

Clock Oscillators



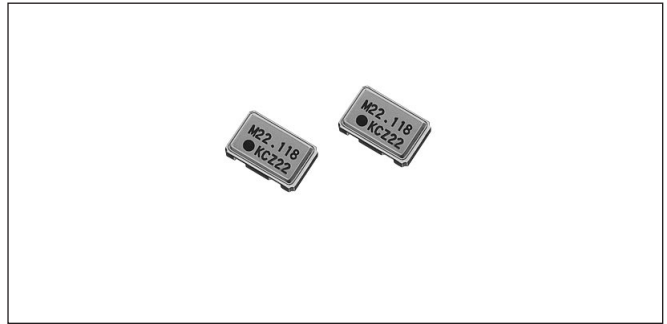
K30/K50 Series

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

K50 SERIES

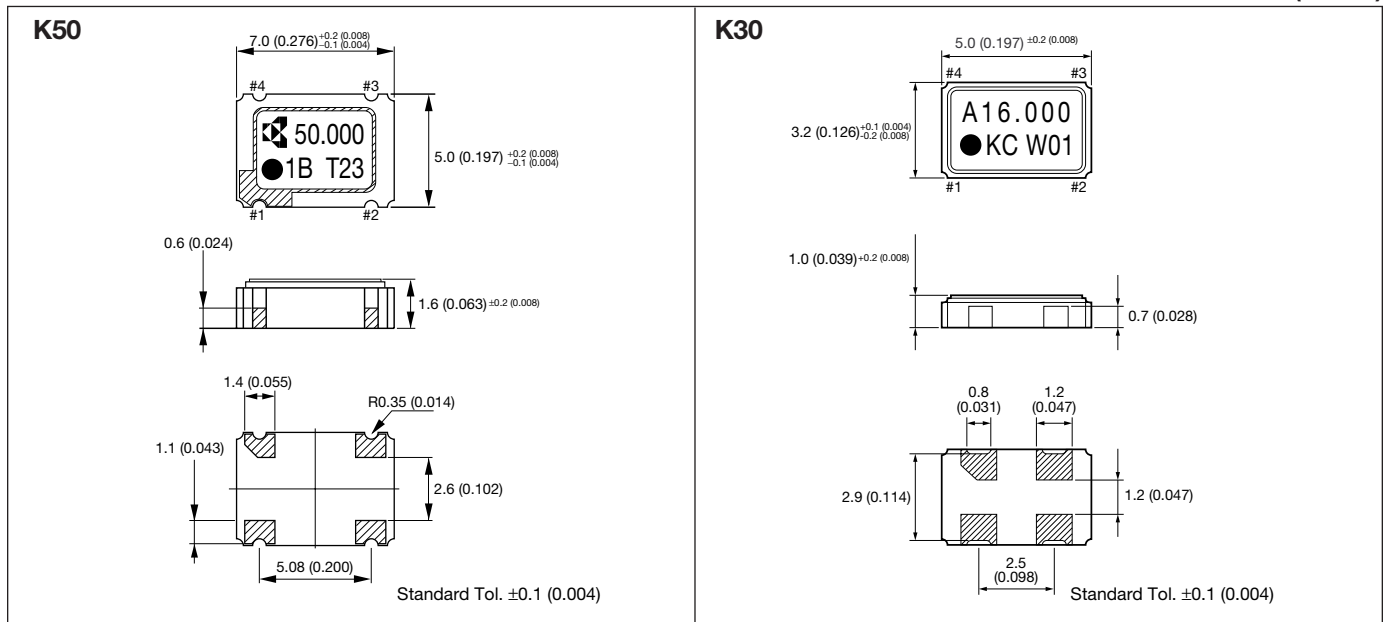


K30 SERIES



DIMENSIONS

millimeters (inches)



SPECIFICATIONS

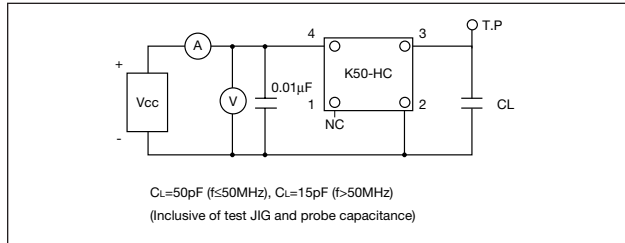
Type	Frequency Range (MHz)	Load	Drive Level	Duty Ratio	Features
K50-HC-C	8 to 68	$C_L=50\text{pF}$ (max.) ($f_o \leq 50\text{MHz}$)	CMOS $V_{OH}=0.9V_{CC}$ $V_{OL}=0.1V_{CC}$	45/55% (0.5V _{CC})	1. IR Reflowable 2. Mini-SMD 3. Tristate Output, Enable/Disable Function F>50MHz $C_L=15\text{pF}$
K50-3C	8 to 75	$C_L=15\text{pF}$ (max.)	CMOS $V_{OH}=0.9V_{CC}$ $V_{OL}=0.1V_{CC}$	40/60% (0.5V _{CC})	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% (0.5V _{CC})	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% (0.5V _{CC})	1. 3.3V Available 2. IR Reflowable 3. Mini-SMD 4. Tristate Output, Enable/Disable Function

Clock Oscillators (SMD)

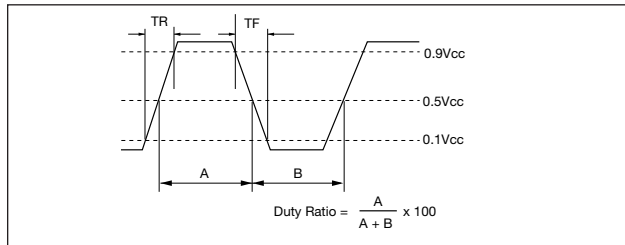


K50-HC Series (5.0V)

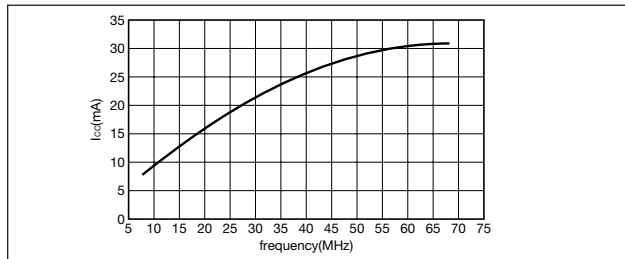
TEST CIRCUIT



OUTPUT WAVE FORM



SUPPLY CURRENT CHARACTERISTIC



PIN CONNECTION ENABLE/DISABLE

Pin #	Function
1	CONTROL
2	CASE GND
3	OUTPUT
4	+Vcc

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

FEATURES

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

HOW TO ORDER

K50 - HC 1 C S E 40.0000M R

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

Tolerance

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

Series

SPECIFICATIONS CMOS COMPATIBLE

Items	Code	Rating	Unit	Remarks
Output Frequency	F _{OUT}	8 to 68	MHz	—
Frequency Precision	$\Delta F/F$	± 100 , ± 50	ppm	Inclusive of temperature load, voltage variation
Aging Rate	$\Delta F/F$	± 5	ppm/y	—
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	F \leq 50MHz: C _L =50pF, F>50MHz: C _L =15pF, Temp.=25°C
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	—