

Magnetic Sensor Switching Output Type

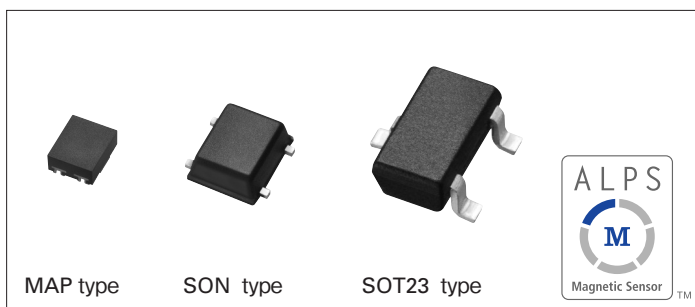
HGDE□/HGDF□ Series



Various product lineup contributes to set design flexibility. High precision, compact and low-profile product based on magnetic sensing devices technologies.

Magnetic Sensors

- Piezo Sensors
- Capacitive Sensor
- Resistive Sensors



Typical Specifications

| Items | Specifications | |
|-----------------------------|---------------------------------------|-------------------------------------|
| | HGDE□ | HGDF□ |
| Drive voltage | Typ. 1.8V (1.6V min. to 3.6V max.) | Typ. 5V (4.5V min. to 5.5V max.) |
| Current consumption | 3μ A Ave. (at VDD=1.8V) | Typ. 1.65mA (at VDD=5V) |
| Operating temperature range | -40°C to +85°C | |

Product list

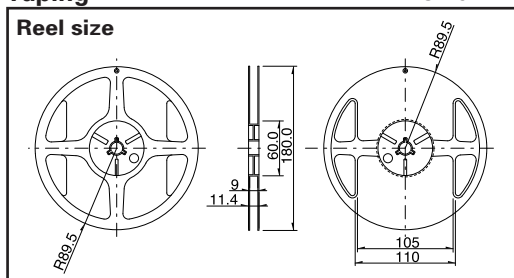
| Drive voltage | Package specifications/Size | Function | Minimum order unit (pcs.) | Model No. | Operating magnetic field(Hon) |
|---------------|-----------------------------|-----------------------------------|---------------------------|------------|-------------------------------|
| Typ. 1.8V | MAP type 1.3×0.9×0.55mm | Single polarity/ Single output | 3,000 | HGDESM021A | 2.0mT |
| | | Dual polarity/ Single output | | HGDEPM021A | |
| | | Dual polarity/ Dual output | | HGDEDM021A | |
| | SON type 2.1×2.1×0.75mm | Single polarity/ Single output | | HGDESN021A | |
| | | Dual polarity/ Single output | | HGDEPN021A | |
| | | Dual polarity/ Dual output | | HGDEDN021A | |
| | SOT23 type 2.9×2.8×1.1mm | Single polarity/ Single output | | HGDEST021B | |
| | | Dual polarity/ Single output | | HGDEPT021B | |
| | | Single polarity/ Single output | | HGDFSN021A | |
| Typ. 5V | SON type 2.1×2.1×0.75mm | Dual polarity/ Single output | HGDFPN021A | | |
| | | Dual polarity/ Dual output | HGDFDN021A | | |
| | | Single polarity/ Single output | HGDFST021B | | |
| | SOT23 type 2.9×2.8×1.1mm | Dual polarity/ Single output | HGDFPT021B | | |
| | | Single polarity/ Single output | | | |
| | | Dual polarity/ Single output | | | |

Note

※ Operating magnetic field is compatible with both high-sensitive and low-sensitive types. Please contact us for details.

Packing Specifications

Taping



| Number of packages (pcs.) | | | Tape width (mm) | Export package measurements (mm) |
|---------------------------|---------------|------------------------|-----------------|----------------------------------|
| 1 reel | 1 case /Japan | 1 case /export packing | | |
| 3,000 | 3,000 | 45,000 | 8 | 210×210×230 |

Note

Please place purchase orders per minimum order unit N (integer).

■ Dimensions

Unit:mm

| Style |
|--------------------------|
| <p>MAP type</p> |
| <p>SON type</p> |
| <p>SOT23 type</p> |

Magnetic Sensors

Piezo Sensors

Capacitive Sensor

Resistive Sensors

Index for Functions

| Style | Series | Photo | Type | Package / Size | | Function | Drive voltage | Operating magnetic field | Automotive use | Page | | |
|-------------|--------|---|-------------------------------------|---|--|---------------------------------|-----------------------|--------------------------|----------------|--|-------------------------------|---------------|
| Magnetic | HGDE□ | | Switching output (Detection switch) | MAP | 1.3×0.9×0.55mm | Single polarity / Single output | Typ.1.8V | Hon 2.0mT | | 499 | | |
| | | | | | | Dual polarity / Single output | | | | | | |
| | | | | SON | 2.1×2.1×0.75mm | Single polarity / Single output | | | | | | |
| | | | | | | Dual polarity / Single output | | | | | | |
| | | | | SOT23 | 2.9×2.8×1.1mm | Single polarity / Single output | | | | | | |
| | | | | | | Dual polarity / Single output | | | | | | |
| | HGDF□ | SON | 2.1×2.1×0.75mm | Single polarity / Single output | Typ.5V | | | | | | | |
| | | | | Dual polarity / Single output | | | | | | | | |
| | | SOT23 | 2.9×2.8×1.1mm | Single polarity / Single output | | | | | | | | |
| | | | | Dual polarity / Single output | | | | | | | | |
| HGDFPA□ | | Switching output (Connector Connection Model) | 14×9×5mm | Dual polarity / Single Output (open collector output) | Typ.5V Typ.12V | — | | 501 | | | | |
| | | | | | | | | | Snap-in type | 14.15×13.2×5mm | Dual polarity / Single output | Typ.5V |
| HGPP□ | | Latch output type (direction of rotation) | MAP | 1.3×0.9×0.55mm | 1-phase alternating output Sampling period 1.3msec | Typ.1.8V | Hon 1mT/ Hoff -1mT | | | | | |
| | | | | | SOT23 | | | | 2.9×2.8×1.1mm | 1-phase alternating output Sampling period 35μ sec | | |
| | | | HGPD□ | | Incremental encoding output (direction of rotation/rotation direction) | MAP | | | 2×1×0.55mm | 2-phase alternating output Sampling period 1.3msec | Typ.1.8V | |
| | | | | | | | | | | SOT23 | | 2.9×2.8×1.1mm |
| HGAR□ | | Linear analog output (Rotation detection) | 2×1.5×0.65mm | Output:Typ.±75mV (rotation angle±30°) | 1.5 to 5.5V | — | | 505 | | | | |
| | | | | | | | | | HSCD□ | | Geomagnetic detection | 2.5×2.5×0.7mm |
| Geomagnetic | | | | | | | | | | | | |

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Resistive Sensors

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Note

●marks in "Available for automotive use" indicate that all of the series products can work at the operating temperature range from -40°C to +85°C.