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## Energy Harvester

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# Energy Harvester SPGA Series

**No power supply, battery or maintenance required.**
**Power generated with a low-force push.**

The SPGA Series Energy Harvester is a compact power-generating device employing electromagnetic induction to generate power with each push or release. Combined with low-power wireless technology, the device can function as a switch. It can be installed away from a main board, for example, in places where connection to a power source, or battery replacement, is difficult, and is ideal particularly for frequently operated equipment.

SPGA Series

**Features**
- Long operating life of 1 million cycles
- Excellent feel achieved with operating force of 6±1.5N
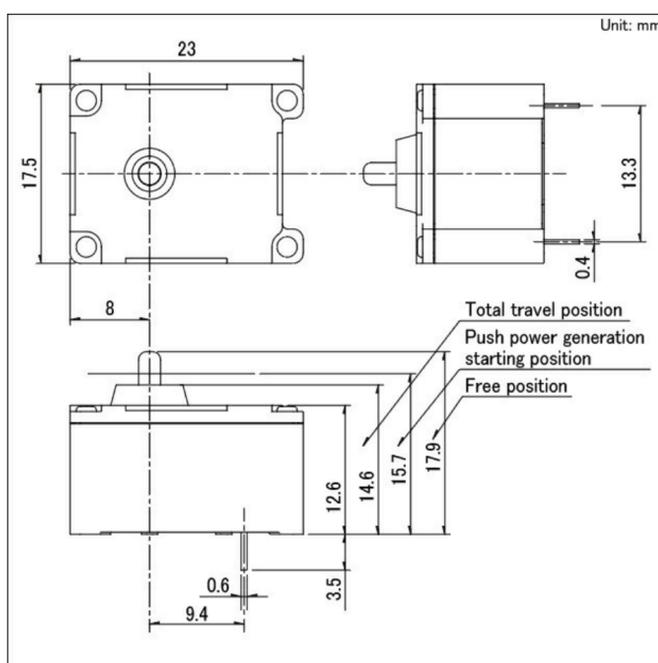- Compact dimensions (17.5 × 23 × 17.9mm)

**Applications**
- Equipment with batteries in danger of going flat at the wrong time
- Operation, position sensing in places where circuitry or wiring is complicated
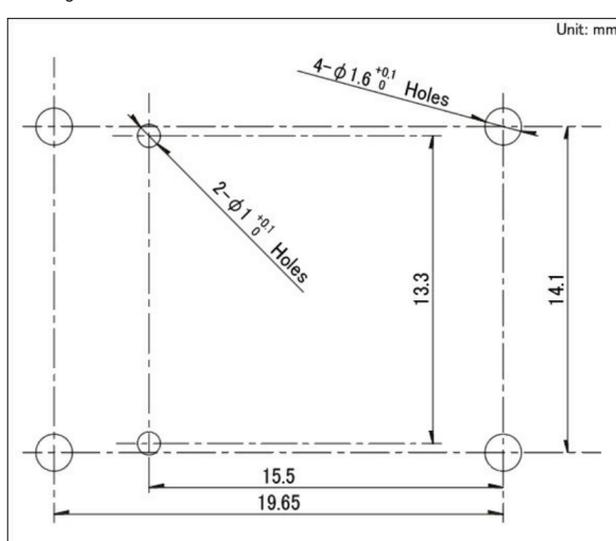- Can be retrofitted to existing equipment as wiring not required

| Items | | | Specifications |
|---|---|---|---|
| Part number | | | SPGA110100 |
| Dimensions (W×D×H) | | | 17.5×23×17.9mm |
| Power generation | | | 170μJ (for each operation) |
| Operating force | | | 6N±1.5N |
| Travel | | | 3.3mm |
| Operation | | | Push |
| Poles | | | 1 |
| Terminal type | | | For PC board |
| Operating temperature range | | | -20℃ to +70℃ |
| Mechanical performance | Actuator strength | Operating direction | 35N |
| | | Perpendicular direction | 5N |
| Durability | Operating life | | 1,000,000 cycles |
| Environmental performance | Cold | | -40℃ 96h |
| | Dry heat | | 85℃ 96h |
| | Damp heat | | 60℃, 90 ～ 95%RH 96h |
| 3D CAD (STEP) | | | ⬇ |
| Certificate of Compliance to RoHS regulations | | | ⬇ |

※ Please contact an Alps Alpine sales representative about wireless systems, auxiliary circuits or other inquiries.

## Dimensions



Unit: mm

23
17.5
8
13.3
0.4
Total travel position
Push power generation starting position
Free position
12.6
14.6
15.7
17.9
0.6
9.4
3.5

## Mounting Hole Dimensions



Unit: mm

4-φ1.6 +0.1 0 Holes
2-φ1 +0.1 0 Holes
13.3
14.1
15.5
19.65

## Packing Specifications

**Tray**

| Number of packages (pcs.) | 1 case / Japan | 320 |
|---|---|---|
| | 1 case / export packing | 320 |
| Export package measurements (mm) | | 360×270×230 |

## Soldering Conditions

**Reference for Hand Soldering**

| Soldering temperature | 350±5℃ |
|---|---|
| Soldering time | 3s max. |

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