

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	$\times 10^{-6}$	Operating Temperature Range (°C)	Note
O	± 50	-10 to +70	Standard specifications
S	± 30		
U	± 25		
W	± 20	-40 to +85	With only certain frequencies
F	± 100		
G	± 50	-40 to +105	
6	± 50		

How to Order

KC7050A 25.0000 C 3 0 E 00
① ② ③ ④ ⑤ ⑥ ⑦

- ① Type (7.0x5.0mm SMD)
- 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 Customer Special Model Suffix (STD Specification is "00")

Packaging (Tape & Reel 1000 pcs./ reel)

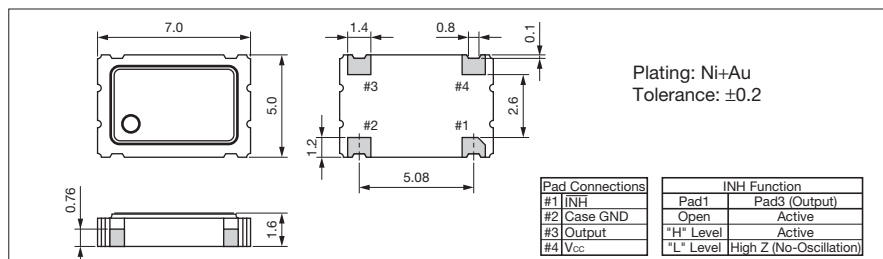
Specifications

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	+105		
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		
		$135 < f_o \leq 170\text{MHz}$	-	60		
Stand-by Current	I_{std}		-	10	μA	
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	J_{PK-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.

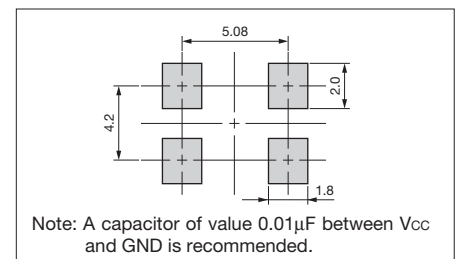
Dimensions

(Unit: mm)





Recommended Land Pattern

(Unit: mm)






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