Clock Oscillators Surface Mount Type
KC7050A-C1 Series

KYOCERA

CMOS/ 1.8V/ 7.0×5.0mm

RoHS Compliant

Features

- Miniature ceramic package
- Highly reliable with seam welding
- CMOS output
- Supply voltage Vcc=1.8V
  Lower voltage available
- ±25×10^{-6}, ±20×10^{-6} available

Table 1

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

How to Order

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

① Type (7.0×5.0mm SMD)
② Output Frequency
③ Output Type (CMOS)
④ Supply Voltage (1.8V)
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)

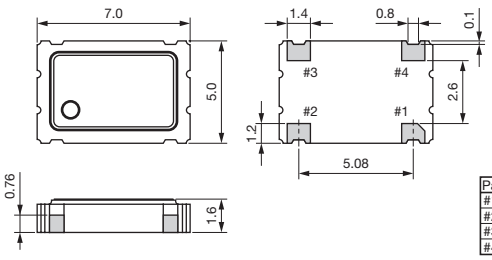
Specifications

Item	Symbol	Conditions		Min.	Max.	Units
Output Frequency Range	fo			1.8	39.99	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	×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	—			−0.5	+3.6	V
Supply Voltage	Vcc	Freq. Tol.Code: 0, S, F		+1.71	+1.89	V
		Freq. Tol.Code: U, G, W ,6		+1.75	+1.85	
Current Consumption (Maximum Loaded)	Icc	1.8≤fo≤25MHz		—	3	mA
		25<fo≤39.99MHz		—	4	
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			—	9	ns
Low Level Output Voltage	VOL	IOL=2.8mA		—	10% Vcc	V
High Level Output Voltage	VOH	IOH=−2.8mA		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		—	8	ps
Peak to Peak Jitter	JPK-PK			—	80	ps

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)



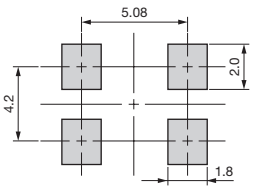
Plating: Ni+Au
Tolerance: ±0.2

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: A capacitor of value 0.01µF between Vcc and GND is recommended.