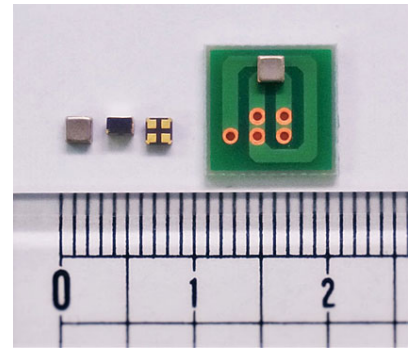


ULTRA SMALL VIBRATION SENSOR

MODEL: CMN200

FEATURES

- 1 Miniature size
- 2 High sensitivity
- 3 Ultra low power consumption
- 4 Easy installation in circuit
- 5 AEC-200 compliant/RoHS compliant



DESCRIPTION

CMN-200 is designed to quickly detect vibration and motion from all directions.

Its multi-layer ceramic construction ensures highly reliable performance.

It can easily be incorporated in circuit for ON/OFF control of any device or equipment based on static condition or movement.

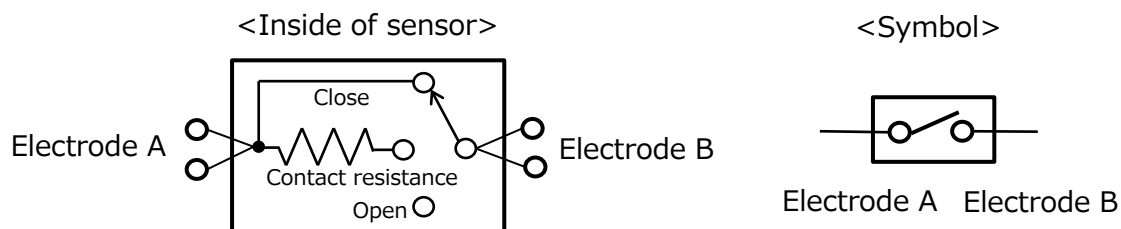
The sensor is re-flow soldering compatible (Pb free).

APPLICATIONS

CMN-200 is very useful sensor to save energy and extend battery life.

It is used as static/motion detection switch in remote or wireless communication equipment, IoT devices, Active IC tags, smart keys and anti-theft devices.

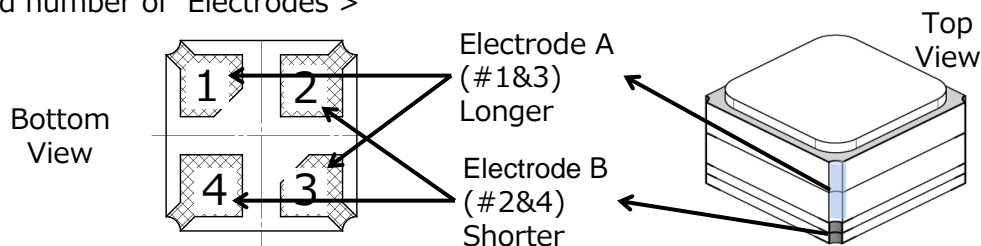
◆ Internal circuit



◆ Electrode (Terminal) function

No	Electrode	Function
1	A	•Switch of A contact •Pin #1 & Pin #3 are connected inside
3		
2	B	•Switch of B contact •Pin #2 & Pin #4 are connected inside
4		

< Shape and number of Electrodes >



◆ Ratings

Parameter	Symbol	Rating	unit
Electrode Voltage	Vdd	≤6	V
Electrode Current	Idd	(0.01) * ¹ ~ 100	μA

*1 () Values are reference values of evaluation range

◆ Characteristics

Parameter	Condition	NIN.	TYP.	MAX.	単位
sensitivity* ¹	10Hz	(0.1)* ²	0.5	(2) * ²	G
	0.5G	(5) * ²	10	(50) * ²	Hz
Resistance	Closed	-	-	100	Ω
	Open	100M	-	-	
	Contact resistance	100	-	100M	

*1 Evaluation condition : Ambient temperature 20~25°C, VDD=3V

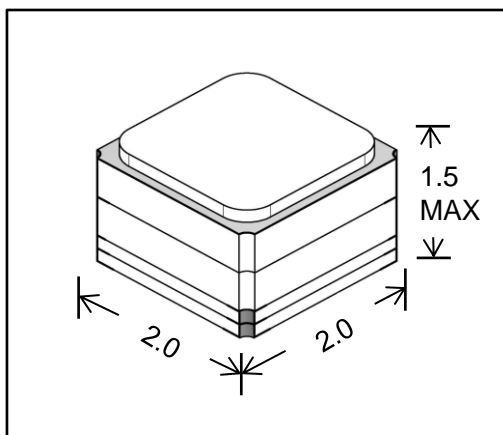
*2 () Values are reference values of evaluation range

◆ Material

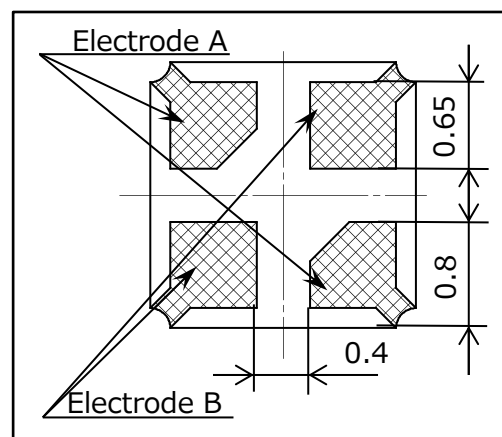
Item	Description
Contact material	Electrode A/B : Fe-Ni-Co alloy Conductive ball : SUS304
Electrode/Conductive ball	Gold plate
Case material	Alumina ceramic
Gas inclusion	Inert gas

◆ External Dimensions

Drawing (Unit : mm)



Electrode Pattern (Unit : mm)

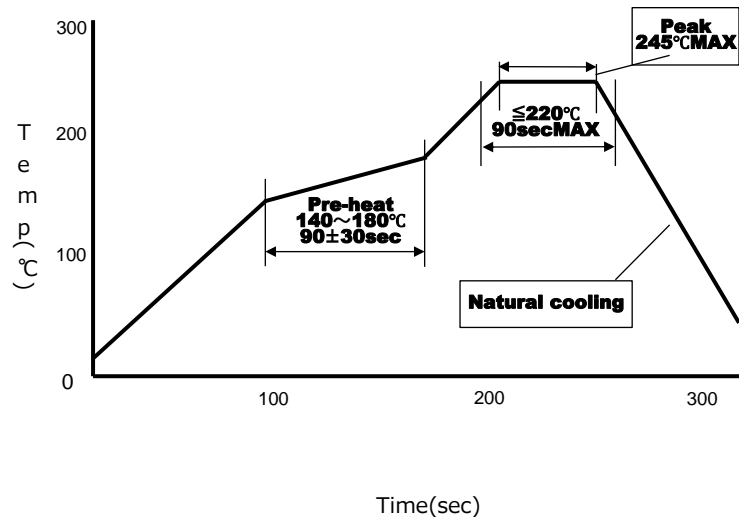


Notes :

We assume no responsibility whatsoever for the use of any circuits described herein. Conveys no license under any patent or other rights and makes no representations whether the circuits are free from patent infringement or not.

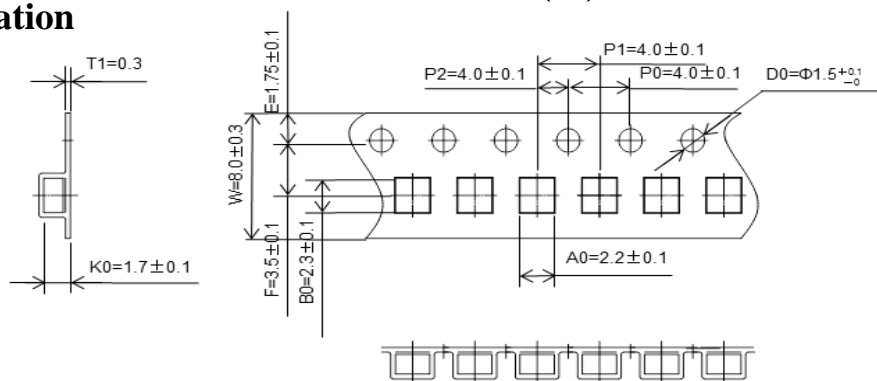
◆ Recommended soldering conditions

Reflow
Temperature Profile
for reference



◆ Packing specification

Packaging Minimum
Quantity:
1,000pcs/reel



◆ Storage condition

Temperature : +5~40°C
Humidity : 20~70% RH

◆ Performance

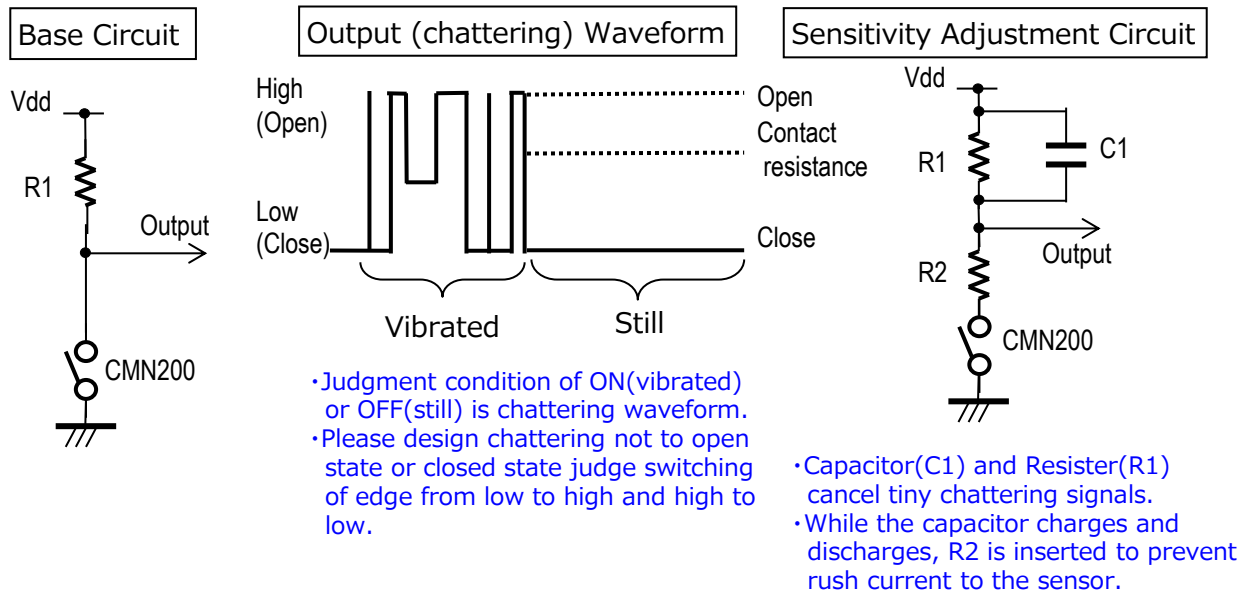
Item	Conditions
Temperature range	-40 ~ 125°C
Humidity range	20~85% RH
Vibration durability	50Hz, 1G, ≥300M
ESD(HBM)	Pass Voltage(±V) : 2000 V
ESD(CDM)	Pass Voltage(±V) : 500 V
Impact resistance	1,500G, 6 directions, 3 times each

◆ Caution

【 Handling Caution 】

- Please refrain from using this sensor and installing in other devices in the environment where ultrasound, static electricity and magnetic force may influence it.
- Please do not use if failure or malfunction is likely to harm human body directly.

◆ Application Circuit Example

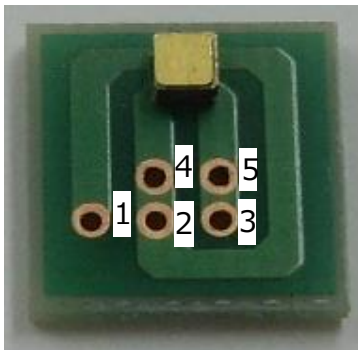


◆ Evaluation Board

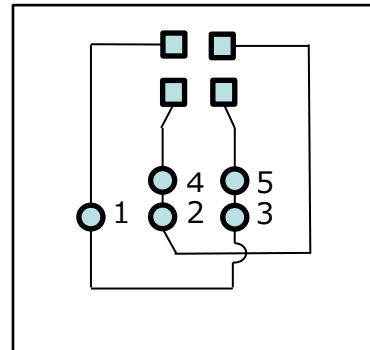
The board has mounted the parts to carry out evaluation of the sensor.

Part Number : CMN200-K

Picture of CMN200-K



Circuit Diagram



PCB Size : 10mm x 10mm Terminal hole Size : $\phi 1.2$ mm Terminal hole Pitch : 1.5 mm (2-4,3-5)

- Notes :
- Electrode numbers are not printed on the PCB.
 - Orientation of the sensors mounted on the substrate(the position of A/B electrode) is optional.
 - There is not polarity to the sensor.

DUE TO CONTINUOUS PRODUCT IMPROVEMENT, THE DESIGN AND TECHNICAL SPECIFICATIONS
ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE

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