ALPS
Perfecting the Art of Electronics

Energy Harvester

SPGA Series

1. Input data

(1) Standard use case

- Output electric power of 170μJ min.

(2) Type and amount of ambient energy

- Type :   Kinetic energy
- Amount :   7.5 N x   3.3 mm

2. Test execution

1. Insert the switch into a operating machine

2. Presse the switch at the velocity of 20 mm/sec with operating unit

3. Measure the generated power

3. Test documentation

(1) Requested type and amount of ambient energy

- Type :   Kinetic energy
- Amount :   7.5 N x   3.3 mm

(2) Standard use case executed by the device during test

- Output electric power of 170μJ min.

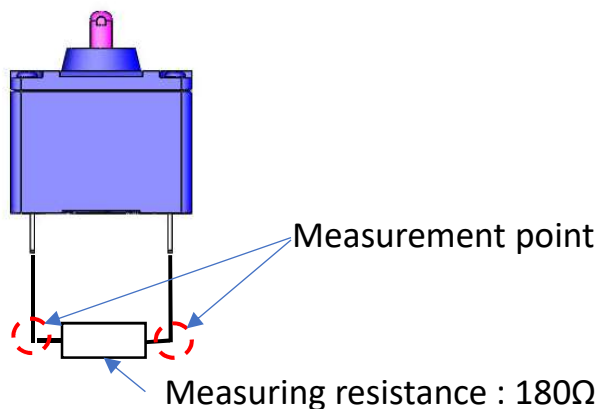*ALPS ELECTRIC CO., LTD.*

Energy Harvester

(3) Test approach

Operating condition

・Actuator shall be pressed by operating unit as bellow construction.
・Operation velocity : 20mm/sec.
・Actuator shall be pressed straight.
・Operation parts shall be flat shape.

Operating unit

Coil Spring
(Spring Constant:1N/mm)

Operation parts

3.3 mm

Energy Harvester actuator

Energy Harvester SPGA
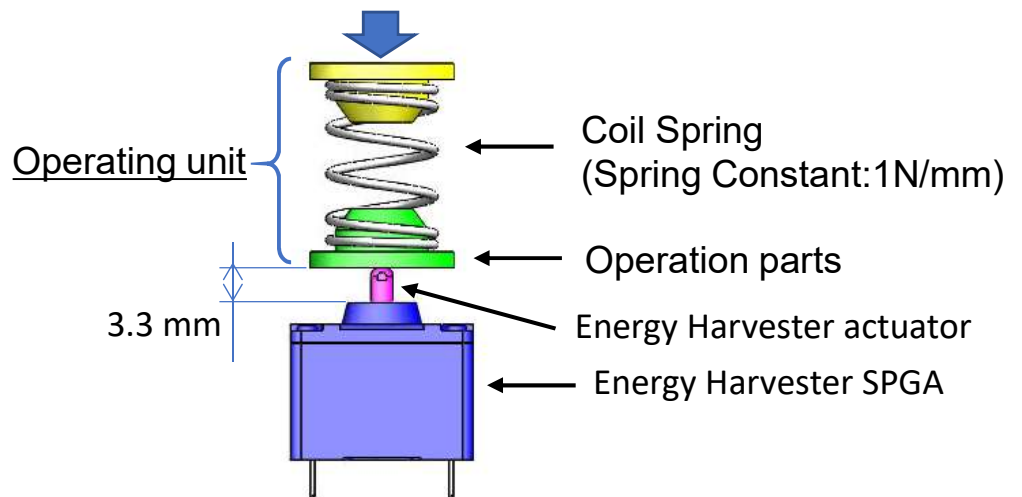
Measurement method

・Generated energy shall be measured as bellow condition.

Measurement point

Measuring resistance : 180Ω

ALPS ELECTRIC CO., LTD.

(4) Test result

- Sample : 5 pcs
- Result   : Pass

No.	Generated power amount [μJ]		Judgement
	Press	Release	
1	342.7	363.8	Pass
2	356.6	388.3	Pass
3	347.5	371.2	Pass
4	374.7	334.6	Pass
5	341.4	382.0	Pass