

Real Time Clock Modules

Surface Mount Type Digital Temperature Compensated RTC Modules

KR3225Y Series



CMOS/ 3.0V Typ./ 3.2×2.5mm



RoHS Compliant

Features

- Miniature SMD type (3.2×2.5×1.0mm)
- Built-in 32.768kHz D-TCXO
- I²C-BUS serial interface type : 400kHz high speed type
- Frequency selection function : 32.768kHz, 1024Hz, 32Hz, 1Hz
- Voltage detection function : 2.0V temp. compensated voltage detection 1.5V Low Voltage Detection
- Various functions including full calendar, alarm and timer
- Operating Temp. -40 to +105°C (option)
- AEC-Q200 qualified

Applications

- High accuracy time references

How to Order

Frequency Tolerance (vs Temp.) : ±3.8×10⁻⁶ / -10°C to 60°C

KR3225Y 32768 D G R 30 T xx
 ① ② ③ ④ ⑤ ⑥ ⑦ ⑧

Frequency Tolerance (vs Temp.) : ±5.0×10⁻⁶ / -40°C to 85°C

KR3225Y 32768 E A W 30 T xx
 ① ② ③ ④ ⑤ ⑥ ⑦ ⑧

- ① Series
- ② Output Frequency
- ③ Frequency Stability
- ④ Lower Temperature

A	No Temp. Compensated	A	-40°C
D	±3.8×10 ⁻⁶	G	-10°C
E	±5.0×10 ⁻⁶	W	+85°C

30	3.0V
33	3.3V
50	5.0V

- ⑤ Upper Temperature
- ⑦ Initial Frequency Tolerance

A	5±5×10 ⁻⁶	B	0±5×10 ⁻⁶	T	±3.0×10 ⁻⁶
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- ⑧ Option Code

Packaging (Tape & Reel 3000 pcs./ reel)

Specifications

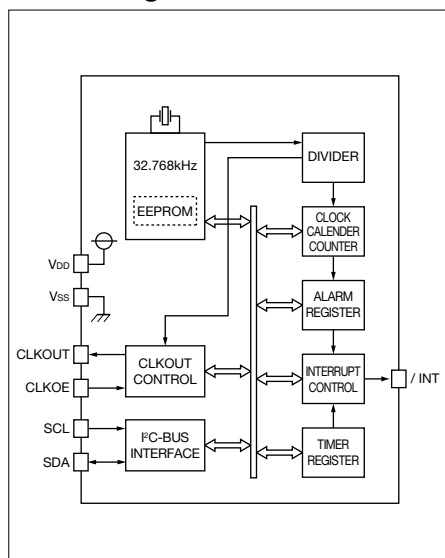
Item	Symbol	Conditions	Specification			Unit
			Min.	Typ.	Max.	
Nominal Frequency	f _{nom}		—	32.768	—	kHz
Time Keeping Voltage	V _{DD}	—	1.3	3.0	5.5	V
Temperature Compensation Voltage	V _{TEM}	—	2.0	3.0	5.5	V
Interface Voltage	V _{INT}	—	1.5	3.0	5.5	V
Operating Temperature Range	T _{use}	No condensation	-40	+25	+85	°C
Frequency Stability vs. Temp.	fo-Tc	E: Ta = -40 to +85°C	-5.0	—	+5.0	×10 ⁻⁶
Start up Time	t _{str}	Ta = 25°C	—	—	1.0	sec
		Ta = -40 to +85°C	—	—	3.0	sec
Power Supply Current1	I _{cc1}	SCL = SDA = /INT = V _{DD} , CLKOE = V _{SS} CLKOUT Non-operating output V _{DD} = 3V	—	0.6	2.0	μA
		SCL = SDA = /INT = V _{DD} , CLKOE = V _{DD} CLKOUT output 32.768kHz, V _{DD} = 3V Output at no load	—	1.5	4.0	μA
Power Supply Current2	I _{cc2}	SCL = SDA = /INT = V _{DD} , CLKOE = V _{DD} CLKOUT output 32.768kHz, V _{DD} = 3V CL = 15pF	—	2.7	5.5	μA
			—	—	—	—
Low Voltage Detection Voltage	V _{DET}		1.3	1.4	1.5	V

* Please contact us for other specifications.

Pin Functions

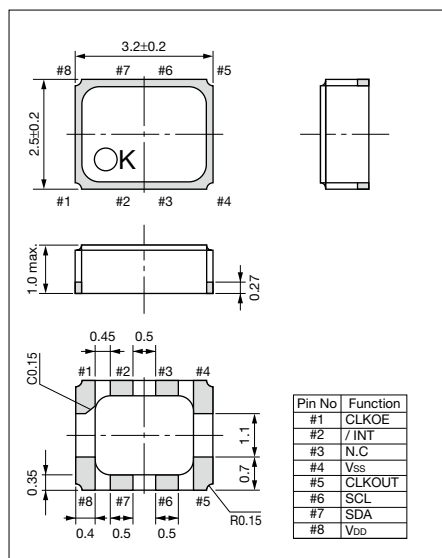
Pin Name	I / O	Function
CLKOE	I	Input to control the output mode of the CLKOUT
/ INT	O	Outputs for alarm signals, timer signals, timer update signals and other signals
V _{SS}	—	Pin connected to ground
CLKOUT	O	32.768kHz signal output (CMOS output)
SCL	I	Serial clock input for I ² C BUS communications
SDA	I / O	Serial data input output for I ² C BUS communications
V _{DD}	—	This pin is connected to a positive power supply

Block Diagram



Dimensions

(Unit: mm)



Recommended Land Pattern

(Unit: mm)

