

## NR3225SA

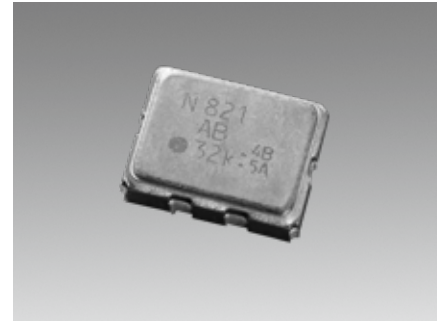
Digital Temperature Compensated RTC Modules

### Main Application

High accuracy time reference

### Features

- Small size SMD type : 3.2 x 2.5 x 1.0mm
- High precision frequency temperature stability : Max.  $\pm 7 \times 10^{-6}$  / -40 to +105°C
- Temperature compensated voltage range : +2.0 to +5.5V
- Low current consumption
- Frequency selection function : 32.768kHz, 1024Hz, 32Hz, 1Hz
- I2C-BUS serial interface type : 400kHz high speed mode
- Various function including full calendar, alarm and timer
- Conforms to AEC-Q200



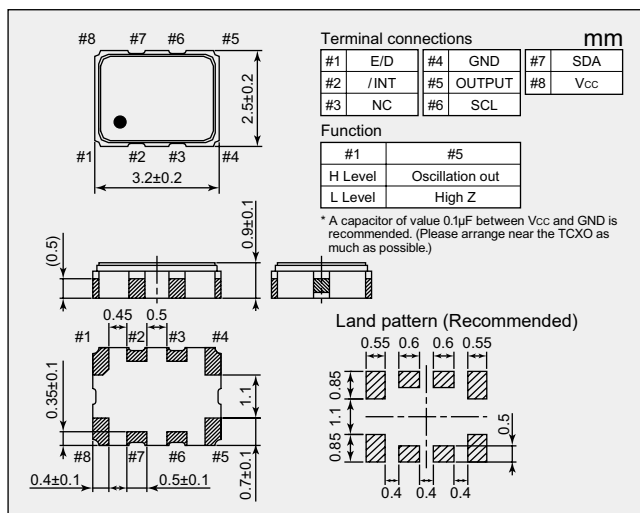
Pb Free

RoHS Compliant  
Directive 2011/65/EU  
Directive (EU) 2015/863

### Specifications

| Item   | Model   | NR3225SA                                |
|--|---|---|
| Nominal Frequency (kHz)  |   | 32.768                                  |
| Temperature Compensation Supply Voltage (Characteristics guaranteed) (V) |   | +2.0 to +5.5                            |
| Interface Supply Voltage (V)   |   | +1.5 to +5.5                            |
| Time Keeping Supply Voltage (V)  |   | +1.3 to +5.5                            |
| Operating Temperature Range (°C)   |   | -40 to +105                             |
| Storage Temperature Range (°C)   |   | -40 to +105                             |
| Frequency / Temperature Characteristics                                  | -40 to +105°C   | Max. $\pm 7.0 \times 10^{-6}$           |
|  | -40 to +85°C  | Max. $\pm 5.0 \times 10^{-6}$           |
|  | -40 to +60°C  | Max. $\pm 3.8 \times 10^{-6}$           |
| Current Consumption (µA)   | SCL=SDA=/INT=V <sub>CC</sub> , E/D=V <sub>CC</sub><br>Output 32.768kHz, V <sub>CC</sub> =+3V<br>Output at no load | Max. 4.5                                |
|  | SCL=SDA=/INT=V <sub>CC</sub> , E/D=GND<br>Non operating output V <sub>CC</sub> =+3V                               | Max. 4.0                                |
| Low Voltage Detection Voltage  |   | Min. +1.3                               |
| V <sub>OL</sub> Max. / V <sub>OH</sub> Min.                              |   | 0.2V <sub>CC</sub> / 0.8V <sub>CC</sub> |
| Tr Max. / Tf Max. (ns)   |   | 70                                      |
| Symmetry Min. to Max. (%)  |   | 40 to 60                                |
| Output Load Condition (pF)   | CMOS Output   | 15.0                                    |
| Start-up Time (sec)  | T <sub>a</sub> = -40 to +105°C  | Max. 3.0                                |
| Specification Number   |   | NSA3646A                                |

### Dimensions



### Pin Function

| Pin Name        | I / O | Function  |
|-----------------|-------|---|
| Enable/Disable  | I     | Input to control the output mode of the OUTPUT                                  |
| /INT            | O     | Outputs for alarm signals, timer signals timer update signals and other signals |
| GND             | -     | -----   |
| OUTPUT          | O     | 32.768kHz signal output (CMOS output)   |
| SCL             | I     | Serial clock input for I2C BUS communications                                   |
| SDA             | I / O | Serial data input output for I2C BUS communications                             |
| V <sub>CC</sub> | -     | This pin is connected to a positive power supply                                |

Please specify the model name, frequency, and specification number when you order products. For further questions regarding specifications, please feel free to contact us.