

Clock Oscillators (SMD)



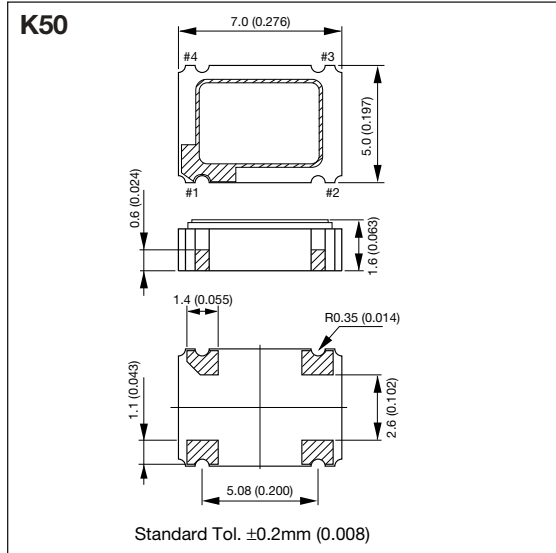
K50-HC Series (5.0V)

K50 SERIES



DIMENSIONS

millimeters (inches)



FEATURES

- High reliable SMD ceramic package
- Frequency range = 8MHz to 68MHz
- Frequency tolerance = $\pm 100\text{ppm}$, $\pm 50\text{ppm}$
- Tristate output inhibit

APPLICATIONS

- Routers
- Switches
- Servers

HOW TO ORDER

K50 - HC 1 C S E 40.0000M R

Series

Tolerance
 1 = $\pm 100\text{ppm}$
 0 = $\pm 50\text{ppm}$

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

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 \pm 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

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

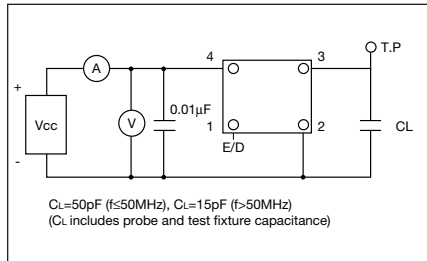
Clock Oscillators



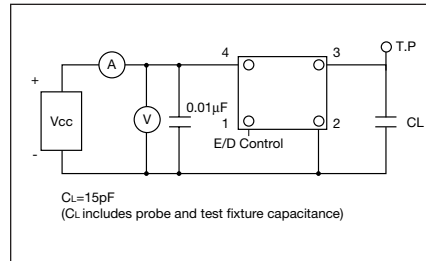
K30/K50 Series

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

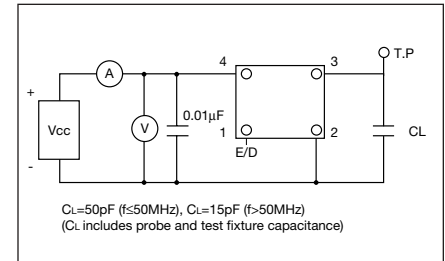
K50/K30 HC SERIES TEST CIRCUIT



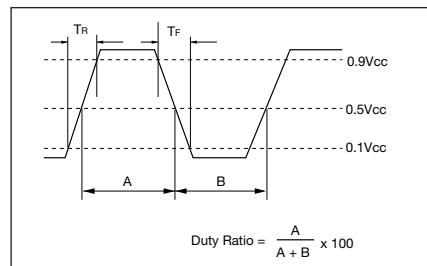
K50/K30 3C SERIES TEST CIRCUIT



K50H 3C SERIES TEST CIRCUIT



OUTPUT WAVE FORM FOR ALL SERIES



SPECIFICATIONS

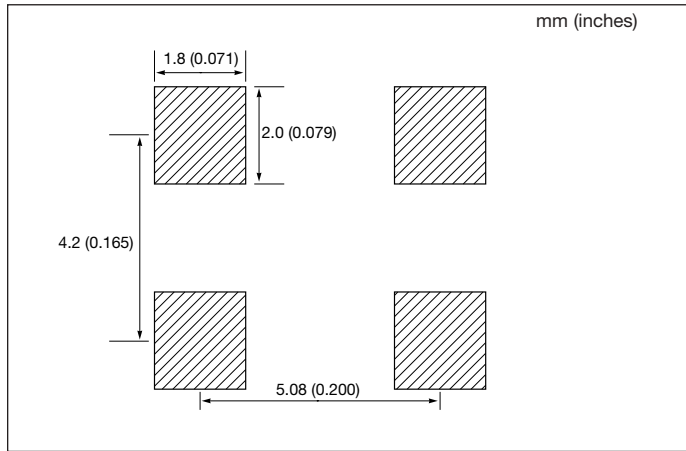
Type	Frequency Range (MHz)	Load	Drive Level	Duty Ratio	Features
K50-HC	8 to 68	$C_L=50\text{pF}$ (max.) ($f \leq 50\text{MHz}$)	CMOS $V_{OH}=0.9V_{CC}$ $V_{OL}=0.1V_{CC}$	45/55% (0.5Vcc)	1. IR Reflowable 2. Mini-SMD 3. Tristate Output, Enable/Disable Function F>50MHz $C_L=15\text{pF}$
K50-3C	8 to 80	$C_L=15\text{pF}$ (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

Clock Oscillators (SMD)

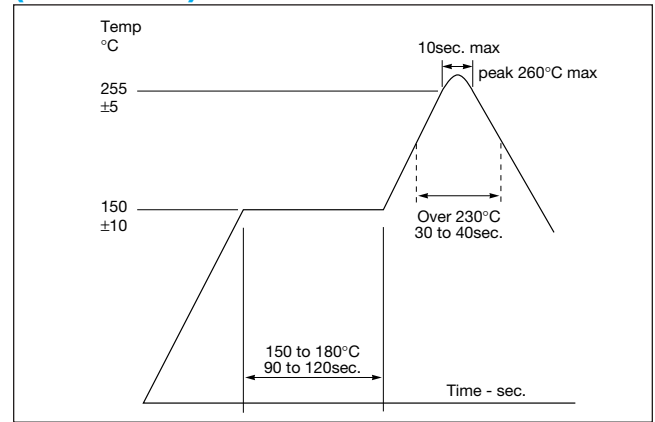


K50/K50H Series

RECOMMENDED LAND PATTERN

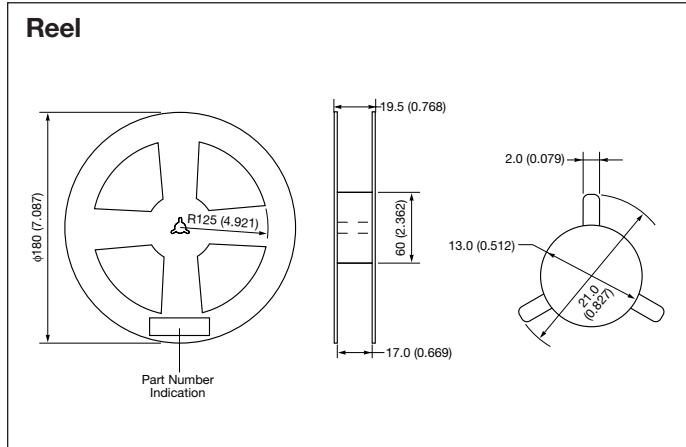


RECOMMENDED REFLOW PROFILE (Lead Free)

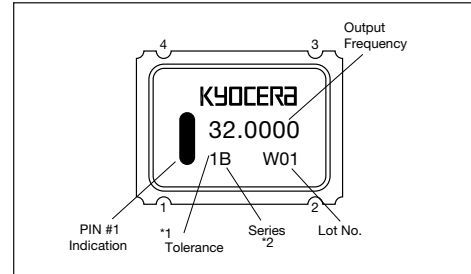


PACKAGING

millimeters (inches)

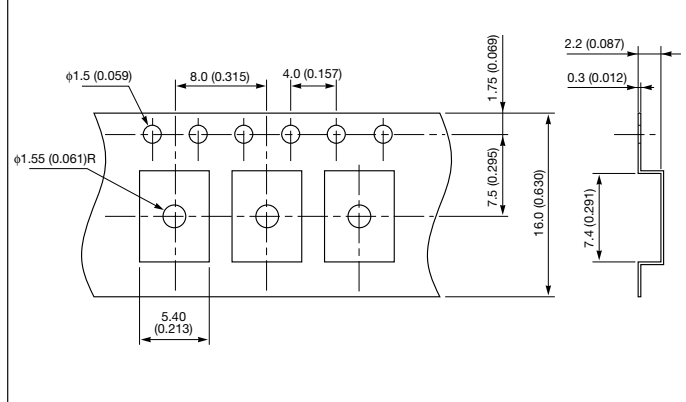


MARKING SPECIFICATIONS



- *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
D = K50-CL
H = K50H-3C-SE

Carrier Tape



PACKAGING

1,000pcs/Reel