



Voltage Controlled Crystal Oscillators (VCXO)

Surface Mount Type KV7050B-C3 Series



CMOS/ 3.3V/ 7.0x5.0mm



RoHS Compliant

Features

- Miniature ceramic package
- CMOS output
- High frequency to 170MHz
- Highly reliable with seam welding
- Supply voltage $V_{CC} = 3.3V$
- Excellent Jitter performance

Table 1

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

How to Order

KV7050B 24.576 C 3 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/ Input Resistance
 D: $1.5 \leq f_o \leq 70MHz$
 N: $70 \leq f_o \leq 170MHz$
 - ⑦ Individual Specification (STD Specification is "00")
- Packaging (Tape & Reel 1000 pcs./ reel)

Specifications

Item	Symbol	Conditions	Min.	Max.	Units	
Output Frequency Range ^{Note1}	f_o		1.5	170	MHz	
Frequency Tolerance ^{Note2}	f_{tol}	Initial tolerance, Operating temperature range, Rated power supply voltage change, Load change, Aging (1 year @25°C), Shock and vibration	Op. Temp.: -10 to +70°C / -40 to +85°C	-50	+50	$\times 10^{-6}$
			Op. Temp.: -10 to +70°C	-30	+30	
Absolute Pull Range	APR	$1.5 \leq f_o \leq 30MHz$ $30 < f_o \leq 170MHz$	± 100 ± 50	—	$\times 10^{-6}$	
Control Voltage	V_c		0	+3.3	V	
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	—	$1.5 \leq f_o \leq 80MHz$ $80 < f_o \leq 170MHz$	-0.5	+7.0	V	
Supply Voltage	V_{CC}		+2.97	+3.63	V	
Current Consumption	I_{CC}	$1.5 \leq f_o \leq 80MHz$	—	15	mA	
		$80 < f_o \leq 170MHz$	—	30		
Disable Current	I_{dis}	$1.5 \leq f_o \leq 80MHz$	—	10	mA	
		$80 < f_o \leq 170MHz$	—	15		
Symmetry	SYM	@50% V_{CC}	45	55	%	
Rise/ Fall Time (10% V_{CC} to 90% V_{CC})	t_r / t_f	$1.5 \leq f_o \leq 30MHz$	—	8	ns	
		$30 < f_o \leq 80MHz$	—	5		
		$80 < f_o \leq 170MHz$	—	2.5		
Low Level Output Voltage	V_{OL}		—	10% V_{CC}	V	
High Level Output Voltage	V_{OH}		90% V_{CC}	—	V	
Output Load	L _{CMOS}	CMOS Output	—	15	pF	
Input Voltage Range	V_{IN}		0	+3.3	V	
Low Level Input Voltage	V_{IL}		—	30% V_{CC}	V	
High Level Input Voltage	V_{IH}		70% V_{CC}	—	V	
Input Resistance	—	Code ⑥ : D	100	—	k ohm	
		Code ⑥ : G or N	5	—	Mohm	
Disable Time	t_{dis}	$1.5 \leq f_o \leq 30MHz$	—	100	ns	
		$30 \leq f_o \leq 170MHz$	—	200		
Enable Time	t_{ena}	$1.5 \leq f_o \leq 80MHz$ $80 < f_o \leq 170MHz$	—	100 2	ns ms	
Start-up Time	t_{str}	@Minimum operating voltage to be 0 sec.	—	10	ms	
Phase Jitter	J _{Phase}	@155.52MHz	BW : 12kHz to 20MHz	—	0.4	ps
Phase Noise	—	@155.52MHz	@10Hz offset	Typ. -70	dBc/ Hz	
			@100Hz offset	Typ. -102		
			@1kHz offset	Typ. -128		
			@10kHz offset	Typ. -147		
			@100kHz offset	Typ. -158		
			@1MHz offset	Typ. -160		
			@10MHz offset	Typ. -161		

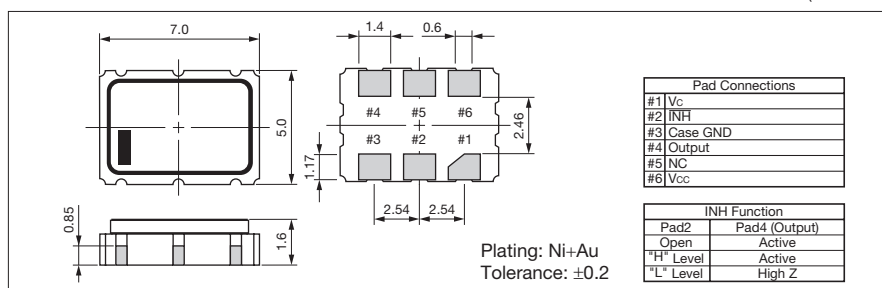
Note : All electrical characteristics are defined at the maximum load and operating temperature range.

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

Note2: Please contact us for the Frequency tolerance of -40 to +85°C.

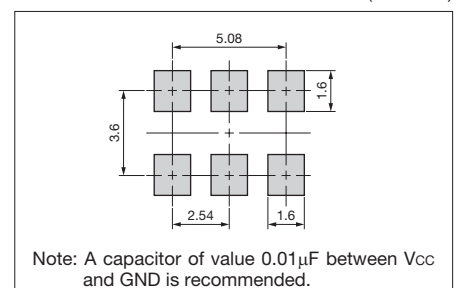
Dimensions

(Unit: mm)



Recommended Land Pattern

(Unit: mm)



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