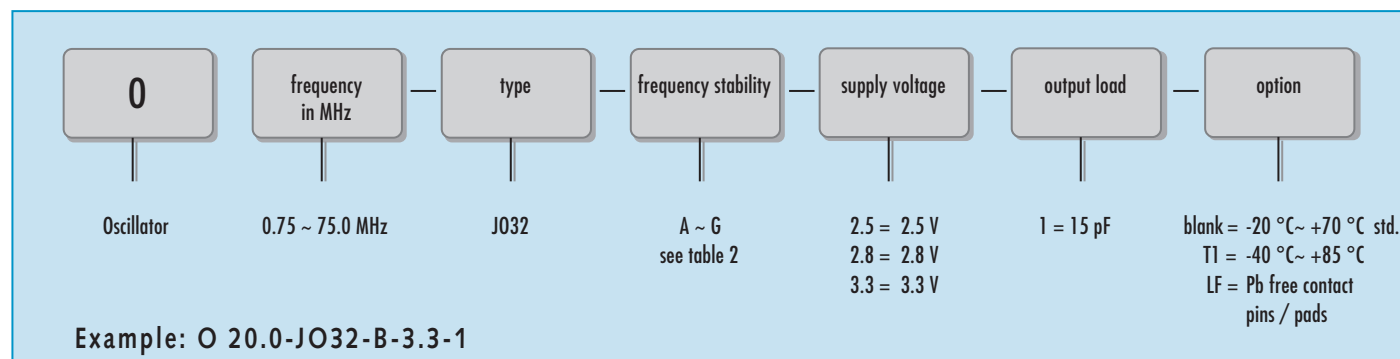
● standard ○ on request

Table 3: rise & fall time max.

	2.5 V	2.8 V	3.3 V
0.750 ~ 75.0 MHz	5 ns	5 ns	5 ns

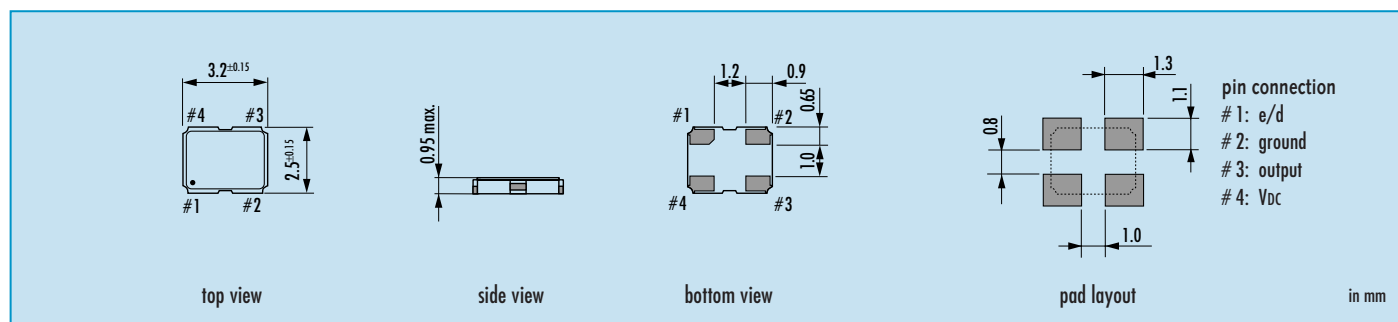
- specific data on request

Order Information

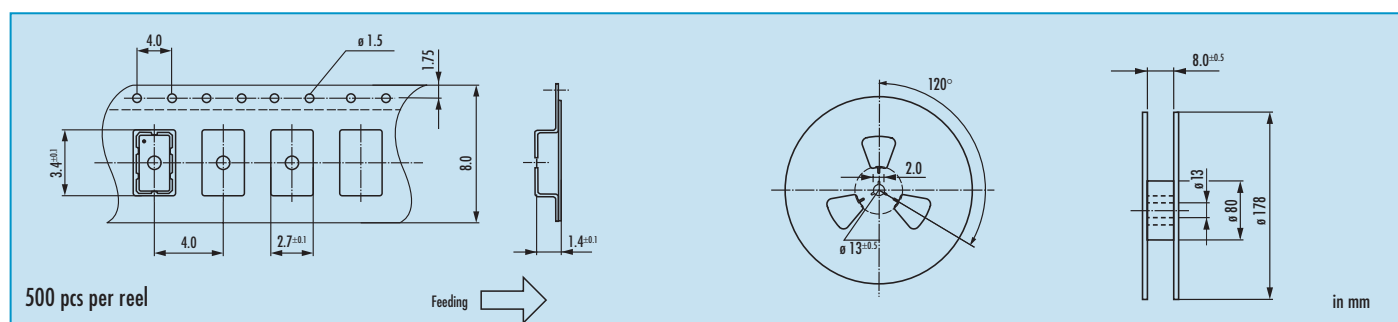


Oscillator · JO32 · 2.5 V · 3.0 V · 3.3 V

Dimensions



Taping Specification



Enable / Disable Function

pin #1	pin #3
open or high	oscillation
gnd or low	oscillator stop / output high impedance

start-up time: < 10 ms
 standby current: 5 µA max.

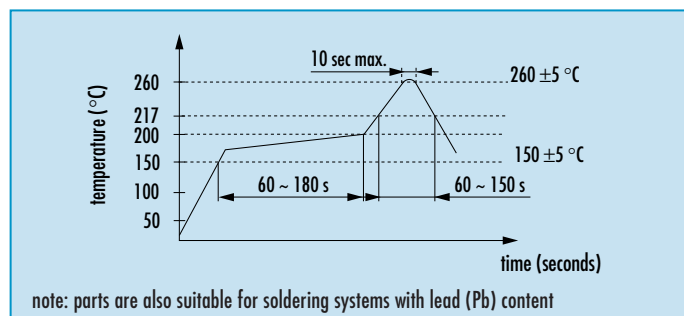
Marking

frequency
 type / date code

date code:
 A ~ M: Jan.- Dec.
 4: 2004
 5: 2005
 6: 2006

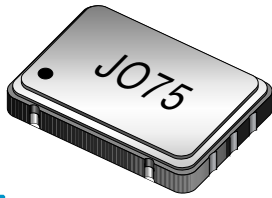
Jan.	Febr.	Mar.	Apr.	May	June
A	B	C	D	E	F
July	Aug.	Sept.	Oct.	Nov.	Dec.
G	H	J	K	L	M

Reflow Soldering Profile



Packing Note

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



actual size

Oscillator · JO75

Low Voltage Crystal Oscillator

Features

- RoHS compliant
- low current consumption types

- ceramic / metal package

General Data

type	JO75 2.8 V	JO75 2.5 V	JO75 1.8 V
frequency range	1.8 ~ 160.0 MHz	1.8 ~ 160.0 MHz	1.8 ~ 160.0 MHz
frequency stability over all*	± 25 ppm ~ ± 100 ppm	± 25 ppm ~ ± 100 ppm	± 25 ppm ~ ± 100 ppm
current consumption	see table 1	see table 1	see table 1
supply voltage	2.8 V ± 5 %	2.5 V ± 5 %	1.8 V ± 5 %
output	rise & fall time	see table 3	see table 3
	load	15 pF	15 pF
		30 pF on request	30 pF on request
	current max.	4 mA	2 mA
	low level max.	$V_{DC} \times 0.1$	$V_{DC} \times 0.1$
temperature	high level min.	$V_{DC} \times 0.9$	$V_{DC} \times 0.9$
	operating	-10 °C ~ +70 °C	-10 °C ~ +70 °C
	extended	-40 °C ~ +85 °C	-40 °C ~ +85 °C
	storage	-55 °C ~ +125 °C	-55 °C ~ +125 °C
phase jitter 12 kHz ~ 20.0 MHz	< 1.0 ps RMS	< 1.0 ps RMS	< 1.0 ps RMS
symmetry at 1/2 V_{DC}	< 45 / 55 % typical	< 45 / 55 % typical	< 45 / 55 % typical

* inclusive stability at 25°C, operating temperature range, input voltage change, aging, shock and vibration.

Table 1: current consumption max.

2.8 V version:	
1.80 ~ 31.99 MHz	12 mA
32.00 ~ 79.99 MHz	20 mA
80.00 ~ 124.99 MHz	30 mA
125.00 ~ 160.00 MHz	40 mA

2.5 V version:	
1.80 ~ 31.99 MHz	10 mA
32.00 ~ 79.99 MHz	18 mA
80.00 ~ 124.99 MHz	28 mA
125.00 ~ 160.00 MHz	38 mA

1.8 V version:	
1.80 ~ 31.99 MHz	7 mA
32.00 ~ 79.99 MHz	15 mA
80.00 ~ 124.99 MHz	25 mA
125.00 ~ 160.00 MHz	35 mA

note:
- specific data on request

Table 2: frequency stability code

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

Table 3: rise & fall time max.

	2.8 V	2.5 V	1.8 V
1.800 ~ 32.0 MHz	5 ns	5 ns	5 ns
32.001 ~ 80.0 MHz	5 ns	5 ns	3.5 ns
80.001 ~ 125.0 MHz	4 ns	4 ns	3.5 ns
125.001 ~ 160.0 MHz	3 ns	3 ns	3 ns

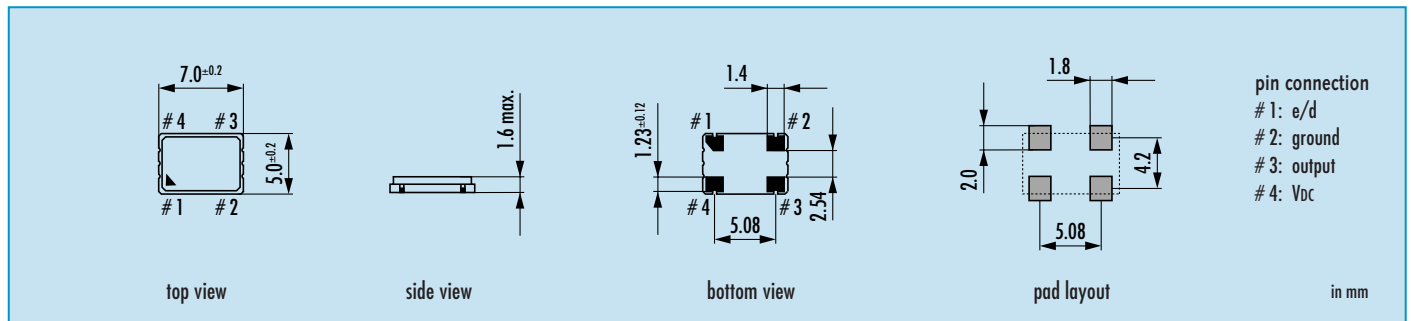
Order Information

0	frequency in MHz	type	frequency stability	supply voltage	output load	option
Oscillator	1.8 ~ 160.0 MHz	JO75	A ~ C see table 2	2.8 = 2.8 V 2.5 = 2.5 V 1.8 = 1.8 V	1 = 15 pF 2 = 30 pF on request	blank = -10 °C ~ +70 °C std. T1 = -40 °C ~ +85 °C LF = Pb free contact pins / pads
Example: O 20.0-JO75-B-2.5-1						

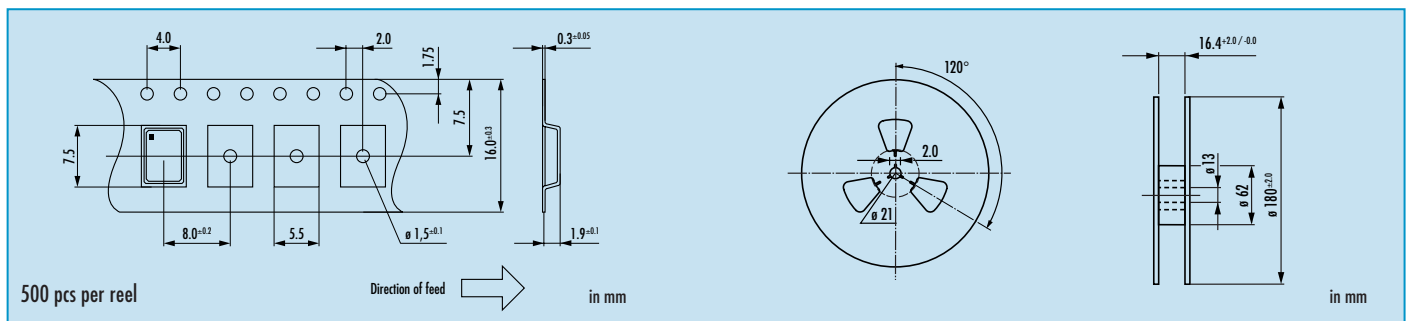


Oscillator · JO75 · 2.8 V · 2.5 V · 1.8 V

Dimensions



Taping Specification



Enable / Disable Function

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

start-up time: < 5 ms (1.8 ~ 32.0 MHz)
 < 10 ms (32.001 ~ 160.0 MHz)
 standby current: 10 μ A max.

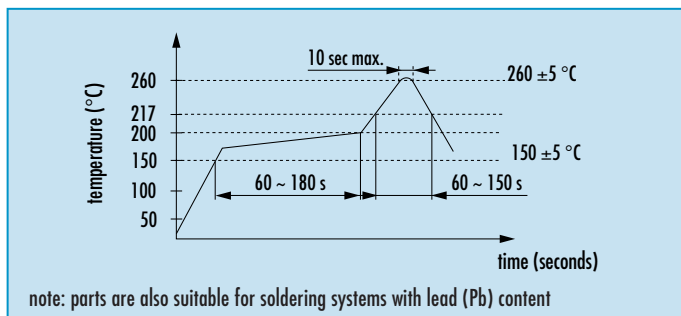
Marking

frequency type / date code

date code:
 A ~ M: Jan.- Dec.
 4: 2004
 5: 2005
 6: 2006

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



Packing Note

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



actual size

Programmed Oscillator · VX7

Surface Mount Crystal Oscillator – Low Jitter

Features

■ RoHS compliant

■ stand-by or stop function available

General Data

type	VX7 3.3 V	VX7 5.0 V
frequency range	1.0 ~ 200.0 MHz	1.0 ~ 200.0 MHz
frequency stability over all*	± 25 ppm ~ ± 100 ppm	± 25 ppm ~ ± 100 ppm
current consumption	see table 1	see table 1
supply voltage	3.3 V ± 10 %	5.0 V ± 10 %
output	rise & fall time	see table 3
	load	15 pF: 1.0 ~ 200.0 MHz 50 pF: 1.0 ~ 80.0 MHz
	current max.	8 mA
	low level max.	$V_{DC} \times 0.1$
	high level min.	$V_{DC} \times 0.9$
temperature	operating	-10 °C ~ +70 °C
	extended	-40 °C ~ +85 °C
	storage	-55 °C ~ +125 °C
symmetry at 1/2 V_{DC}	< 45 / 55 % typical	< 45 / 55 % typical

* inclusive stability at 25 °C, operating temperature range, input voltage change, aging, shock and vibration.

Table 1: current consumption max.

3.3 V version:
20 mA with 15 pF load
30 mA with 50 pF load

5.0 V version:
30 mA with 15 pF load
50 mA with 50 pF load

Table 3: rise & fall time max.

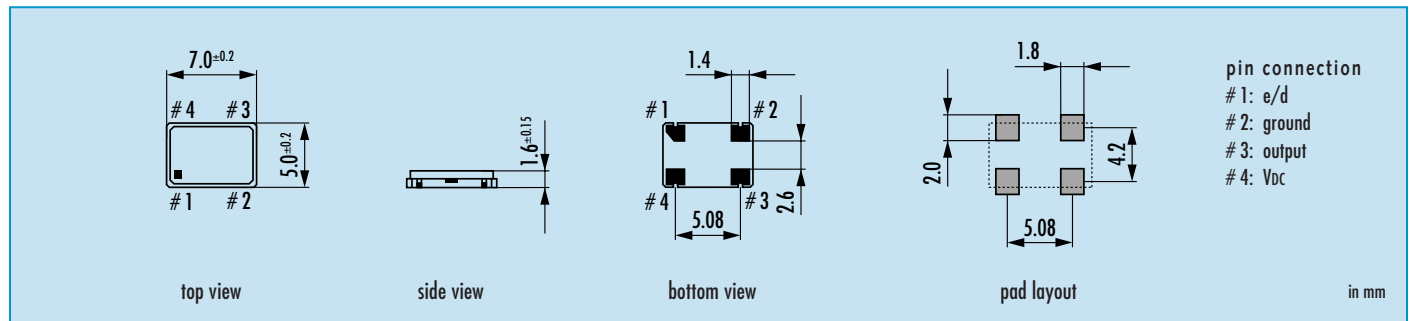
	5.0 V	3.3 V
1.0 ~ 79.99 MHz	5 ns	6 ns
50.0 ~ 200.0 MHz	6 ns	6 ns

Order Information

0	frequency in MHz	type	frequency stability code	supply voltage code	output load code	option
Oscillator	1.0 ~ 200.0 MHz (15 pF) 1.0 ~ 80.0 MHz (50 pF)	VX7	A = ± 100 ppm B = ± 50 ppm G = ± 30 ppm C = ± 25 ppm	3.3 = 3.3 V 5.0 = 5.0 V	1 = 15 pF 3 = 50 pF	blank = -10 °C ~ +70 °C std. blank = tristate function STP = stop function T1 = -40 °C ~ +85 °C LF = Pb free contact pins / pads
Example: O 20.0-VX7-B-3.3-1						

Programmed Oscillator · VX7

Dimensions



Enable / Disable Function

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

start-up time: < 3 ms typical

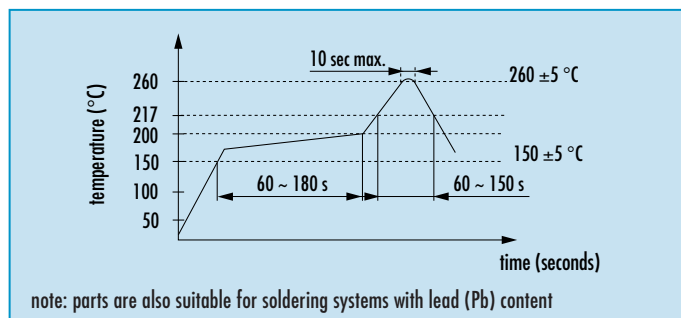
Marking

frequency
type / date code

date code:
 A ~ M: Jan.- Dec.
 4: 2004
 5: 2005
 6: 2006

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



Jitter Reference Data

3.3V version, 15 pF

frequency in MHz	1 sigma RMS in ps	peak-peak in ps
8.0000	50	200
16.0000	41	160
32.0000	42	170
50.0000	13	70
106.250	27	125
125.000	21	100
155.520	27	130
200.000	40	150



actual size

Oscillator · VX3W · 3.3 V

Crystal Oscillator with Stop Function

Features

- RoHS compliant
- HCMOS / TTL compatible type

- full ceramic package

General Data

type		VX3
frequency range		0.5 ~ 100.0 MHz
frequency stability over all*		± 20 ppm ~ ± 100 ppm
current consumption		see table 1
supply voltage		3.3 V ± 10 %
output	rise & fall time	see table 3
	load	30 pF max.
	current max.	8 mA
	low level max.	V _{DC} x 0.1
high level min.	V _{DC} x 0.9	
temperature	operating	-10 °C ~ +70 °C
	extended	-40 °C ~ +85 °C
	storage	-55 °C ~ +125 °C
phase jitter 12 kHz ~ 20.0 MHz		< 1.0 ps RMS
symmetry at 1/2 V _{DC}		45 / 55 % typical

* inclusive stability at 25°C, operating temperature range, input voltage change, aging, shock and vibration.

Table 1: current consumption max.

0.5 ~ 19.99 MHz	10 mA
20.0 ~ 49.99 MHz	20 mA
50.0 ~ 79.99 MHz	25 mA
80.0 ~ 100.0 MHz	40 mA
note: - specific data on request	

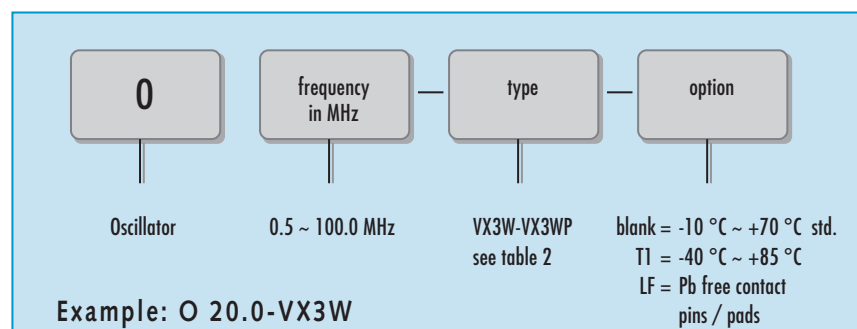
Table 2: type

type	VX3W	VX3WH	VX3WS	VX3WQ	VX3WP	
stability	± 100 ppm	± 50 ppm	± 30 ppm	± 25 ppm	± 20 ppm	
-10 °C ~ +70 °C	○	○	○	○	○	
-40 °C ~ +85 °C	○	○				
● standard ○ on request						

Table 3: rise & fall time max.

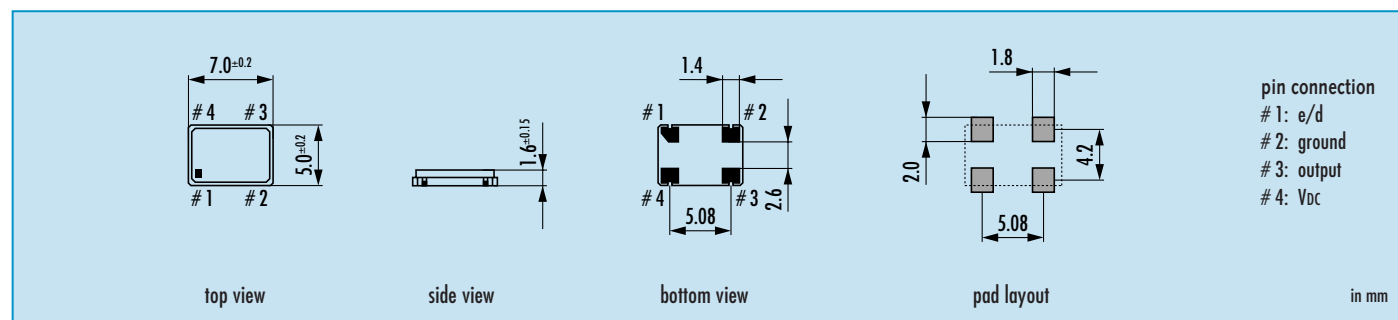
6.0 ns: 0.50 ~ 79.90 MHz
4.0 ns: 80.0 ~ 100.0 MHz
note: - specific data on request

Order Information

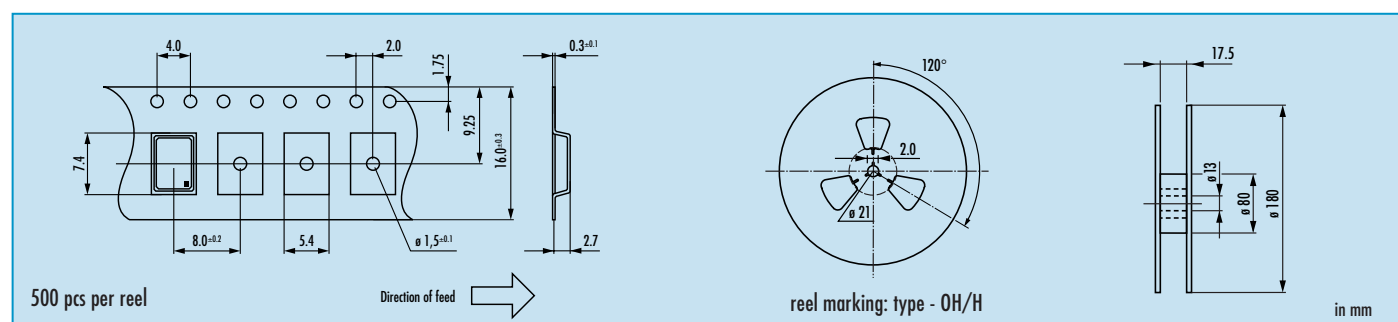


Oscillator · VX3W · 3.3 V · Stop Function

Dimensions



Taping Specification (JIS-C0806)



Enable / Disable Function

pin #1	pin #3
open or high	oscillation
gnd or low	oscillator stop

start-up time: < 10 ms
 standby current: 10 µA max.

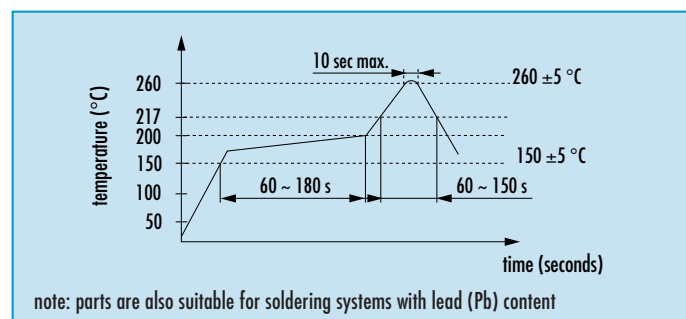
Marking

frequency
 type / date code

date code:
 A ~ M: Jan. - Dec.
 4: 2005
 5: 2005
 6: 2006

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



Packing Note

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



actual size

Oscillator · VX3L · 3.3 V

Low Jitter High Frequency Crystal Oscillator

Features

- RoHS compliant
- HCMOS / TTL compatible type

- oscillator stop function

General Data

type		VX3
frequency range		100.0 ~ 165.0 MHz
frequency stability over all*		± 20 ppm ~ ± 100 ppm
current consumption		see table 1
supply voltage		3.3 V ± 10 %
output	rise & fall time	see table 3
	load	15 pF max.
	current max.	8 mA
	low level max.	$V_{DC} \times 0.1$
	high level min.	$V_{DC} \times 0.9$
temperature	operating	-10 °C ~ +70 °C
	extended	-40 °C ~ +85 °C
	storage	-55 °C ~ +125 °C
phase jitter 12 kHz ~ 20.0 MHz		< 1.0 ps RMS
symmetry at 1/2 V_{DC}		40/60 % max. (45 / 55 % typical)

* inclusive stability at 25°C, operating temperature range, input voltage change, aging, shock and vibration.

Table 1: current consumption max.

100.000 ~ 125.0 MHz	50 mA
125.001 ~ 165.0 MHz	75 mA

note:

- specific data on request

Maximum Jitter Data

- 4 ps: rms period jitter
- 30 ps: period jitter Pk - Pk
- 1 ps: phase jitter 12.0 kHz ~ 20.0 MHz

Table 2: type

type	VX3L	VX3LH	VX3LS	VX3LQ	VX3LP	
stability	± 100 ppm	± 50 ppm	± 30 ppm	± 25 ppm	± 20 ppm	
-10 °C ~ +70 °C	○	○	○	○	○	
-40 °C ~ +85 °C	○	○				
● standard ○ on request						

Table 3: rise & fall time max.

3.0 ns: 100.0 ~ 124.99 MHz
2.0 ns: 125.0 ~ 165.00 MHz

note:

- specific data on request

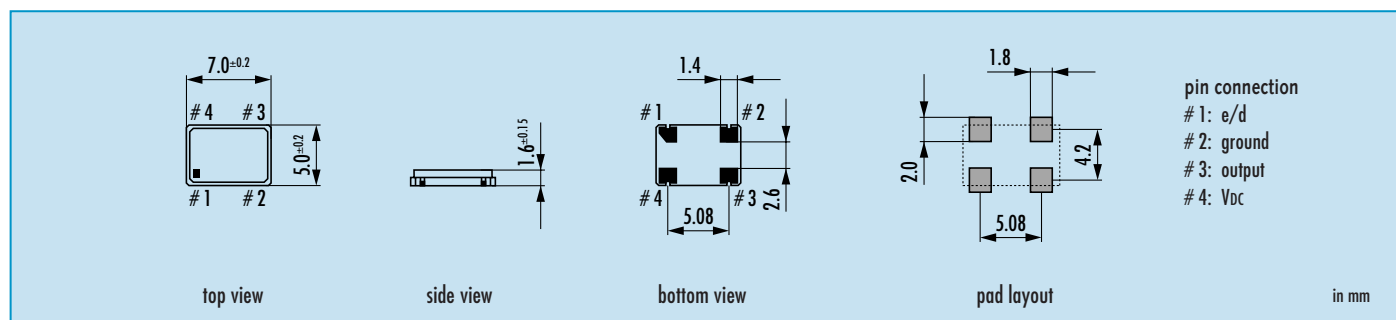
Order Information

0	frequency in MHz	type	option
Oscillator	100.0 ~ 165.0 MHz	VX3L-VX3LP see table 2	blank = -10 °C ~ +70 °C std. T1 = -40 °C ~ +85 °C LF = Pb free contact pins / pads
Example: O 106.250-VX3L			

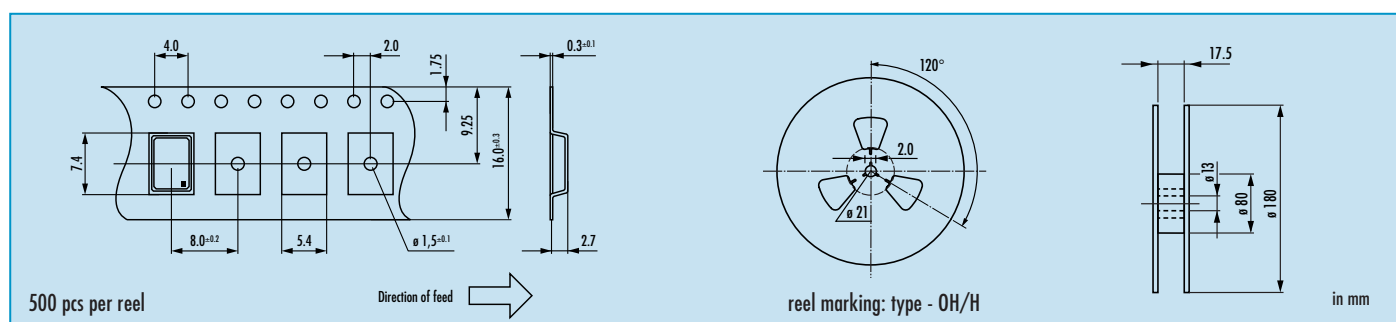


Oscillator · VX3L · 3.3 V · High Frequency

Dimensions



Taping Specification (JIS-C0806)



Enable / Disable Function

pin #1	pin #3
open or high	oscillation
gnd or low	oscillator stop

start-up time: < 10 ms
 standby current: 10 μ A max.

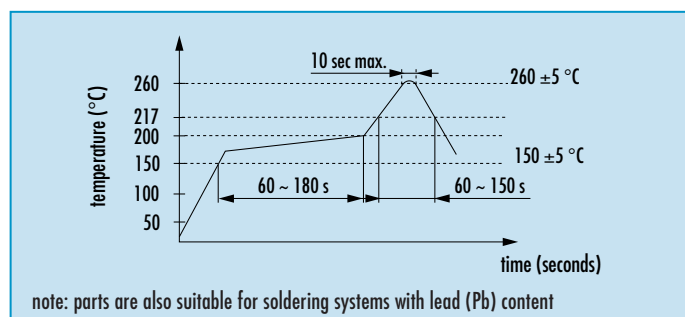
Marking

frequency
 type / date code

date code:
 A ~ M: Jan.- Dec.
 4: 2004
 5: 2005
 6: 2006

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



Packing Note

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



actual size

Oscillator · VX3 · 5.0 V

Surface Mount Crystal Oscillator

Features

- RoHS compliant
- HCMOS / TTL compatible type

- full ceramic package

General Data

type		VX3 low load - 15 pF	VX3 heavy load - 50 pF
frequency range		0.5 ~ 80.0 MHz	0.5 ~ 80.0 MHz
frequency stability over all*		± 20 ppm ~ ± 100 ppm	± 20 ppm ~ ± 100 ppm
current consumption		see table 1	see table 1
supply voltage		5.0 V ± 10 %	5.0 V ± 10 %
output	rise & fall time	see table 3	see table 3
	load	15 pF max.	50 pF max.
	current max.	16 mA	16 mA
	low level max.	$V_{DC} \times 0.1$	$V_{DC} \times 0.1$
	high level min.	$V_{DC} \times 0.9$	$V_{DC} \times 0.9$
temperature	operating	-10 °C ~ +70 °C	-10 °C ~ +70 °C
	extended	-40 °C ~ +85 °C	-40 °C ~ +85 °C
	storage	-55 °C ~ +125 °C	-55 °C ~ +125 °C
phase jitter 12 kHz ~ 20.0 MHz		< 1.0 ps RMS	< 1.0 ps RMS
symmetry at 1/2 V_{DC}		< 45 / 55 % typical	< 45 / 55 % typical

* inclusive stability at 25°C, operating temperature range, input voltage change, aging, shock and vibration.

Table 1: current consumption max.

	15 pF	50 pF
0.5 ~ 29.9 MHz	10 mA	20 mA
30.0 ~ 39.9 MHz	15 mA	35 mA
40.0 ~ 65.9 MHz	30 mA	55 mA
66.0 ~ 80.0 MHz	50 mA	60 mA

note:

- if heavy load versions (50 pF) are loaded with 15 pF, they will keep the current consumption data like low load (15 pF) oscillator
- specific data on request

Preferred Type

VX3X: ± 100 ppm / 50 pF
VX3E: ± 100 ppm / 15 pF

Table 2: type

stability	± 100 ppm		± 50 ppm		± 30 ppm		± 25 ppm		± 20 ppm	
type	VX3E	VX3X	VX3F	VX3Y	VX3FS	VX3YS	VX3EQ	VX3XQ	VX3EP	VX3XP
output load	15 pF	50 pF	15 pF	50 pF	15 pF	50 pF	15 pF	50 pF	15 pF	50 pF
-10 °C ~ +70 °C	●	●	○	○	○	○	○	○	○	○
-40 °C ~ +85 °C	○	○	○	○						

● standard ○ on request

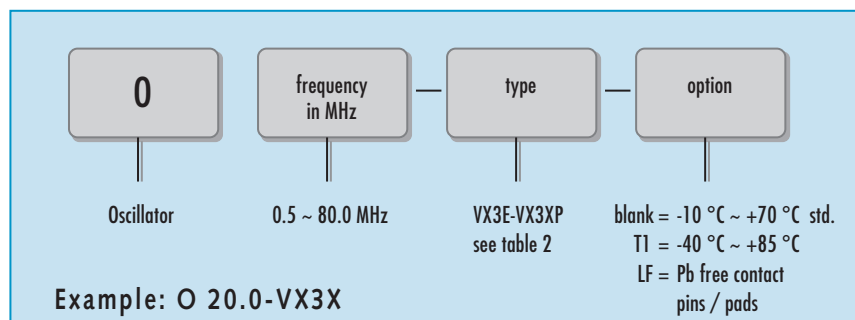
Table 3: rise & fall time max.

6.0 ns: 0.50 ~ 29.9 MHz
5.0 ns: 30.0 ~ 49.9 MHz
4.0 ns: 50.0 ~ 80.0 MHz

note:

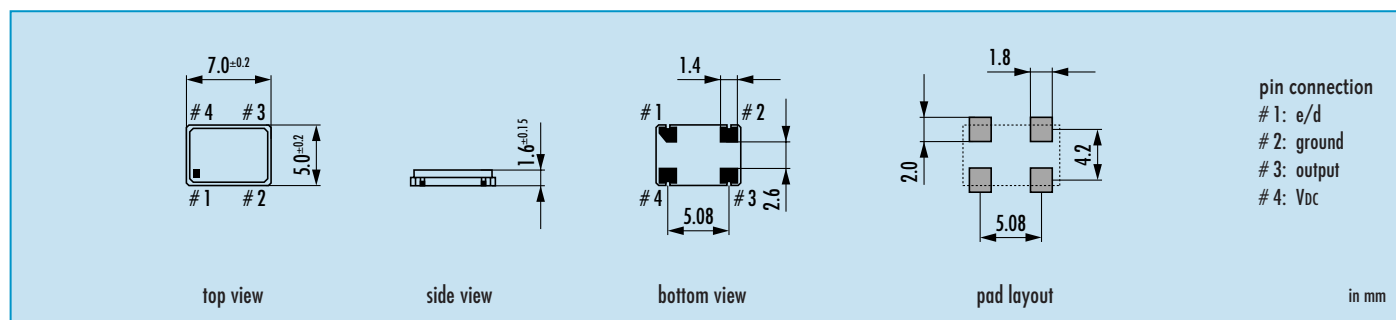
- specific data on request

Order Information

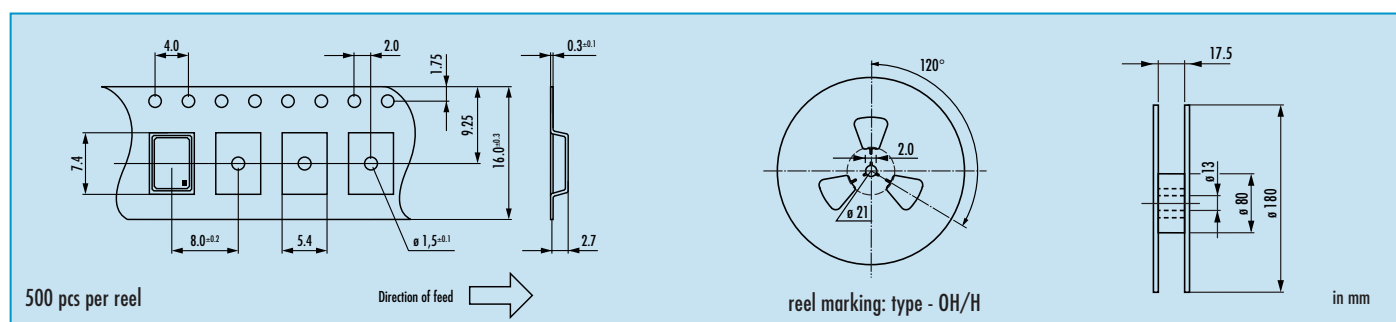


Oscillator · VX3 · 5.0 V · Tristate Function

Dimensions



Taping Specification (JIS-C0806)



Enable / Disable Function

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

start-up time: < 3 ms typical

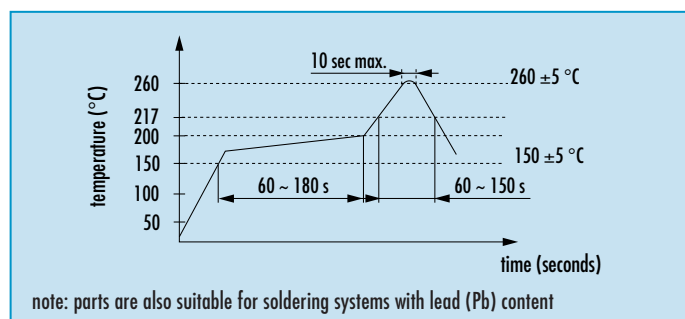
Marking

frequency
 type / date code

date code:
 A ~ M: Jan.- Dec.
 4: 2004
 5: 2005
 6: 2006

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



Packing Note

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



actual size

Oscillator · VX3 · 3.3 V

Surface Mount Crystal Oscillator

Features

- RoHS compliant
- HCMOS / TTL compatible type

- full ceramic package

General Data

type		VX3 low load	VX3 heavy load
frequency range		0.5 ~ 70.0 MHz	0.5 ~ 70.0 MHz
frequency stability over all*		± 25 ppm ~ ± 100 ppm	± 25 ppm ~ ± 100 ppm
current consumption		see table 1	see table 1
supply voltage		3.3 V ± 10 %	3.3 V ± 10 %
output	rise & fall time	see table 3	see table 3
	load	15 pF max.	30 pF max.
	current max.	8 mA	8 mA
	low level max.	$V_{DC} \times 0.1$	$V_{DC} \times 0.1$
	high level min.	$V_{DC} \times 0.9$	$V_{DC} \times 0.9$
temperature	operating	-10 °C ~ +70 °C	-10 °C ~ +70 °C
	extended	-40 °C ~ +85 °C	-40 °C ~ +85 °C
	storage	-55 °C ~ +125 °C	-55 °C ~ +125 °C
phase jitter 12 kHz ~ 20.0 MHz		< 1.0 ps RMS	< 1.0 ps RMS
symmetry at 1/2 V_{DC}		< 45 / 55 % typical	< 45 / 55 % typical

* inclusive stability at 25°C, operating temperature range, input voltage change, aging, shock and vibration.

Table 1: current consumption max.

	15 pF	30 pF
0.5 ~ 33.9 MHz	8 mA	10 mA
34.0 ~ 49.9 MHz	12 mA	15 mA
50.0 ~ 70.0 MHz	15 mA	20 mA

note:

- if heavy load versions (30 pF) are loaded with 15 pF, they will keep the current consumption data like low load (15 pF) oscillator
- specific data on request

Preferred Type

VX3MH: ± 50 ppm

Table 2: type

stability	± 100 ppm		± 50 ppm		± 30 ppm		± 25 ppm		± 20 ppm	
type	VX3J	VX3M	VX3K	VX3MH	VX3JS	VX3MS	VX3JQ	VX3MQ	VX3JP	VX3MP
output load	15 pF	30 pF	15 pF	30 pF	15 pF	30 pF	15 pF	30 pF	15 pF	30 pF
-10 °C ~ +70 °C	○	○	○	●	○	○	○	○	○	○
-40 °C ~ +85 °C	○	○	○	○						

● standard ○ on request

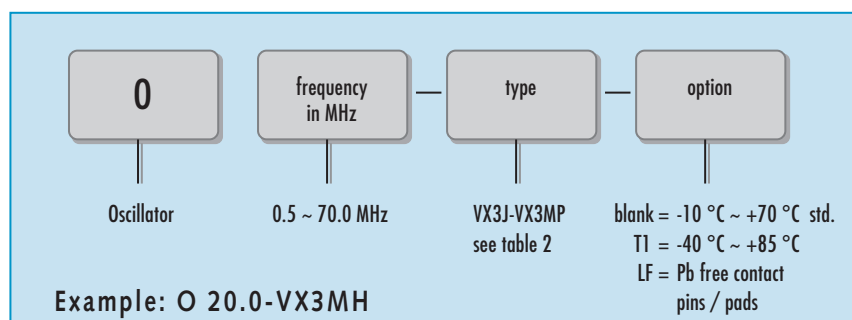
Table 3: rise & fall time max.

6.0 ns: 0.50 ~ 33.9 MHz
5.0 ns: 34.0 ~ 49.9 MHz
4.0 ns: 50.0 ~ 70.0 MHz

note:

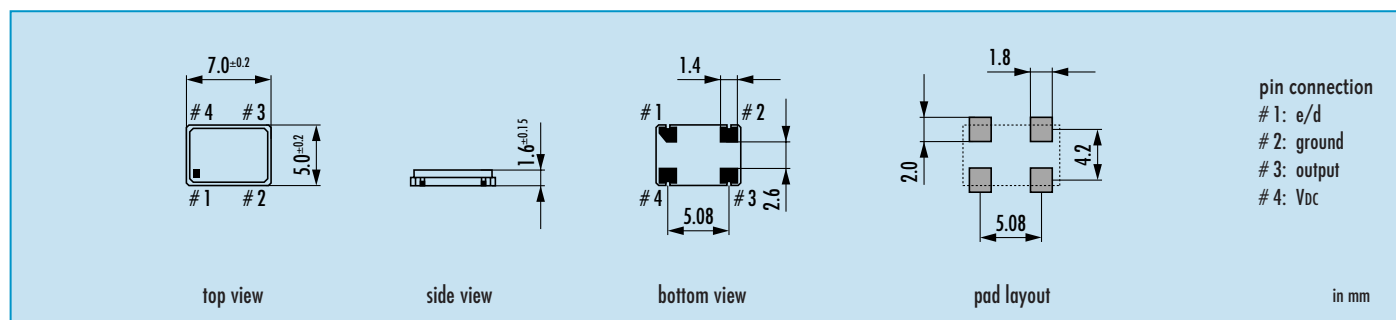
- specific data on request

Order Information

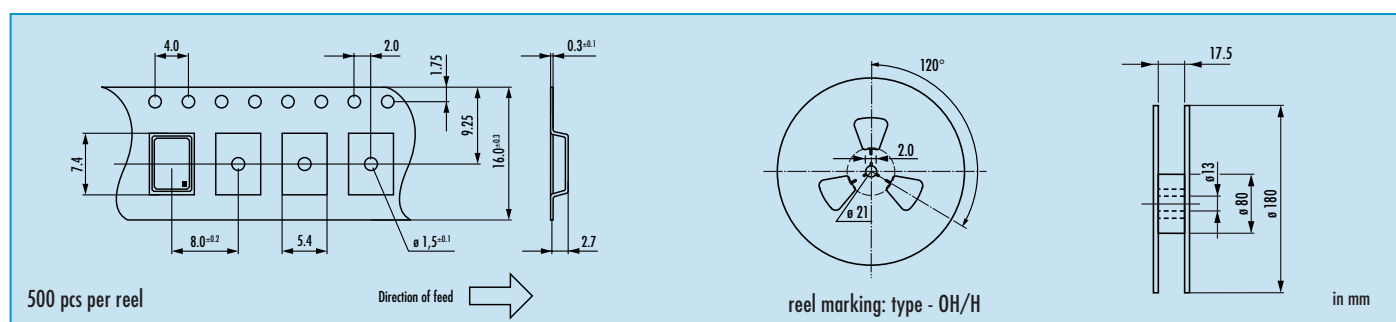


Oscillator · VX3 · 3.3 V · Tristate Function

Dimensions



Taping Specification (JIS-C0806)



Enable / Disable Function

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

start-up time: < 3 ms typical

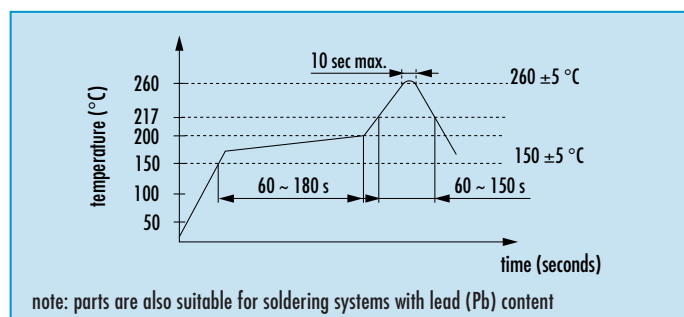
Marking

frequency
 type / date code

date code:
 A ~ M: Jan.- Dec.
 4: 2004
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 6: 2006

Jan.	Febr.	Mar.	Apr.	May	June
A	B	C	D	E	F
July	Aug.	Sept.	Oct.	Nov.	Dec.
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Reflow Soldering Profile



Packing Note

- standard packing units are 500 pieces per reel
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