

Clock Oscillators (SMD)



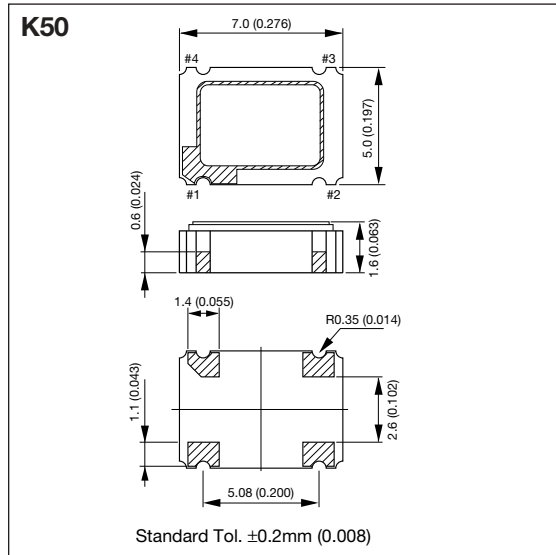
K50-HC Series (5.0V)

K50 SERIES



DIMENSIONS

millimeters (inches)



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

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
Aging	$\Delta F/F$	± 5	ppm/y	@ 25°C
Operating Temperature	T _{OPR}	-10 to 70	°C	—
Storage Temperature	T _{STR}	-55 to 125	°C	—
Supply Voltage	V _{CC}	5 ± 0.5	V	—
Supply Current	I _{CC}	50 max.	mA	Loaded @ 68MHz
Disable Current	I _{DE}	30 max.	mA	—
Duty Ratio	SYM	45 to 55	%	0.5V _{CC} DC Level
Output 0 Level	V _{OL}	0.1 V _{CC} max.	V	I _{OL} = 16mA
Output 1 Level	V _{OH}	0.9 V _{CC} min.	V	I _{OH} = -16mA
Rise/Fall Time	T _R , T _F	10 max.	nsec	0.1V _{CC} -0.9V _{CC}
Load Capacitance	C _L	50 max.	pF	F > 50MHz C _L = 15pF (max.)
Enable/Disable Time	—	100 max.	nsec	—
Input Voltage Low	V _{IL}	0.8 max.	V	—
Input Voltage High	V _{IH}	2.2 min.	V	—
Start-up Time	ST	10 max.	mS	Minimum Operating Voltage to be 0sec

FEATURES

- High reliable SMD ceramic package
- Frequency range = 8MHz to 68MHz
- Frequency tolerance = ± 100 ppm, ± 50 ppm
- Tristate output inhibit

APPLICATIONS

- Routers
- Switches
- Servers

HOW TO ORDER

K50 - HC 1 C S E 40.0000M R

Series

Tolerance
1 = ± 100 ppm
0 = ± 50 ppm

Packaging

R = Tape and reel,
1,000 pcs/reel

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	—

Tristate Output

E = with function (STD)

Duty Ratio

S = 45% to 55% (STD)

Output

C = CMOS/Compatibility

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

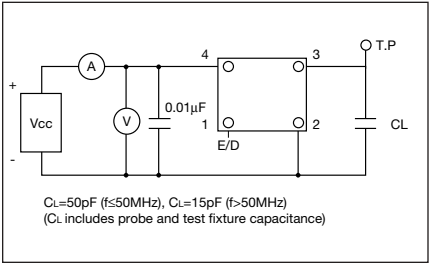
Clock Oscillators

K30/K50 Series

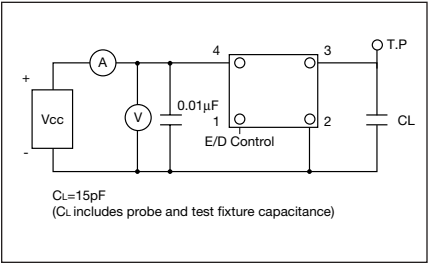


Kyocera has a wide range of clock oscillators with frequency and package size to match the various customer requirements.

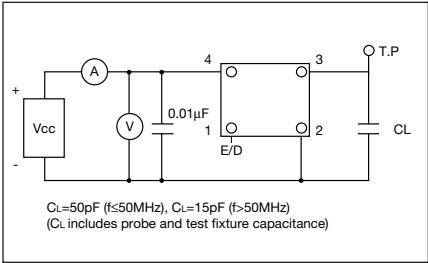
K50/K30 HC SERIES TEST CIRCUIT



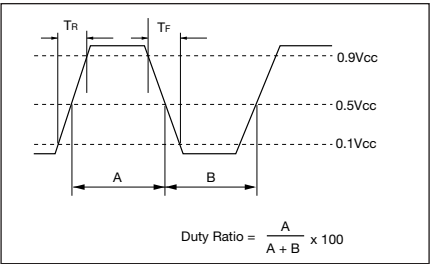
K50/K30 3C SERIES TEST CIRCUIT



K50H 3C SERIES TEST CIRCUIT



OUTPUT WAVE FORM FOR ALL SERIES



SPECIFICATIONS

Type	Frequency Range (MHz)	Load	Drive Level	Duty Ratio	Features
K50-HC	8 to 68	$C_L=50\text{pF}$ (max.) ($f \leq 50\text{MHz}$)	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	8 to 50	$C_L=50\text{pF}$ (max.) ($f \leq 50\text{MHz}$)	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

Temp °C

255 ±5

150 ±10

10sec. max

peak 260°C max

Over 230°C 30 to 40sec.

150 to 180°C 90 to 120sec.

Time - sec.

Technical drawing of a Reel, showing three views: front view, side view, and end view.

Front View: A circular reel with four spokes. The outer diameter is $\phi 180$ (7.087). The radius of the circular cutouts in the spokes is $R125$ (4.921). A rectangular feature at the bottom is labeled "Part Number Indication".

Side View: Shows the thickness of the reel. The total thickness is 19.5 (0.768). The distance from the top surface to the center of the circular cutouts is 60 (2.362). The distance from the bottom surface to the center of the circular cutouts is 17.0 (0.669).

End View: Shows the circular cutouts in the spokes. The diameter of these cutouts is $\phi 21.0$ (0.827). The distance from the center of the reel to the center of the cutouts is 13.0 (0.512). The distance from the top surface to the center of the cutouts is 2.0 (0.079).

A diagram of a rectangular KYOCERA quartz crystal resonator. The device has four pins labeled 1, 2, 3, and 4. Pin 1 is at the bottom left, pin 2 at the bottom right, pin 3 at the top right, and pin 4 at the top left. The top surface of the resonator is marked with 'KYOCERA' at the top, '32.0000' in the center, '1B' on the left, and 'W01' on the right. A vertical black bar is located between the 'KYOCERA' and '32.0000' markings. Callout lines point to the following features:

- Output Frequency:** Points to the '32.0000' marking.
- PIN #1 Indication:** Points to the vertical black bar.
- 1B:** Points to the '1B' marking.
- Series #2:** Points to the 'W01' marking.
- Lot No.:** Points to the 'W01' marking.
- Tolerance:** Points to the '1B' marking.

- *1 1 = $\pm 100\text{ppm}$
0 = $\pm 50\text{ppm}$
S = $\pm 30\text{ppm}$
U = $\pm 25\text{ppm}$
- *2 B = K50-HC
L = K50-3C-E
M = K50-3C-SE
D = K50-CL
H = K50H-3C-SE

Technical drawing of a Carrier Tape, showing dimensions in millimeters (mm) and inches (in).

Top View Dimensions:

- Overall width: 16.0 (0.630)
- Overall length: 5.40 (0.213)
- Distance between mounting holes: 8.0 (0.315)
- Distance between mounting holes: 4.0 (0.157)
- Mounting hole diameter: $\phi 1.5$ (0.059)
- Mounting hole diameter: $\phi 1.55$ (0.061)R
- Distance from edge to mounting hole: 1.75 (0.069)
- Distance from edge to mounting hole: 7.5 (0.295)

Side View Dimensions:

- Overall height: 7.4 (0.291)
- Distance from edge to mounting hole: 2.2 (0.087)
- Distance from edge to mounting hole: 0.3 (0.012)

1,000pcs/Reel