

Clock Oscillators

K30/K50 Series



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

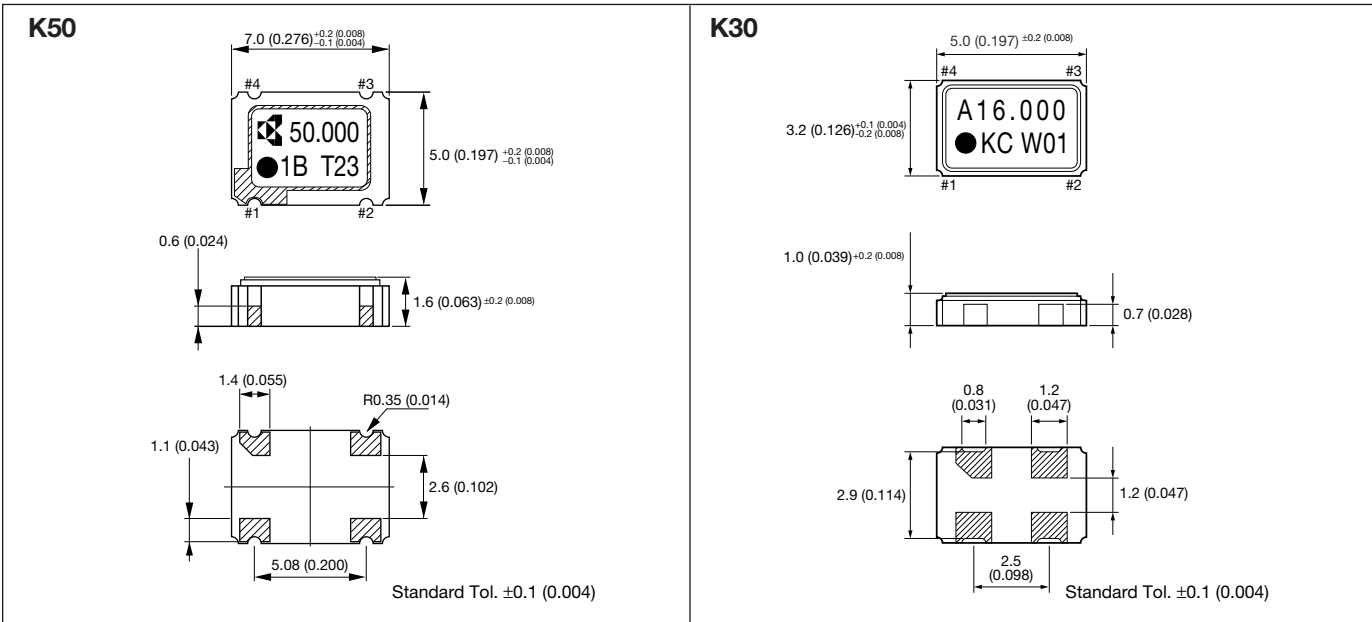
K50 SERIES



K30 SERIES



DIMENSIONS



SPECIFICATIONS

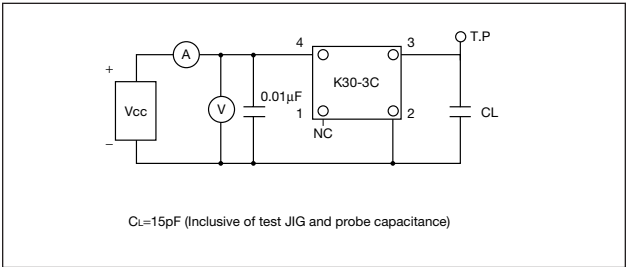
Type	Frequency Range (MHz)	Load	Drive Level	Duty Ratio	Features
K50-HC-C	8 to 68	$C_L=50\text{pF}$ (max.) ($f_o \leq 50\text{MHz}$)	CMOS $V_{OH}=0.9V_{CC}$ $V_{OL}=0.1V_{CC}$	45/55% (0.5Vcc)	1. IR Reflowable 2. Mini-SMD 3. Tristate Output, Enable/Disable Function F>50MHz $C_L=15\text{pF}$
K50-3C	8 to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

Clock Oscillators (SMD)

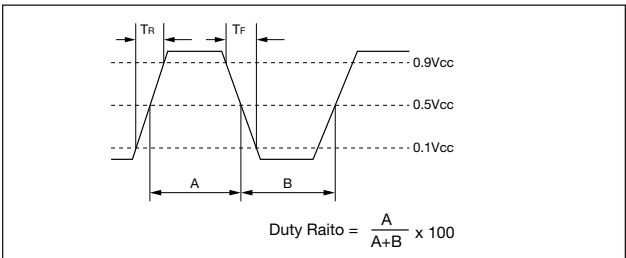
K30-3C Series (3.3V)



TEST CIRCUIT



OUTPUT WAVE FORM



PIN CONNECTION

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

ENABLE/DISABLE

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

FEATURES

- Miniature SMD ceramic package type
- Frequency range = 8MHz to 67MHz
- Frequency precision = $\pm 100\text{ppm}$, $\pm 50\text{ppm}$
- Tristate output inhibit
- Low current consumption
- Load capacitance 15pF

HOW TO ORDER

K30 - 3C 1 S E 40.0000M R

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

Frequency (MHz)

13.0000	24.5760	30.0000
14.31818	25.0000	32.0000
16.0000	27.0000	42.0000
17.7345	28.37516	48.0000
20.0000	28.63636	66.6667
24.0000	29.4989	—

Enable/Disable Function
E = with function (STD)

Duty Ratio
S = 45% to 55% (f > 32.0MHz)
NIL = 40% to 60%

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

Series

SPECIFICATIONS

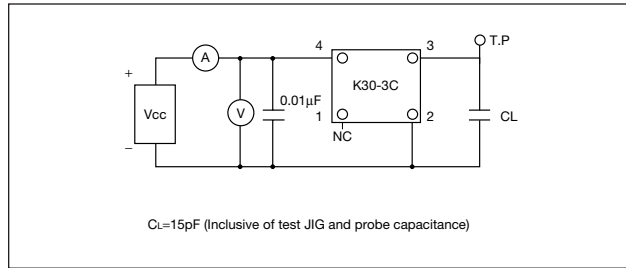
Items	Code	Rating	Unit	Remarks
Output Frequency	F _{OUT}	8 to 67	MHz	—
Frequency Precision	$\Delta F/F$	± 100 , ± 50	ppm	Inclusive of temperature load, voltage variation
Aging Rate	$\Delta F/F$	± 5	ppm/y	—
Operating Temperature	T _{OPR}	-10 to 70	°C	—
Storage Temperature	T _{STR}	-55 to 125	°C	—
Supply Voltage	V _{CC}	3.3 $\pm$ 0.3	V	—
Supply Current	I _{CC}	25 max.	mA	C _L =15pF, Temp.=25°C
Duty Ratio	SYM	40 to 60	%	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	10 max.	nsec	0.1V _{CC} -0.9V _{CC}
Load Capacitance	C _L	15 max.	pF	—
Enable/Disable Time	—	5	msec	8<F≤32MHz
		150	nsec	32<F≤50MHz
		5	msec	50<F≤68MHz
Input Voltage Low	V _{IL}	0.5 max.	V	—
Input Voltage High	V _{IH}	2.0 min.	V	—

Clock Oscillators (SMD)

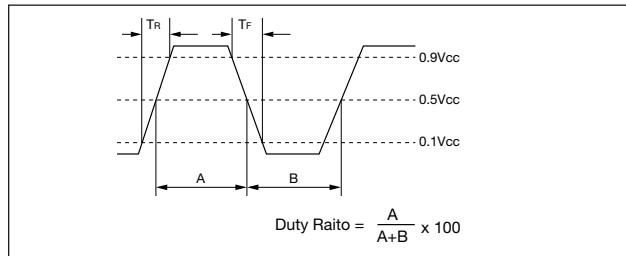


K30-3C Series (3.3V)

TEST CIRCUIT



OUTPUT WAVE FORM



PIN CONNECTION

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

ENABLE/DISABLE

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

FEATURES

- Miniature SMD ceramic package type
- Frequency range = 8MHz to 67MHz
- Frequency precision = $\pm 100\text{ppm}$, $\pm 50\text{ppm}$
- Tristate output inhibit
- Low current consumption
- Load capacitance 15pF

HOW TO ORDER

K30 - 3C U S E 40.0000M R

Packaging

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

Frequency (MHz)

13.0000	28.37516	44.0000
26.0000	28.63636	—
27.0000	32.0000	—

Enable/Disable Function

E = with function (STD)

Duty Ratio

S = 45% to 55%
($f > 32.0\text{MHz}$)
NIL = 40% to 60%

Tolerance

U = $\pm 25\text{ppm}$

Series

SPECIFICATIONS

Items	Code	Rating	Unit	Remarks
Output Frequency	F _{OUT}	8 to 67	MHz	—
Frequency Precision	$\Delta F/F$	± 25	ppm	Inclusive of temperature load, voltage variation
Aging Rate	$\Delta F/F$	± 3	ppm/y	—
Operating Temperature	T _{OPR}	-10 to 70	°C	—
Storage Temperature	T _{STR}	-55 to 125	°C	—
Supply Voltage	V _{CC}	3.3 $\pm$ 0.165	V	—
Supply Current	I _{CC}	25	mA	CL=15pF, Temp.=25°C
Duty Ratio	SYM	40 to 60	%	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	10 max.	nsec	0.1V _{CC} -0.9V _{CC}
Load Capacitance	C _L	15 max.	pF	—
Enable/Disable Time	—	5	msec	—
Input Voltage Low	V _{IL}	0.5 max.	V	—
Input Voltage High	V _{IH}	2.0 min.	V	—