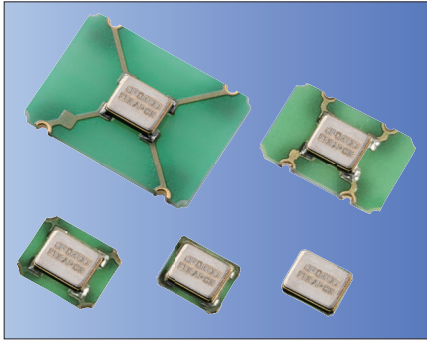




CMOS/ 1.8V, 2.5V, 3.3V / 2.0×1.6, 2.5×2.0, 3.2×2.5, 5.0×3.2, 7.0×5.0mm



RoHS Compliant

Features

- Frequency Range 1.5 to 160MHz
- CMOS output
- Wide Supply Voltage
 - 1.6 to 3.63V
- Low current consumption
- Low Phase Noise

Applications

- Consumer/ Networking/ Industrial/ Audio Codec/ Amuse

How to Order

KC2520K 25.0000 C □ □ E 00
① ② ③ ④ ⑤ ⑥ ⑦

- ① Series
- ② Output Frequency (25.0000: 25MHz)
- ③ Output Type (C: CMOS)
- ④ Supply Voltage

1	1.8V/ 2.5V/ 3.3V compatible
2	2.5V/ 3.3V compatible

- ⑤ Frequency Tolerance (See Table 1)
- ⑥ Symmetry/ INH Function

E	45/ 55%
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- ⑦ Individual Specification (STD Specification is "00".)

Packaging Tape & Reel

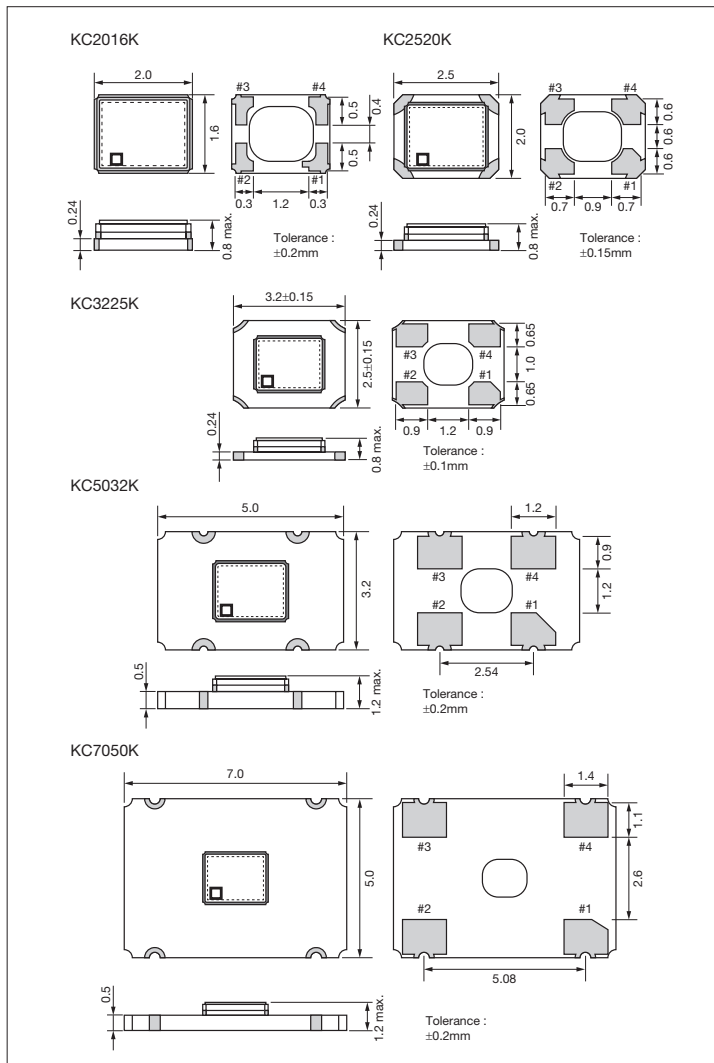
KC7050K/ KC5032K	1000 pcs./ reel
KC3225K/ KC2520K/ KC2016K	2000 pcs./ reel

Table 1

Freq. Code	Tol. × 10 ⁻⁶	Operating Temperature Range (°C)	Note
0	± 50	-10 to +70	Standard specifications
S	± 30		
U	± 25	-40 to +85	With only certain frequencies
G	± 50		
6	± 50		

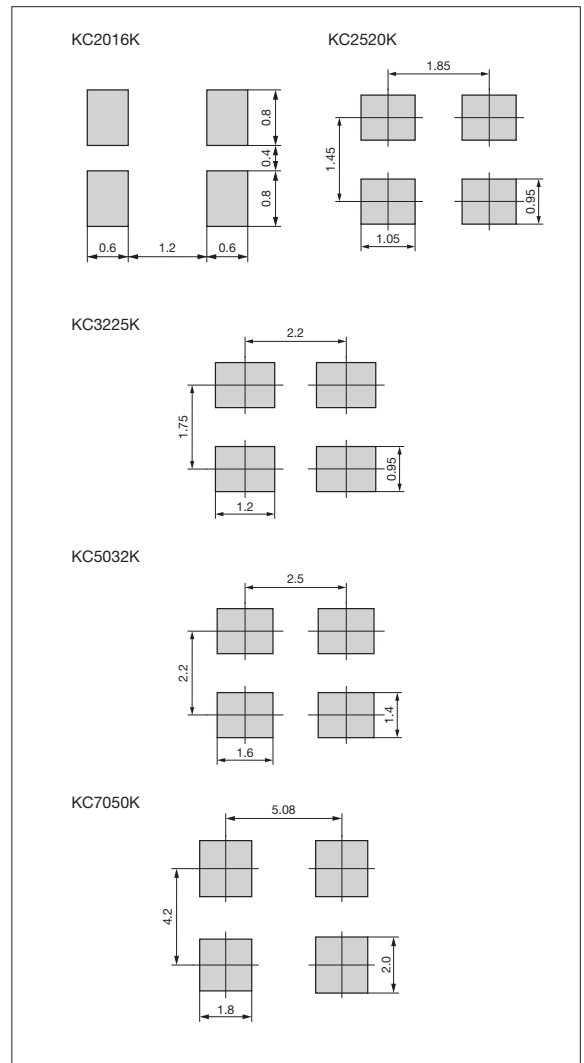
Dimensions

(Unit: mm)



Recommended Land Pattern

(Unit: mm)





CMOS/ 1.8V, 2.5V, 3.3V / 2.0×1.6, 2.5×2.0, 3.2×2.5, 5.0×3.2, 7.0×5.0mm

Specifications

Item	Symbol	Conditions		Min.	Max.	Unit
Output Frequency Range ^{Note1}	f _o			1.5	160	MHz
Frequency Tolerance	f _{tol}	Initial tolerance, Operating temperature range, Rated power supply voltage change, Load change, Aging (1 year @25°C), Shock and vibration	Temp.: -10 to +70°C/ -40 to +85°C/ -40 to +105°C	-50	+50	×10 ⁻⁶
			Temp.: -10 to +70°C	-30	+30	
			Temp.: -10 to +70°C	-25	+25	
Storage Temperature Range	T _{stg}			-55	+125	°C
Operating Temperature Range	T _{use}			-10	+70	°C
				-40	+85	
				-40	+105	
Max. Supply Voltage	—			-0.3	+4.0	V
Supply Voltage	V _{cc}	CodeⓄ : 1 : 1.5≤F0≤125MHz		+1.60	+3.63	V
		CodeⓄ : 2 : 125<F0≤160MHz		+2.25	+3.63	
Current Consumption (Maximum Loaded)	I _{cc}	1.5≤F0≤24MHz	1.6≤V _{cc} ≤2.25V	—	2.5	mA
			2.25<V _{cc} ≤2.8V	—	3.0	
			2.8<V _{cc} ≤3.63V	—	3.5	
		24<F0≤40MHz	1.6≤V _{cc} ≤2.25V	—	3.5	
			2.25<V _{cc} ≤2.8V	—	4.5	
			2.8<V _{cc} ≤3.63V	—	5.0	
		40<F0≤62.5MHz	1.6≤V _{cc} ≤2.25V	—	5.0	
			2.25<V _{cc} ≤2.8V	—	5.5	
			2.8<V _{cc} ≤3.63V	—	6.0	
		62.5<F0≤80MHz	1.6≤V _{cc} ≤2.25V	—	6.0	
			2.25<V _{cc} ≤2.8V	—	6.5	
			2.8<V _{cc} ≤3.63V	—	8.0	
80<F0≤125MHz	1.6≤V _{cc} ≤2.25V	—	11.0			
	2.25<V _{cc} ≤2.8V	—	14.0			
	2.8<V _{cc} ≤3.63V	—	17.0			
125<F0≤160MHz	2.25<V _{cc} ≤2.8V	—	25.0			
	2.8<V _{cc} ≤3.63V	—	27.0			
Stand-by Current	I _{std}	1.5≤F0≤80MHz		—	5.0	μA
		80<F0≤160MHz		—	10.0	
Symmetry	SYM	@50% V _{cc}		45	55	%
Rise/ Fall Time (10% to 90% Output Level)	Tr/ Tf	1.5≤F0≤80MHz	1.6≤V _{cc} ≤2.25V	—	6.0	ns
			2.25<V _{cc} ≤2.8V	—	5.0	
			2.8<V _{cc} ≤3.63V	—	4.5	
		80<F0≤125MHz	1.6<V _{cc} ≤3.63V	—	4.0	
125<F0≤160MHz	2.25<V _{cc} ≤3.63V	—	2.5			
Low Level Output Voltage	V _{OL}	I _{OL} = 4mA (F0≤80MHz), I _{OL} = 8mA (F0>80MHz)		—	10% V _{cc}	V
High Level Output Voltage	V _{OH}	I _{OH} = -4mA (F0≤80MHz), I _{OH} = -8mA (F0>80MHz)		90% V _{cc}	—	V
Output Load	L _{CMOS}			15		pF
Low Level Input Voltage	V _{IL}			—	30% V _{cc}	V
High Level Input Voltage	V _{IH}			70% V _{cc}	—	V
Disable Time	t _{dis}	1.5≤F0≤80MHz		—	200	ns
		80<F0≤125MHz		—	100	
		125<F0≤160MHz		—	100	
Enable Time	t _{ena}			—	5	ms
Start-up Time	t _{str}	1.5≤F0≤80MHz	@Minimum operating voltage to be 0 sec.	—	5	ms
		80<F0≤125MHz		—	10	
		125<F0≤160MHz		—	10	
1 Sigma Jitter	J _{sigma}	1.5≤F0≤80MHz	Measured with Wavecrest SIA-3000	—	5	ps
		80<F0≤125MHz		—	4	
		125<F0≤160MHz		—	3	
Peak to Peak Jitter	J _{PK-PK}	1.5≤F0≤80MHz		—	50	ps
		80<F0≤125MHz		—	40	
		125<F0≤160MHz		—	25	
Phase Jitter	J _{Phase}	@25MHz	BW : 12kHz to 20MHz	—	1.0	ps





CMOS/ 1.8V, 2.5V, 3.3V / 2.0×1.6, 2.5×2.0, 3.2×2.5, 5.0×3.2, 7.0×5.0mm

Item	Symbol	Conditions	Min.	Max.	Unit
Phase Noise	—	@25MHz	@10Hz offset	Typ. -89	dBc/ Hz
			@100Hz offset	Typ. -119	
			@1kHz offset	Typ. -143	
			@10kHz offset	Typ. -157	
			@100kHz offset	Typ. -160	
			@1MHz offset	Typ. -162	
		@10MHz offset	Typ. -162		

Note: All electrical characteristics are defined at the maximum load and operating temperature range.
Note1: Please contact us for inquiry about operating temperature range, available frequencies and other conditions.

Pad Connections	
#1	INH
#2	Case GND
#3	Output
#4	Vcc

INH Function	
Pad1	Pad3 (Output)
Open	Active
"H" Level	Active
"L" Level	High Z (No-Oscillation)

