



# Clock Oscillators Surface Mount Type

## KC7050P-H2/ KC7050P-H3 Series



HCSL/ 3.3V or 2.5V/ 7.0×5.0mm



RoHS Compliant

### Features

- Miniature ceramic package
- Highly reliable with seam welding
- HCSL output
- Supply voltage  $V_{CC} = 3.3V, 2.5V$
- $\pm 25 \times 10^{-6}$  available
- Low Phase Noise

Table 1

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

### How to Order

KC7050P 100.000 H   J 00  
 ① ② ③ ④ ⑤ ⑥ ⑦

- ① Series
- ② Output Frequency
- ③ Output Type (HCSL)
- ④ Supply Voltage (3 : 3.3V or 2 : 2.5V)
- 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	Specifications				Units	
			KC7050P-H2		KC7050P-H3			
			Min.	Max.	Min.	Max.		
Output Frequency Range <sup>Note1</sup>	$f_o$		25	175	25	175	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	-50	+50	-50	+50	$\times 10^{-6}$	
Storage Temperature Range	$T_{stg}$		-55	+125	-55	+125	°C	
Operating Temperature Range	$T_{use}$		0	+70	0	+70	°C	
			-40	+85	-40	+85		
			-40	+105	-40	+105		
Max. Supply Voltage	—		-0.3	+4.0	-0.3	+4.0	V	
Supply Voltage	$V_{CC}$		2.375	2.625	2.97	3.63	V	
Current Consumption	$I_{CC}$		—	50	—	50	mA	
Stand-by Current	$I_{std}$		—	20	—	20	$\mu A$	
Symmetry	SYM	50ohm @crossing point	45	55	45	55	%	
Rise/ Fall Time 0.175V to 0.525V	$t_r / t_f$	50ohm	—	0.5	—	0.5	ns	
Low Level Output Voltage <sup>Note2</sup>	$V_{OL}$		-0.15	+0.15	-0.15	+0.15	V	
High Level Output Voltage <sup>Note2</sup>	$V_{OH}$		+0.66	+0.85	+0.66	+0.85	V	
Output Load	RL	HCSL Output	50		50		ohm	
Low Level Input Voltage	$V_{IL}$		—	30% $V_{CC}$	—	30% $V_{CC}$	V	
High Level Input Voltage	$V_{IH}$		70% $V_{CC}$	—	70% $V_{CC}$	—	V	
Disable Time	$t_{dis}$		—	200	—	200	ns	
Enable Time	$t_{ena}$		—	10	—	10	ms	
Start-up Time	$t_{str}$	@Minimum operating voltage to be 0 sec.	—	10	—	10	ms	
Deterministic Jitter	DJ	Measured with Wavecrest SIA-3000	—	2	—	2	ps	
1sigma Jitter	J $\Sigma$		—	4	—	4	ps	
Peak to Peak Jitter	J $_{PK-PK}$		—	30	—	30	ps	
Phase Jitter	$J_{Phase}$	@100MHz $V_{CC} = 3.3V$	BW : 12kHz to 20MHz	—	0.5	—	0.5	ps
		@100MHz $V_{CC} = 3.3V$						
Phase Noise	—	@100MHz $V_{CC} = 3.3V$	@10Hz offset	Typ. -77		dBc/ Hz		
			@100Hz offset	Typ. -107				
			@1kHz offset	Typ. -130				
			@10kHz offset	Typ. -142				
			@100kHz offset	Typ. -149				
			@1MHz offset	Typ. -150				
@10MHz offset	Typ. -152							

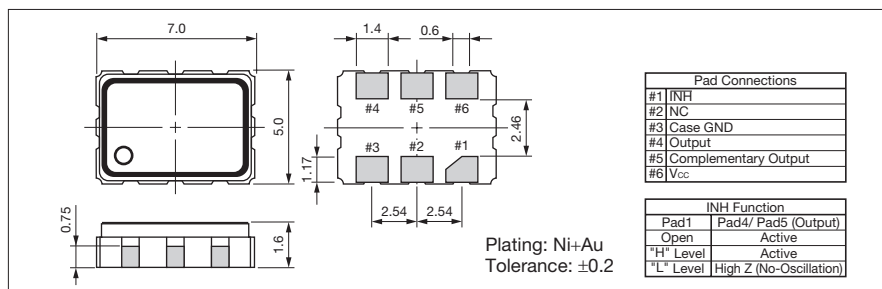
Note : All electrical characteristics are defined at the maximum load and operating temperature range.

Note1: Please contact us for inquiry about operating temperature range, available frequencies and other conditions.

Note2: DC characteristic

### Dimensions

(Unit: mm)



### Recommended Land Pattern

(Unit: mm)

