



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	f _o		32.768		kHz
Frequency Tolerance	f _{tol}	Initial (25°C), Stability (-40 to 85°C), Voltage change	-25	+25	× 10 ⁻⁶
		Aging (@1year)	-3	+3	
		Other (load change, shock and vibration)	-4	+4	
Storage Temperature Range	T _{stg}		-55	+125	°C
Operating Temperature Range	T _{use}		-40	+85	°C
Max. Supply Voltage	—		-0.3	+7.0	V
Supply Voltage	V _{cc}		+1.6	+5.5	V
Current Consumption (Maximum Loaded/ 1.6≤V _{cc} ≤2.0V)	I _{cc}		—	120	μA
Current Consumption (Maximum Loaded/ 2.0<V _{cc} ≤2.8V)			—	126	
Current Consumption (Maximum Loaded/ 2.8≤V _{cc} ≤3.63V)			—	130	
Current Consumption (Maximum Loaded/ 3.63≤V _{cc} ≤5.5V)			—	140	
Stand-by Current	I _{std}		—	10	μA
Symmetry	SYM	@50% V _{cc}	45	55	%
Rise/ Fall Time (10% V _{cc} to 90% V _{cc} Maximum Loaded)	T _r / T _f		—	50	ns
Low Level Output Voltage	V _{OL}	I _{OL} =1mA	—	10% V _{cc}	V
High Level Output Voltage	V _{OH}	I _{OH} =-1mA	90% V _{cc}	—	V
Output Load	L _{CMOS}	CMOS Output	—	15	pF
Low Level Input Voltage	V _{IL}		—	30% V _{cc}	V
High Level Input Voltage	V _{IH}		70% V _{cc}	—	V
Disable Time	t _{dis}		—	100	ns
Enable Time	t _{ena}		—	2	ms
Start-up Time	t _{str}	@Minimum operating voltage to be 0 sec.	—	5	ms

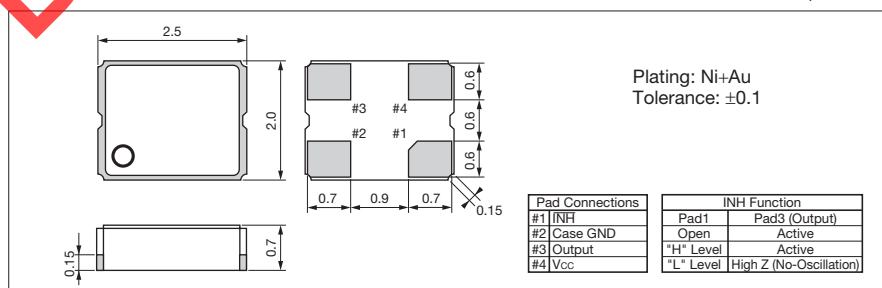
Note: All electrical characteristics are defined at the maximum load and operating temperature range.

kHz Range Crystal Devices



Dimensions

(Unit: mm)



Recommended Land Pattern

(Unit: mm)

