



# Clock Oscillators Surface Mount Type

## KC7050A-C3 Series



CMOS/ 3.3V/ 7.0x5.0mm



RoHS Compliant

### Features

- Miniature ceramic package
- Highly reliable with seam welding
- CMOS output
- Supply voltage  $V_{CC} = 3.3V$
- $\pm 25 \times 10^{-6}$ ,  $\pm 20 \times 10^{-6}$  available

Table 1

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

### How to Order

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

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

Packaging (Tape & Reel 1000 pcs./ reel)

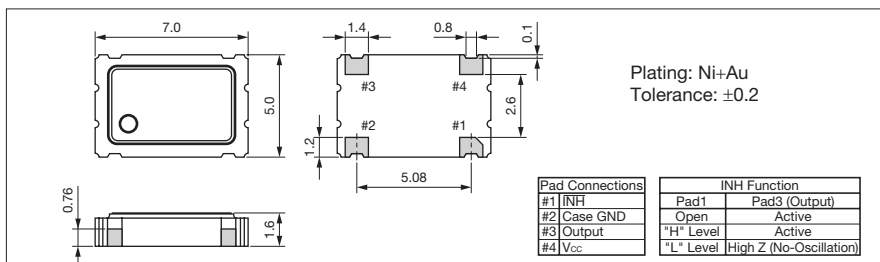
### Specifications

Item	Symbol	Conditions	Min.	Max.	Units	
Output Frequency Range	$f_o$		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	Op. Temp.: -40 to +85°C	-100	+100	$\times 10^{-6}$
			Op. Temp.: -10 to +70°C/ -40 to +85°C/ -40 to +105°C	-50	+50	
			Op. Temp.: -10 to +70°C	-30	+30	
			Op. Temp.: -10 to +70°C	-25	+25	
			Op. 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		
Max. Supply Voltage	-	$f_o < 135\text{MHz}$	-0.5	+7.0	V	
		$f_o \geq 135\text{MHz}$	-0.5	+5.0		
Supply Voltage	$V_{CC}$	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)	$I_{CC}$	$1.8 \leq f_o \leq 20\text{MHz}$	-	10	mA	
		$20 < f_o \leq 40\text{MHz}$	-	15		
		$40 < f_o \leq 60\text{MHz}$	-	30		
		$60 < f_o \leq 100\text{MHz}$	-	35		
		$100 < f_o \leq 135\text{MHz}$	-	45		
Stand-by Current	$I_{std}$		-	10	$\mu\text{A}$	
Symmetry	SYM	@50% $V_{CC}$	45	55	%	
Rise/ Fall Time (10% $V_{CC}$ to 90% $V_{CC}$ Maximum Loaded)	$t_r / t_f$	$1.8 \leq f_o \leq 26\text{MHz}$	-	10	ns	
		$26 < f_o \leq 45\text{MHz}$	-	8		
		$45 < f_o \leq 100\text{MHz}$	-	5		
		$100 < f_o \leq 170\text{MHz}$	-	2.5		
Low Level Output Voltage	$V_{OL}$	$I_{OL} = 8\text{mA}$	-	10% $V_{CC}$	V	
High Level Output Voltage	$V_{OH}$	$I_{OH} = -8\text{mA}$	90% $V_{CC}$	-	V	
CMOS Load	L_CMOS	CMOS Output	-	15	pF	
Input Voltage Range	$V_{IN}$		0	$V_{CC}$	V	
Low Level Input Voltage	$V_{IL}$		-	30% $V_{CC}$	V	
High Level Input Voltage	$V_{IH}$		70% $V_{CC}$	-	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	$J_{Sigma}$	Measured with Wavecrest SIA-3000	$1.8 \leq f_o < 40\text{MHz}$	-	8	ps
			$40 \leq f_o \leq 100\text{MHz}$	-	5	
			$100 < f_o \leq 170\text{MHz}$	-	4	
Peak to Peak Jitter	JPK-PK	Measured with Wavecrest SIA-3000	$1.8 \leq f_o < 40\text{MHz}$	-	80	ps
			$40 \leq f_o \leq 100\text{MHz}$	-	40	
			$100 < f_o \leq 170\text{MHz}$	-	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.

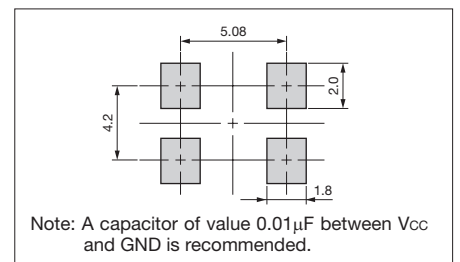
### Dimensions

(Unit: mm)



### Recommended Land Pattern

(Unit: mm)



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