



CMOS/ 1.8V to 5.0V/ 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/ 3.3/ 5.0V
- Wide operating voltage range 1.6 to 5.5V
- Low current consumption

**Applications**

- Consumer/ Mobile Equipment

**How to Order**

KC2520B 32K7680 C M 2 E 00  
① ② ③ ④ ⑤ ⑥ ⑦

- ①Series
- ②Output Frequency (32.768kHz)
- ③Output Type (CMOS)
- ④Supply Voltage (1.8V, 2.5V, 3.3V, 5.0V Compatible)
- ⑤Frequency Tolerance (See Specifications)
- ⑥Symmetry/ INH Function (45/ 55%)
- ⑦Individual Specification (STD Specification is "00")

Packaging (Tape & Reel 2000 pcs./ reel)

**Specifications**

Item	Symbol	Conditions	Specifications		Unit
			Min.	Max.	
Output Frequency Range	fo		32.768		kHz
Frequency Tolerance	f <sub>tol</sub>	Initial (25°C), Stability (-40 to 85°C), Voltage change	-25	+25	×10 <sup>-6</sup>
		Aging (@1year)	-3	+3	
		Other (load change, shock and vibration)	-4	+4	
Storage Temperature Range	T <sub>stg</sub>		-55	+125	°C
Operating Temperature Range	T <sub>use</sub>		-40	+85	°C
Max. Supply Voltage	—		-0.3	+7.0	V
Supply Voltage	V <sub>cc</sub>		+1.6	+5.5	V
Current Consumption (Maximum Loaded/ 1.6≤V <sub>cc</sub> ≤2.0V)	I <sub>cc</sub>		—	120	μA
Current Consumption (Maximum Loaded/ 2.0<V <sub>cc</sub> ≤2.8V)			—	126	
Current Consumption (Maximum Loaded/ 2.8≤V <sub>cc</sub> ≤3.63V)			—	130	
Current Consumption (Maximum Loaded/ 3.63≤V <sub>cc</sub> ≤5.5V)			—	140	
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		—	50	ns
Low Level Output Voltage	V <sub>OL</sub>	I <sub>OL</sub> =1mA	—	10% V <sub>cc</sub>	V
High Level Output Voltage	V <sub>OH</sub>	I <sub>OH</sub> =-1mA	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>		—	2	ms
Start-up Time	t <sub>str</sub>	@Minimum operating voltage to be 0 sec.	—	5	ms

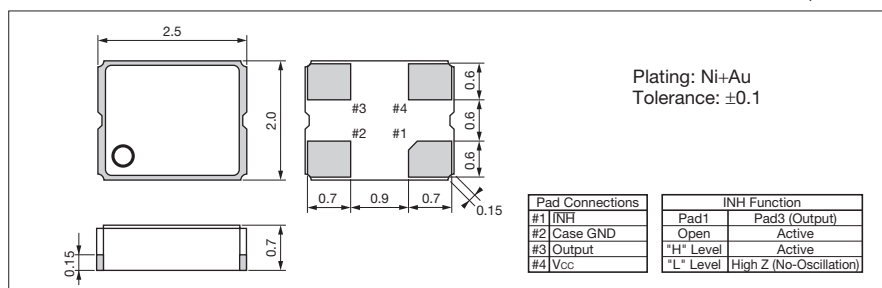
Note: All electrical characteristics are defined at the maximum load and operating temperature range.

kHz Range Crystal Devices



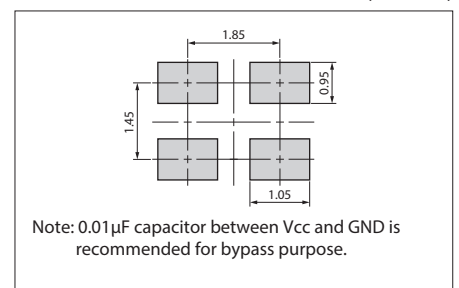
**Dimensions**

(Unit: mm)



**Recommended Land Pattern**

(Unit: mm)



# Mouser Electronics

Authorized Distributor

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