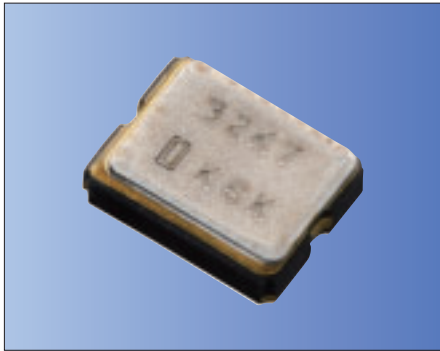


CMOS/ 1.8V ~ 5.0V/ 2.5×2.0mm for Automotive



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
- AEC-Q100/ 200 qualified

Applications

- Car accessory

How to Order

KC2520M 32K7680 C M 3 E 00
 ① ② ③ ④ ⑤ ⑥ ⑦

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

Packaging (Tape & Reel 2000 pcs./ reel)

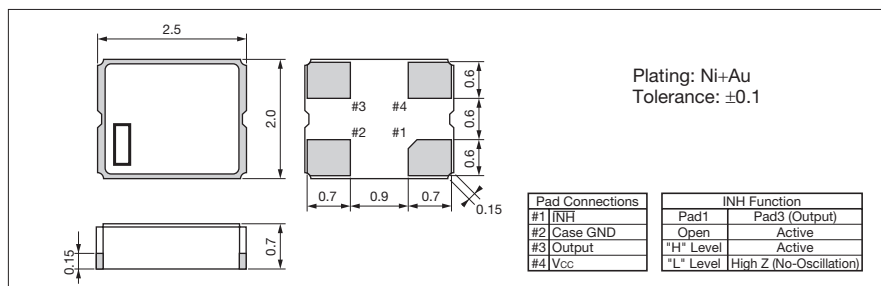
Specifications

Item	Symbol	Conditions	Specifications		Units
			Min.	Max.	
Output Frequency Range	fo		32.768		kHz
Frequency Tolerance	f _{tol}	Initial (25°C), Stability (-40 to 125°C), Voltage change	-90	+90	×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	+125	°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}		—	150	μA
Current Consumption (Maximum Loaded/ 2.0<V _{CC} ≤2.8V)			—	158	
Current Consumption (Maximum Loaded/ 2.8≤V _{CC} ≤3.63V)			—	163	
Current Consumption (Maximum Loaded/ 3.63≤V _{CC} ≤5.5V)			—	175	
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)	tr/ tf		—	50	ns
Low Level Output Voltage	V _{OL}	I _{OL} = 0.8mA	—	10% V _{CC}	V
High Level Output Voltage	V _{OH}	I _{OH} = -0.8mA	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.

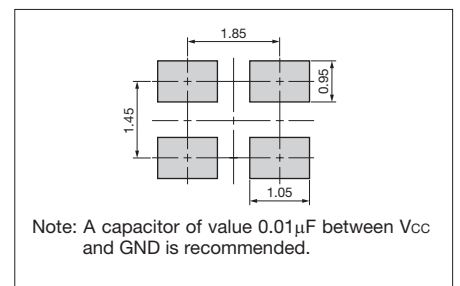
Dimensions

(Unit: mm)



Recommended Land Pattern

(Unit: mm)



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