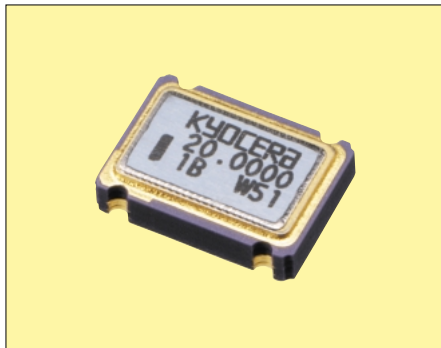
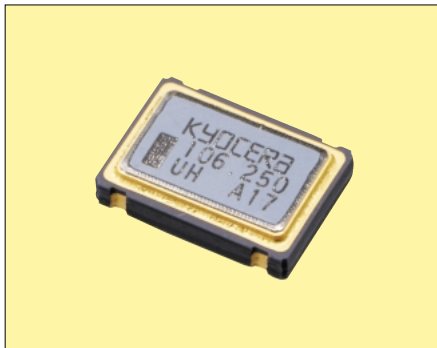


Kyocera has a wide range of clock oscillators with frequency and package size to match the various customer requirements.

K50 Series



K50H Series

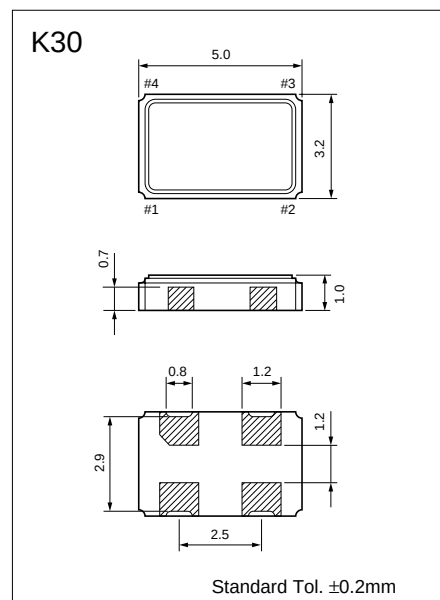
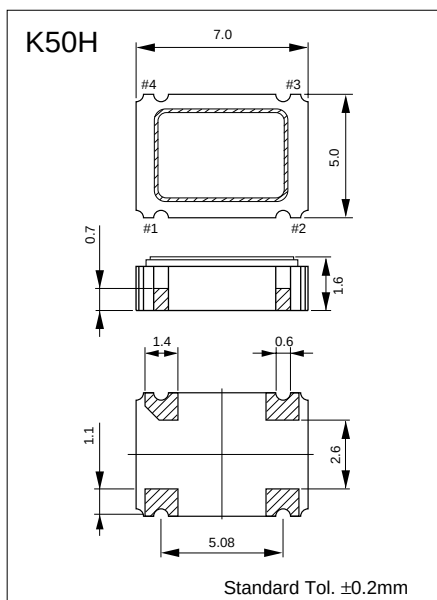
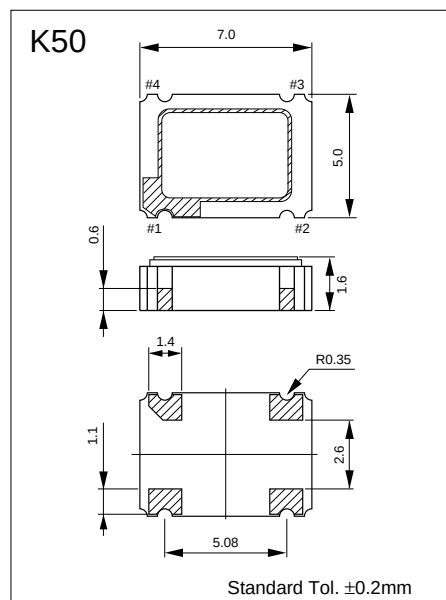


K30 Series



Dimensions

(Unit : mm)



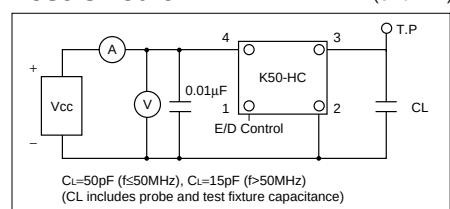
Specifications

Type	Frequency Range (MHz)	LOAD	DRIVE LEVEL	DUTY RATIO	Features
K50-HC-C	8 to 68	$C_L=50\text{pF(max)}$ ($f_o \leq 50\text{MHz}$)	CMOS $V_{OH}0.9V_{CC}$ $V_{OL}0.1V_{CC}$	45/55% (0.5Vcc)	1. IR Reflowable 2. Mini-SMD 3. Tristate Output, Enable/Disable Function F>50MHz $C_L=15\text{pF}$
K50-3C	8 to 80	$C_L=15\text{pF(max)}$	CMOS $V_{OH}0.9V_{CC}$ $V_{OL}0.1V_{CC}$	40/60% (0.5Vcc)	1. 3.3V Available 2. IR Reflowable 3. Mini-SMD 4. Tristate Output, Enable/Disable Function
K50H-3C	50 to 160	$C_L=15\text{pF(max)}$	CMOS $V_{OH}0.9V_{CC}$ $V_{OL}0.1V_{CC}$	45/55% (0.5Vcc)	1. 3.3V Available 2. IR Reflowable 3. Mini-SMD 4. Tristate Output, Enable/Disable Function
K30-HC-C	8 to 50	$C_L=50\text{pF(max)}$ ($f_o \leq 50\text{MHz}$)	CMOS $V_{OH}0.9V_{CC}$ $V_{OL}0.1V_{CC}$	45/55% (0.5Vcc)	1. IR Reflowable 2. Mini-SMD 3. Tristate Output, Enable/Disable Function
K30-3C	8 to 67	$C_L=15\text{pF(max)}$	CMOS $V_{OH}0.9V_{CC}$ $V_{OL}0.1V_{CC}$	40/60% (0.5Vcc)	1. 3.3V Available 2. IR Reflowable 3. Mini-SMD 4. Tristate Output, Enable/Disable Function

Features

- Miniature SMD ceramic package type
- Frequency range : 8MHz–68MHz
- Frequency Tolerance : $\pm 100\text{ppm}$, $\pm 50\text{ppm}$
- Tristate output inhibit
- Supply Voltage : 5.0V

Test Circuit



How to Order

K50 - HC 1 - C S E 40.0000M R

① ② ③ ④ ⑤ ⑥ ⑦

① Series

② Tolerance

1	$\pm 100\text{ppm}$	0	$\pm 50\text{ppm}$
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③ Out put

C	CMOS
---	------

④ Duty ratio

S	45% to 55%(STD)
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⑤ Taistate Output

E	with function(STD)
---	--------------------

⑥ Frequency(MHz)

8.0000	27.0000	49.1520
14.31818	29.4989	50.0000
16.0000	30.0000	60.0000
20.0000	32.0000	64.0000
24.0000	33.8688	66.6667
24.5760	40.0000	—
25.0000	48.0000	—

⑦ Packaging

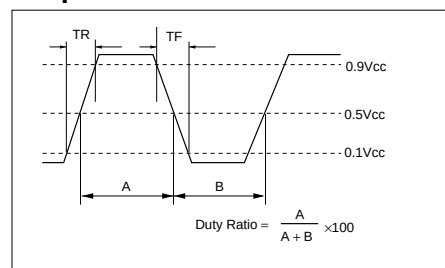
R	Tape and Reel(1000pcs/Reel)
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Specifications

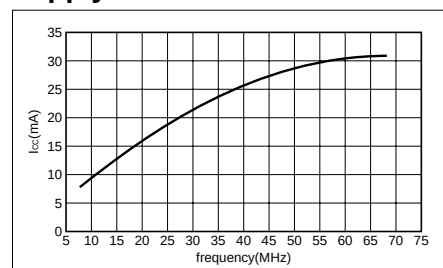
Items	Code	Rating	Unit	Remarks
Output Frequency	F _{OUT}	8 to 68	MHz	—
Frequency Tolerance	$\Delta F/F$	± 100 , ± 50	ppm	Over all conditions : initial tolerance, operating temperature, rated power supply voltage, load change, aging (1year @ 25°C), shock and vibration
Operating Temp.	T _{OPR}	-10 to 70	°C	—
Storage Temp.	T _{STR}	-55 to 125	°C	—
Supply Voltage	V _{CC}	5 $\pm$ 0.5	V	—
Supply Current	I _{CC}	50max	mA	Loaded @68MHz
Disable Current	I _{DE}	30max	mA	—
Duty Ratio	SYM	45 to 55	%	0.5V _{CC} DC Level
Output 0 Level	V _{OL}	0.1V _{CC} max	V	I _{OL} =16mA
Output 1 Level	V _{OH}	0.9V _{CC} min	V	I _{OH} =-16mA
Rise/Fall Time	T _R , T _F	10max	nsec	0.1V _{CC} –0.9V _{CC}
Load Capacitance	C _L	50max	pF	F>50MHz C _L =15pF(max)
Enable/Disable Time	—	100max	nsec	—
Input Voltage Low	V _{IL}	0.8max	V	—
Input Voltage High	V _{IH}	2.2min	V	—
Start-up Time	ST	10max	mS	Minimum Operating Voltage to be 0sec

• Please contact us for inquires about Extend Operating Temperature Range(-40 to +85°C), available frequencies, other condition.

Output Wave Form



Supply Current Characteristic



Pin Connection

Pin#	Function
1	CONTROL
2	CASE GND
3	OUT PUT
4	+V _{CC}

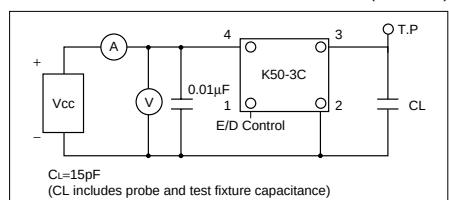
Enable/Disable

Pin#1	Pin#3
"H" or open	Oscillation
"L"	High impedance

Features

- Miniature SMD ceramic package type
- Frequency range : 8MHz to 80MHz
- Frequency Tolerance : $\pm 100\text{ppm}$, $\pm 50\text{ppm}$
- Tristate output inhibit
- Supply voltage : 3.3V
- Load capacitance 15pF

Test Circuit



How to Order

K50 - 3C 1 - S E 40.0000M R

① ② ③ ④ ⑤ ⑥

① Series

② Tolerance

1	$\pm 100\text{ppm}$	0	$\pm 50\text{ppm}$
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③ Duty Ratio

S	45% to 55% ($\geq 20\text{MHz}$)
NIL	40% to 60% (STD)

④ Enable/Disable function

E	with function (STD)
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⑤ Frequency (MHz)

8.00000	27.0000	48.0000
13.0000	29.4989	49.1520
14.31818	30.0000	50.0000
16.0000	32.0000	53.1250
20.0000	33.8688	64.0000
24.0000	35.3280	66.6667
24.5760	40.0000	80.0000
25.0000	44.0000	—

⑥ Packaging

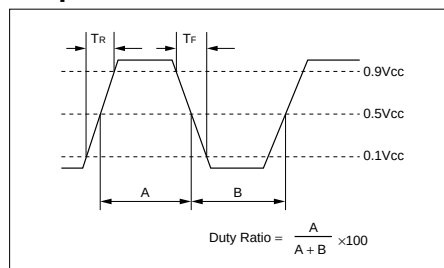
R	Tape and Reel (1000pcs/Reel)
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Specifications

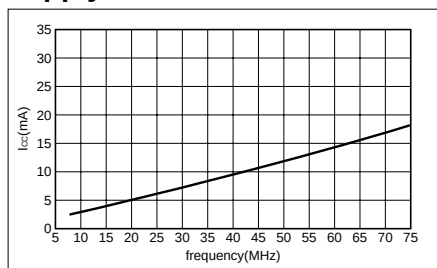
Items	Code	Rating	Unit	Remarks
Output Frequency	F _{OUT}	8 to 80	MHz	—
Frequency Tolerance	$\Delta F/F$	± 100 , ± 50	ppm	Over all conditions : initial tolerance, operating temperature, rated power supply voltage, load change, aging (1year @ 25°C), shock and vibration
Operating Temp.	T _{OPR}	-10 to 70	°C	—
Storage Temp.	T _{STR}	-55 to 125	°C	—
Supply Voltage	V _{CC}	3.3 $\pm$ 0.3	V	—
Supply Current	I _{CC}	25max	mA	Loaded @80MHz
Disable/Stand by Current	I _{DE} /I _{ST}	10max	μA	8 $\leq$ F $\leq$ 32MHz
		15max	mA	32<F $\leq$ 50MHz
		10max	μA	50<F $\leq$ 80MHz
		—	—	—
Duty Ratio	SYM	40 to 60, op. (45 to 55)	%	0.5V _{CC} DC Level
Output 0 Level	V _{OL}	0.1V _{CC} max	V	I _{OL} =8mA
Output 1 Level	V _{OH}	0.9V _{CC} min	V	I _{OH} =8mA
Rise/Fall Time	T _R , T _F	10max	nsec	0.1V _{CC} —0.9V _{CC}
Load Capacitance	C _L	15max	pF	—
Enable/Disable Time	—	5max	msec	8 $\leq$ F $\leq$ 32MHz
		150max	nsec	32<F $\leq$ 50MHz
		5max	msec	50<F $\leq$ 80MHz
Input Voltage Low	V _{IL}	0.3 V _{CC} max	V	—
Input Voltage High	V _{IH}	0.7 V _{CC} min	V	—
Start-up Time	ST	10max	mS	Minimum Operating Voltage to be 0sec

• Please contact us for inquiries about Extend Operating Temperature Range(-40 to +85°C), available frequencies, other condition.

Output Wave Form



Supply Current Characteristic



Pin Connection

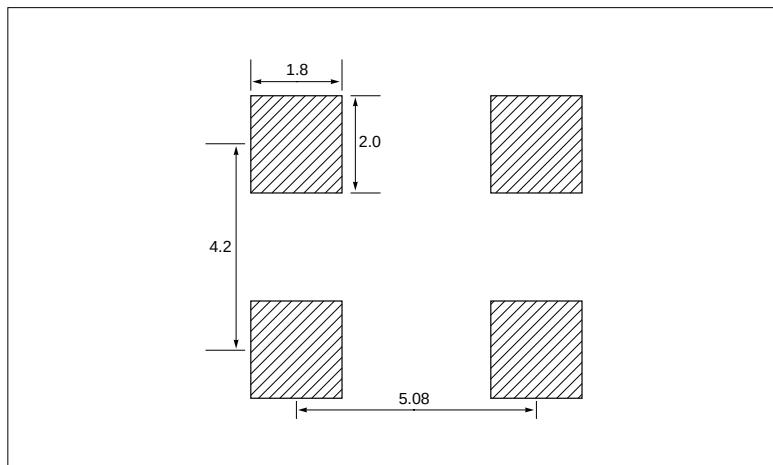
Pin#	Function
1	CONTROL
2	CASE GND
3	OUTPUT
4	+V _{CC}

Enable/Disable

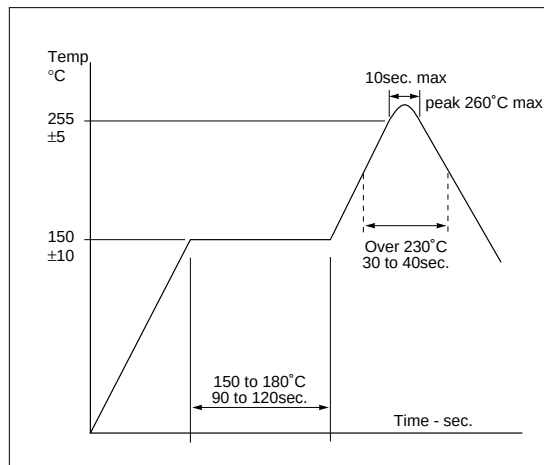
Pin#1	Pin#3
"H" or open	Oscillation
"L"	High impedance or Oscillation Stop

Recommended Land Pattern

(Unit : mm)



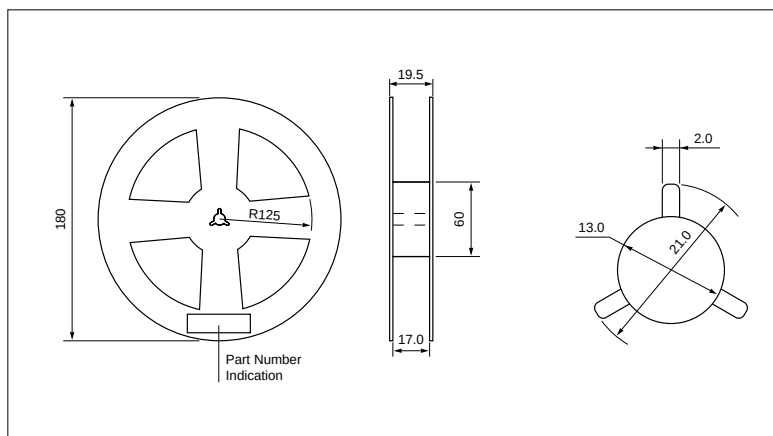
Recommended Reflow Profile(lead free)



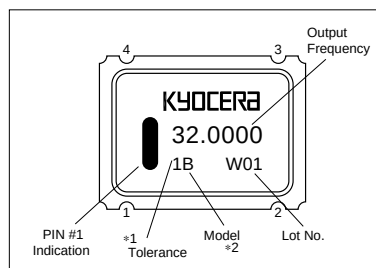
Packaging

• Reel

(Unit : mm)



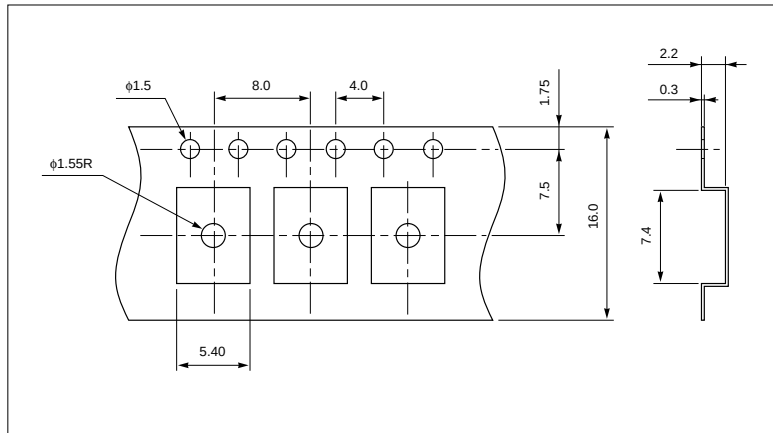
Marking Specifications



- *1 1 : ± 100 ppm
0 : ± 50 ppm
S : ± 30 ppm
U : ± 25 ppm
- *2 B : K50-HC
L : K50-3C-E
M : K50-3C-SE
H : K50H-3C-SE

• Carrier Tape

(Unit : mm)



Packaging

1,000pcs/Reel