

# Clock Oscillators (SMD)

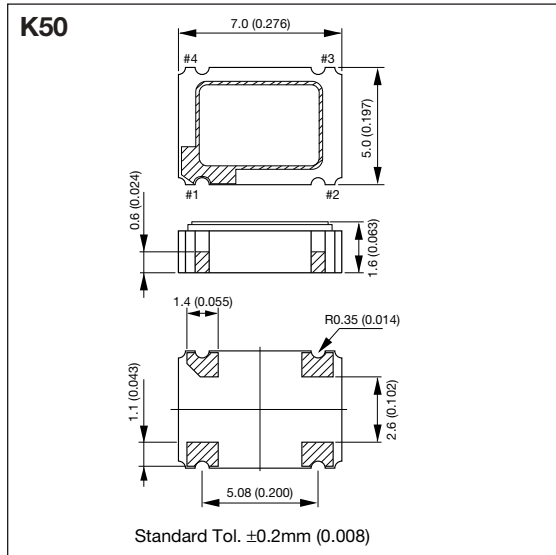


## K50-3C Series (3.3V)

### K50 SERIES



### DIMENSIONS millimeters (inches)



### PIN CONNECTION ENABLE/DISABLE

Pin #	Function
1	CONTROL
2	CASE GND
3	OUTPUT
4	+V <sub>CC</sub>

Pin #1	Pin #3
"H" or Open	Oscillation
"L"	High Impedance or Oscillation Stop

### SPECIFICATIONS

Items	Code	Rating	Unit	Remarks
Output Frequency	F <sub>OUT</sub>	8 to 80	MHz	—
Frequency Tolerance	$\Delta F/F$	$\pm 100, \pm 50$	ppm	Over all conditions
Aging	$\Delta F/F$	$\pm 5$	ppm/y	@ 25°C
Operating Temperature	T <sub>OPR</sub>	-10 to 70	°C	—
Storage Temperature	T <sub>STR</sub>	-55 to 125	°C	—
Supply Voltage	V <sub>CC</sub>	3.3 $\pm$ 0.3	V	—
Supply Current	I <sub>CC</sub>	25 max.	mA	Loaded @ 80MHz
Disable/Stand by Current	I <sub>DE</sub> /I <sub>ST</sub>	10 max.	$\mu$ A	8 $\leq$ F $\leq$ 32MHz
		15 max.	mA	32<F $\leq$ 50MHz
		10 max.	$\mu$ A	50<F $\leq$ 80MHz
Duty Ratio	SYM	40 to 60	%	0.5V <sub>CC</sub> DC Level
Output 0 Level	V <sub>OL</sub>	0.1V <sub>CC</sub> max.	V	I <sub>OL</sub> = 8mA
Output 1 Level	V <sub>OH</sub>	0.9V <sub>CC</sub> min.	V	I <sub>OH</sub> = -8mA
Rise/Fall Time	T <sub>R</sub> , T <sub>F</sub>	10 max.	nsec	0.1V <sub>CC</sub> -0.9V <sub>CC</sub>
Load Capacitance	C <sub>L</sub>	15 max.	pF	—
Enable/Disable Time	—	5 max.	msec	8 $\leq$ F $\leq$ 32MHz
		150 max.	nsec	32<F $\leq$ 50MHz
		5 max.	msec	50<F $\leq$ 80MHz
Input Voltage Low	V <sub>IL</sub>	0.3V <sub>CC</sub> max.	V	—
Input Voltage High	V <sub>IH</sub>	0.7V <sub>CC</sub> 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.

### FEATURES

- High reliable SMD ceramic package
- Frequency range = 8MHz to 80MHz
- Frequency tolerance =  $\pm 100\text{ppm}$ ,  $\pm 50\text{ppm}$
- Tristate output inhibit

### APPLICATIONS

- PDAs
- Switches
- Routers
- Servers

### HOW TO ORDER

**K50 - 3C 1 □ E 40.0000M R**

**Series**  
K50 - 3C

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

**Frequency (MHz)**

8.00000	27.0000	49.0000
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	—

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

**Enable/Disable Function**  
E = with function (STD)

**Duty Ratio**  
□ = 40% to 60% (STD)  
S = 45% to 55% (f>20MHz)

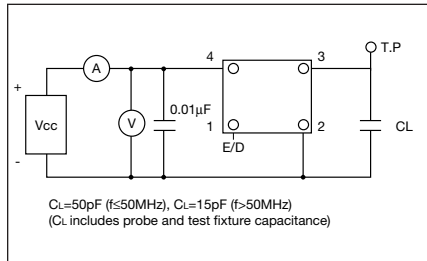
# Clock Oscillators



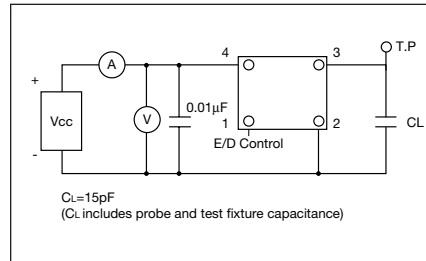
## K30/K50 Series

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

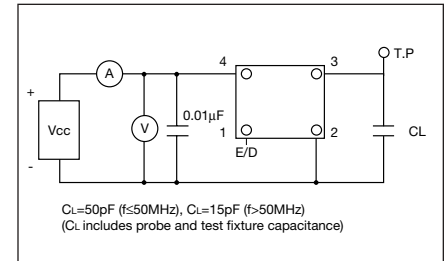
### K50/K30 HC SERIES TEST CIRCUIT



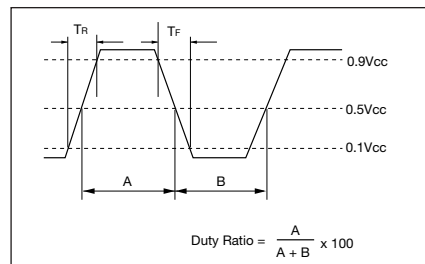
### K50/K30 3C SERIES TEST CIRCUIT



### K50H 3C SERIES TEST CIRCUIT



### OUTPUT WAVE FORM FOR ALL SERIES



## SPECIFICATIONS

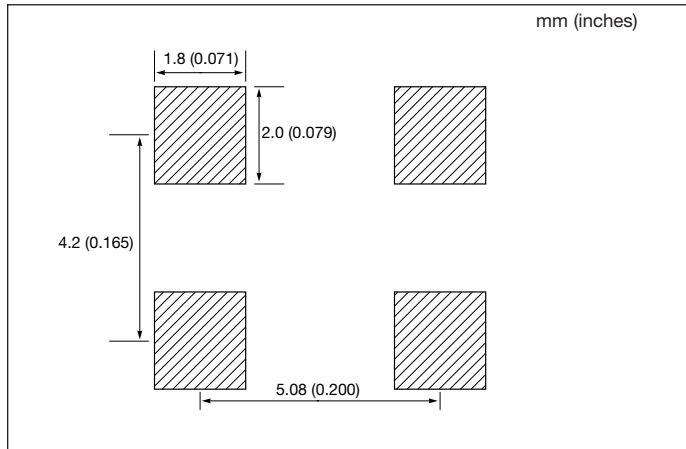
Type	Frequency Range (MHz)	Load	Drive Level	Duty Ratio	Features
K50-HC	8 to 68	$C_L=50\text{pF (max.)}$ ( $f \leq 50\text{MHz}$ )	CMOS $V_{OH}=0.9V_{CC}$ $V_{OL}=0.1V_{CC}$	45/55% (0.5Vcc)	1. IR Reflowable 2. Mini-SMD 3. Tristate Output, Enable/Disable Function F>50MHz $C_L=15\text{pF}$
K50-3C	8 to 80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

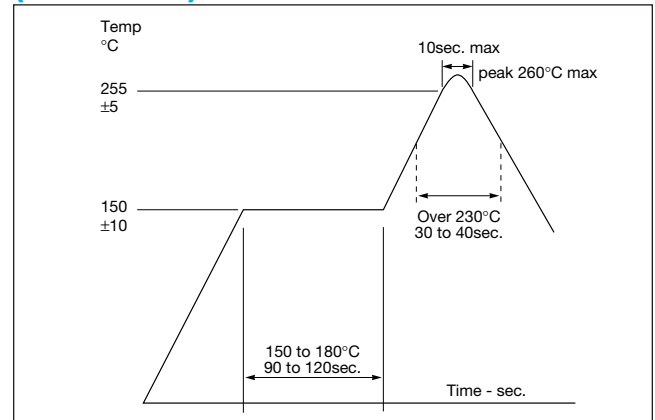


## K50/K50H Series

### RECOMMENDED LAND PATTERN

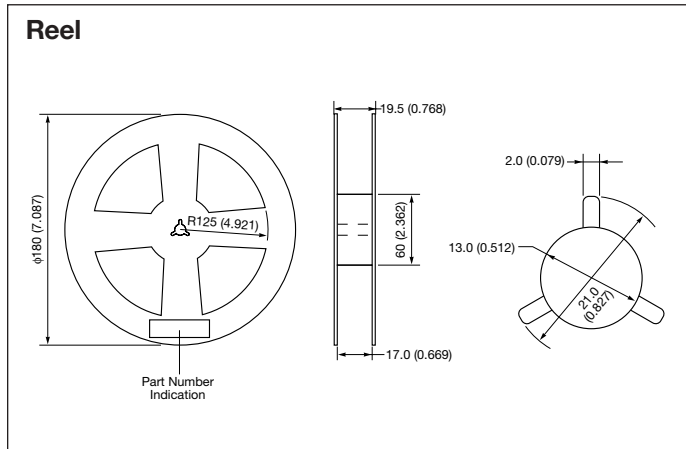


### RECOMMENDED REFLOW PROFILE (Lead Free)

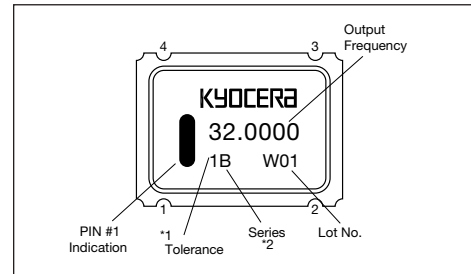


### PACKAGING

millimeters (inches)

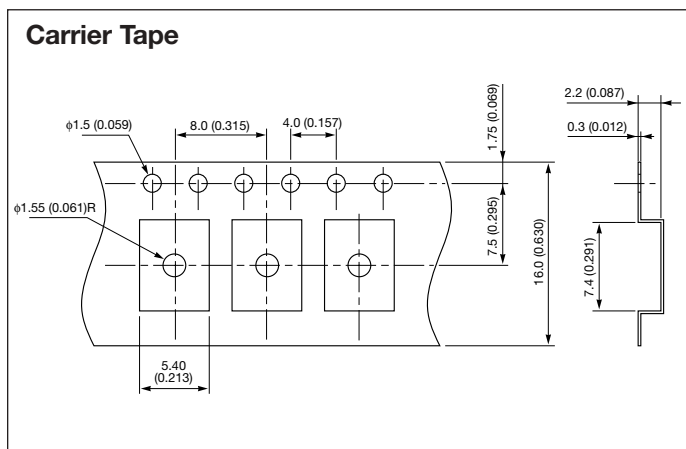


### MARKING SPECIFICATIONS



- \*1 1 =  $\pm 100$ ppm  
0 =  $\pm 50$ ppm  
S =  $\pm 30$ ppm  
U =  $\pm 25$ 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