Clock Oscillators Surface Mount Type
KC7050A-C3 Series

CMOS/ 3.3V/ 7.0×5.0mm

RoHS Compliant

Features

- Miniature ceramic package
- Highly reliable with seam welding
- CMOS output
- Supply voltage Vcc=3.3V
- ±25×10^{-6}, ±20×10^{-6} available

Table 1

Stability Code	Stability × 10^{-6}	Operating Temperature Range (°C)	Note
0	± 50	−10 to +70	Standard specifications
S	± 30		Please contact us for available frequencies.
U	± 25		
W	± 20		
F	±100	−40 to +85	
G	± 50		
6	± 50	−40 to +105	

How to Order

KC7050A 25.0000 C 3 □ E 00
① ② ③ ④ ⑤ ⑥ ⑦

①Series
②Output Frequency
③Output Type (CMOS)
④Supply Voltage (3.3V)
⑤Frequency Tolerance (See Table 1)
⑥Symmetry/ INH Function (45/ 55%)
⑦Individual Specification
(STD Specification is "00".)

Packaging (Tape & Reel 1000 pcs./ reel)

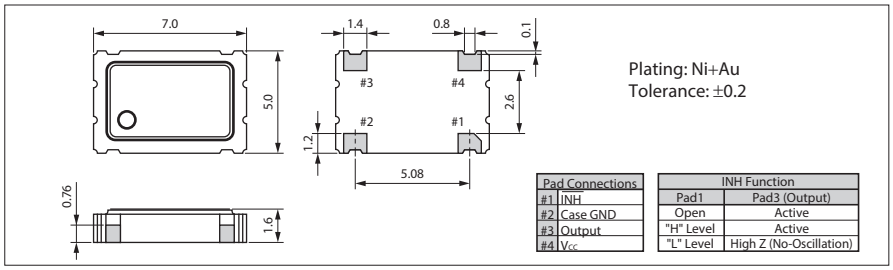
Specifications

Item	Symbol	Conditions		Min.	Max.	Unit
Output Frequency Range	fo			1.8	170	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.: −40 to +85°C	−100	+100	×10^{-6}
			Temp.: −10 to +70°C/ −40 to +85°C/ −40 to +105°C	−50	+50	
			Temp.: −10 to +70°C	−30	+30	
			Temp.: −10 to +70°C	−25	+25	
			Temp.: −10 to +70°C	−20	+20	
Storage Temperature Range	T_stg			−55	+125	°C
Operating Temperature Range	T_use	Standard Specifications		−10	+70	°C
		Extend (Option)		−40	+85	
				−40	+105	
Max. Supply Voltage	—	fo<135MHz		−0.5	+7.0	V
		fo≥135MHz		−0.5	+5.0	
Supply Voltage	Vcc	Freq. Tol. Code: 0, S, F		+2.97	+3.63	V
		Freq. Tol. Code: U, G, 6		+3.14	+3.46	
		Freq. Tol. Code: W		+3.20	+3.40	
Current Consumption (Maximum Loaded)	Icc	1.8≤fo≤20MHz		—	10	mA
		20<fo≤40MHz		—	15	
		40<fo≤60MHz		—	30	
		60<fo≤100MHz		—	35	
		100<fo≤135MHz		—	45	
		135<fo≤170MHz		—	60	
Stand-by Current	I_std			—	10	μA
Symmetry	SYM	@50% Vcc		45	55	%
Rise/ Fall Time (10% Vcc to 90% Vcc Maximum Loaded)	Tr/ Tf	1.8≤fo≤26MHz		—	10	ns
		26<fo≤45MHz		—	8	
		45<fo≤100MHz		—	5	
		100<fo≤170MHz		—	2.5	
Low Level Output Voltage	VOL	IOL=8mA		—	10% Vcc	V
High Level Output Voltage	VOH	IOH=−8mA		90% Vcc	—	V
CMOS Load	L_CMOS	CMOS Output		—	15	pF
Input Voltage Range	VIN			0	Vcc	V
Low Level Input Voltage	VIL			—	30% Vcc	V
High Level Input Voltage	VIH			70% Vcc	—	V
Disable Time	t_dis			—	150	ns
Enable Time	t_ena			—	5	ms
Start-up Time	t_str	@Minimum operating voltage to be 0 sec.		—	10	ms
1 Sigma Jitter	Jsigma	Measured with Wavecrest SIA-3000	1.8≤fo<40MHz	—	8	ps
			40≤fo≤100MHz	—	5	
			100<fo≤170MHz	—	4	
Peak to Peak Jitter	JPK-PK	Measured with Wavecrest SIA-3000	1.8≤fo<40MHz	—	80	ps
			40≤fo≤100MHz	—	40	
			100<fo≤170MHz	—	30	

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

Dimensions

(Unit: mm)



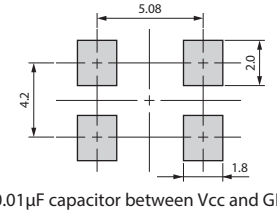
Plating: Ni+Au
Tolerance: ±0.2

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)

Recommended Land Pattern

(Unit: mm)



Note: 0.01μF capacitor between Vcc and GND is recommended for bypass purpose.

As of December 2019