Clock Oscillators Surface Mount Type
KC7050A-C3 Series (K53-3C Series)

KYOCERA

CMOS/ 3.3V/ 7.0×5.0mm

Pb Free

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		With only certain frequencies
U	± 25		
W	± 20		
F	±100	−40 to +85	
G	± 50		

How to Order

KC7050A 25.0000 C 3 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 (3.3V)
⑤ Frequency Tolerance (See Table 1)
⑥ Symmetry/ Enable Function (45/ 55%, Stand-by)
⑦ Customer Special Model Suffix (STD Specification is "00")

Packaging (Tape & Reel 1000 pcs./ reel)

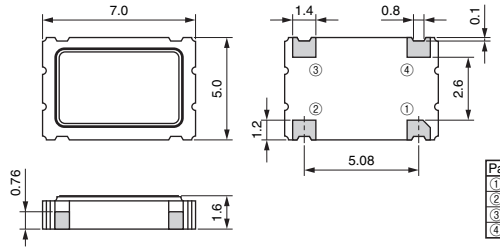
Specifications

Item	Symbol	Conditions		Min.	Max.	Units
Output Frequency Range	fo			1.8	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	×10⁻⁶
			Op. Temp.: −10 to +70°C/ −40 to +85°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	—			−0.5	+7	V
Supply Voltage	Vcc	Freq. Tol.Code: 0, S, F		2.97	3.63	V
		Freq. Tol.Code: U, G		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 operation voltage to be 0 sec.		—	10	mS
1 Sigma Jitter	JSigma	Measured with Wavecrest DTS-2079 *VISI 6.3.1*	1.8≤fo<40MHz	—	8	pS
			40≤fo≤100MHz	—	5	pS
			100<fo≤170MHz	—	4	pS
Peak to Peak Jitter	JPK-PK		1.8≤fo<40MHz	—	80	pS
			40≤fo≤100MHz	—	40	pS
			100<fo≤170MHz	—	30	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)



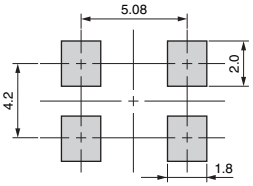
Plating: Ni+Au
Tolerance: ±0.2

Pad Connections	
①	Enable/ Disable
②	Case GND
③	Output
④	Vcc

Enable/ Disable 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.