



CMOS/ 1.8V to 3.3V/ 2.5×2.0mm



RoHS Compliant

Features

- Miniature ceramic package  
2.5 (L) × 2.0 (W) × 0.7 (H) mm (Typ.)
- Highly reliable with seam welding
- CMOS output
- Supply voltage 1.8/ 2.5/ 3.3V  
Wide operating voltage range 1.6 to 3.63V
- Low current consumption
- High output frequency 125MHz

Table 1

Freq. Code	Tol. × 10 <sup>-6</sup>	Operating Temperature Range (°C)	Note
0	± 50	-10 to +70	Standard specifications
S	± 30		
U	± 25		
F	± 100	-40 to +85	Please contact us for available frequencies.
G	± 50		
6	± 50	-40 to +105	

How to Order

KC2520B 25.0000 C 1 □ E 00  
① ② ③ ④ ⑤ ⑥ ⑦

- ① Series
- ② Output Frequency
- ③ Output Type (CMOS)
- ④ Supply Voltage (1.8V, 2.5V, 3.3V Compatible)
- ⑤ Frequency Tolerance (See Table 1)
- ⑥ Symmetry/ INH Function (45/ 55%)
- ⑦ Individual Specification (STD Specification is "00")

Packaging (Tape & Reel 2000 pcs./ reel)

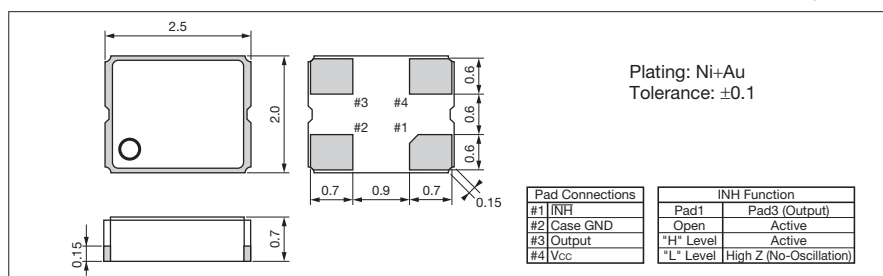
Specifications

Item	Symbol	Conditions	Specifications		Units	
			Min.	Max.		
Output Frequency Range	f <sub>o</sub>		1.5	125	MHz	
Frequency Tolerance	f <sub>tol</sub>	Initial tolerance, Operating temperature range, Rated power supply voltage change, Aging (1 year @25°C), Shock and vibration	Temp.: -40 to +85°C	-100	+100	×10 <sup>-6</sup>
			Temp.: -10 to +70°C/ -40 to +85°C/ -40 to +105°C	-50	+50	
			Temp.: -10 to +70°C	-30	+30	
Storage Temperature Range	T <sub>stg</sub>		-55	+125	°C	
Operating Temperature Range	T <sub>use</sub>	Standard Specifications	-10	+70	°C	
		Extend (Option)	-40	+85		
Max. Supply Voltage	—	1.5 ≤ f <sub>o</sub> ≤ 80MHz	-0.6	+6.0	V	
		80 < f <sub>o</sub> ≤ 125MHz	-0.3	+4.0		
Supply Voltage	V <sub>cc</sub>		+1.6	+3.63	V	
Current Consumption (Maximum Loaded/ 1.6 ≤ V <sub>cc</sub> ≤ 2.0V)	I <sub>cc</sub>	1.5 ≤ f <sub>o</sub> ≤ 24MHz	—	2.5	mA	
		24 < f <sub>o</sub> ≤ 40MHz	—	3.5		
		40 < f <sub>o</sub> ≤ 60MHz	—	5.0		
		60 < f <sub>o</sub> ≤ 80MHz	—	6.0		
		80 < f <sub>o</sub> ≤ 125MHz	—	11.0		
Current Consumption (Maximum Loaded/ 2.0 < V <sub>cc</sub> ≤ 2.8V)	I <sub>cc</sub>	1.5 ≤ f <sub>o</sub> ≤ 24MHz	—	3.0	mA	
		24 < f <sub>o</sub> ≤ 40MHz	—	4.5		
		40 < f <sub>o</sub> ≤ 60MHz	—	5.5		
		60 < f <sub>o</sub> ≤ 80MHz	—	6.5		
		80 < f <sub>o</sub> ≤ 125MHz	—	14.0		
Current Consumption (Maximum Loaded/ 2.8 < V <sub>cc</sub> ≤ 3.63V)	I <sub>cc</sub>	1.5 ≤ f <sub>o</sub> ≤ 24MHz	—	3.5	mA	
		24 < f <sub>o</sub> ≤ 40MHz	—	5.0		
		40 < f <sub>o</sub> ≤ 60MHz	—	6.0		
		60 < f <sub>o</sub> ≤ 80MHz	—	8.0		
		80 < f <sub>o</sub> ≤ 125MHz	—	17.0		
Stand-by Current	I <sub>std</sub>		—	10	μA	
Symmetry	SYM	@50%V <sub>cc</sub>	45	55	%	
Rise/ Fall Time (10% V <sub>cc</sub> to 90% V <sub>cc</sub> Maximum Loaded)	Tr/ Tf	1.6 ≤ V <sub>cc</sub> ≤ 2.0V/ 1.5 < f <sub>o</sub> ≤ 80MHz	—	6.5	ns	
		2.0 < V <sub>cc</sub> ≤ 2.8V/ 1.5 < f <sub>o</sub> ≤ 80MHz	—	5.0		
		2.8 < V <sub>cc</sub> ≤ 3.63V/ 1.5 < f <sub>o</sub> ≤ 80MHz	—	4.5		
		1.6 ≤ V <sub>cc</sub> ≤ 3.63V/ 80 < f <sub>o</sub> ≤ 125MHz	—	4.0		
Low Level Output Voltage	V <sub>OL</sub>	I <sub>OL</sub> =4mA	—	10%V <sub>cc</sub>	V	
High Level Output Voltage	V <sub>OH</sub>	I <sub>OH</sub> =-4mA	90%V <sub>cc</sub>	—	V	
Output Load	L <sub>CMOS</sub>	CMOS Output	—	15	pF	
Low Level Input Voltage	V <sub>IL</sub>		—	30%V <sub>cc</sub>	V	
High Level Input Voltage	V <sub>IH</sub>		70%V <sub>cc</sub>	—	V	
Disable Time	t <sub>dis</sub>		—	100	ns	
Enable Time	t <sub>ena</sub>		—	5	ms	
Start-up Time	t <sub>str</sub>	@Minimum operating voltage to be 0 sec.	—	10	ms	
1 Sigma Jitter	J <sub>Sigma</sub>	Measured with Wavecrest SIA-3000	1.5 ≤ f <sub>o</sub> ≤ 80MHz	—	8	ps
			80 < f <sub>o</sub> ≤ 125MHz	—	4	
Peak to Peak Jitter	J <sub>PK-PK</sub>	Measured with Wavecrest SIA-3000	1.5 ≤ f <sub>o</sub> ≤ 80MHz	—	80	ps
			80 < f <sub>o</sub> ≤ 125MHz	—	40	

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.

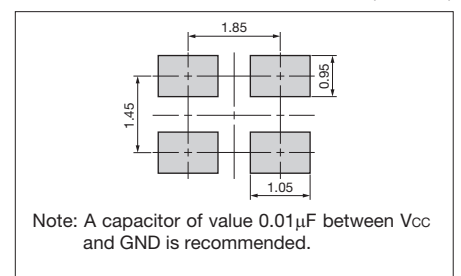
Dimensions

(Unit: mm)



Recommended Land Pattern

(Unit: mm)



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