

# EZ-410

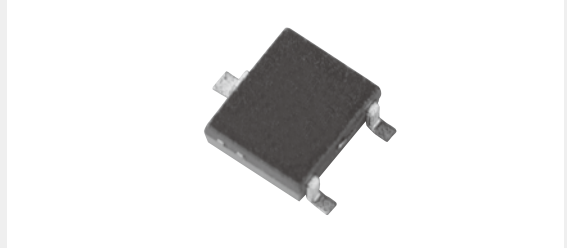
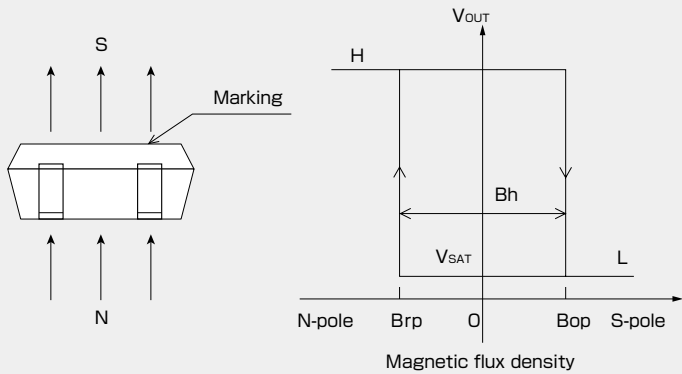
Shipped in packet-tape reel(5000pcs/Reel)

EZ-410 is composed of an InAs Hall Element and a signal processing IC chip in a package

|                           |                        |                                    |                              |                       |     |
|---------------------------|------------------------|------------------------------------|------------------------------|-----------------------|-----|
| Bipolar Hall Effect Latch | Supply Voltage 3.8~24V | Hall Element Continuous Excitation | Standard Sensitivity Bop:5mT | Output Open Collector | SMT |
|---------------------------|------------------------|------------------------------------|------------------------------|-----------------------|-----|

Notice:It is requested to read and accept "IMPORTANT NOTICE" written on the back of the front cover of this catalogue.

## ●Operational Characteristics



## ●Absolute Maximum Ratings (Ta=25°C)

| Item                      | Symbol       | Min. | Max.              | Unit |
|---------------------------|--------------|------|-------------------|------|
| Supply Voltage            | $V_{CC}$     | -0.3 | 24 <sup>(*)</sup> | V    |
| Output H Voltage          | $V_{O(off)}$ | -0.3 | $V_{CC}$          | V    |
| Output L Current          | $I_{SINK}$   | 0    | 10                | mA   |
| Storage Temperature Range | $T_{STG}$    | -40  | +150              | °C   |

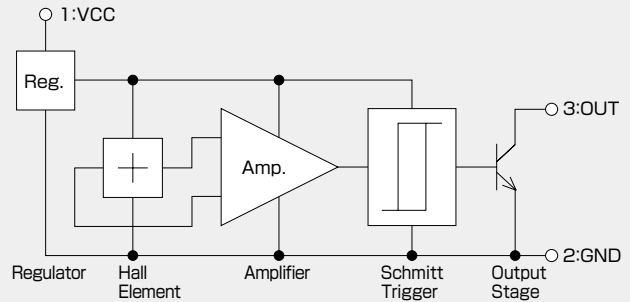
(\*) Please refer to Supply Voltage Derating Curve.

## ●Recommended Operating Conditions

| Item                        | Symbol    | Min. | Typ. | Max.              | Unit |
|-----------------------------|-----------|------|------|-------------------|------|
| Supply Voltage              | $V_{CC}$  | 3.8  | 12   | 24 <sup>(*)</sup> | V    |
| Operating Temperature Range | $T_{opr}$ | -40  | +25  | +125              | °C   |

(\*) Please refer to Supply Voltage Derating Curve.

## ●Functional Block Diagram



## ●Electrical Characteristics ① (Ta=25°C, VCC=12V)

| Item                      | Symbol     | Conditions                | Min. | Typ. | Max. | Unit    |
|---------------------------|------------|---------------------------|------|------|------|---------|
| Output Leakage Current    | $I_{LEAK}$ | OUT="H"                   |      |      | 1    | $\mu A$ |
| Output Saturation Voltage | $V_{SAT}$  | OUT="L", $I_{OUT} = 10mA$ |      |      | 0.4  | V       |
| Supply Current            | $I_{CC}$   | OUT="H"                   |      | 5    | 9    | mA      |

## ●Electrical Characteristics ② (Ta=-40~+125°C, VCC=3.8~24V)

| Item                      | Symbol     | Conditions | Min. | Typ. | Max. | Unit    |
|---------------------------|------------|------------|------|------|------|---------|
| Output Leakage Current    | $I_{LEAK}$ | OUT="H"    |      |      | 10   | $\mu A$ |
| Output Saturation Voltage | $V_{SAT}$  | OUT="L"    |      |      | 0.8  | V       |
| Supply Current            | $I_{CC}$   | OUT="H"    |      | 5    | 9    | mA      |

•Please be aware that our products are not intended for use in life support equipment, devices, or systems. Use of our products in such applications requires the advance written approval of our sales staff.

Certain applications using semiconductor devices may involve potential risks of personal injury, property damage or loss of life. In order to minimize these risks, adequate design and operating safeguards should be provided by the customer to minimize inherent or procedural hazards. Inclusion of our products in such applications is understood to be fully at the risk of the customer using our devices or systems.

•This product contains gallium arsenide(GaAs).Handling and discarding precautions required.

●Magnetic Characteristics ① (Ta=25°C, Vcc=12V)

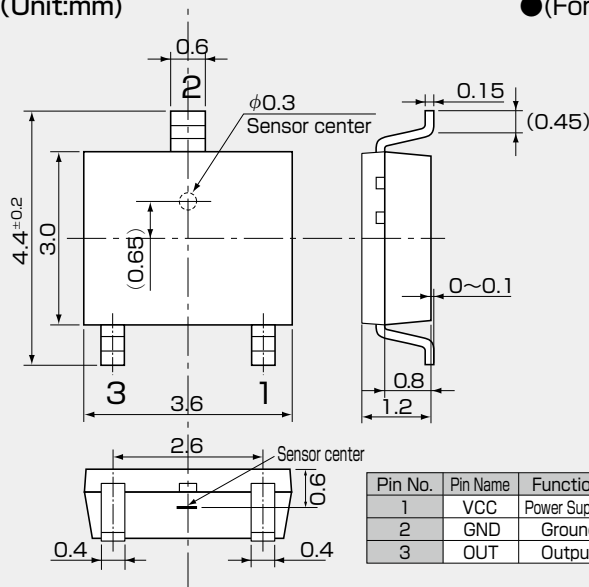
| Item            | Symbol | Conditions | Min. | Typ. | Max. | Unit |
|-----------------|--------|------------|------|------|------|------|
| Operating Point | Bop    |            | 1    | 4.2  | 7.5  | mT   |
| Releasing Point | Brp    |            | -7.5 | -4.2 | -1   | mT   |
| Hysteresis      | Bh     |            | 2    | 8.4  | 15   | mT   |

●Magnetic Characteristics ② (Ta=-40~+125°C, Vcc=3.8~24V)

| Item            | Symbol | Conditions | Min. | Typ. | Max. | Unit |
|-----------------|--------|------------|------|------|------|------|
| Operating Point | Bop    |            | 0.5  | 4.2  | 8.5  | mT   |
| Releasing Point | Brp    |            | -8.5 | -4.2 | -0.5 | mT   |
| Hysteresis      | Bh     |            | 1    | 8.4  | 17   | mT   |

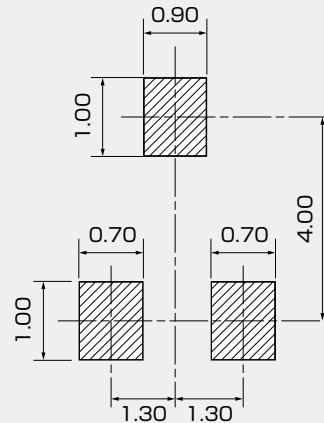
(\*) Please refer to Supply Voltage Derating Curve.

●Package (Unit:mm)

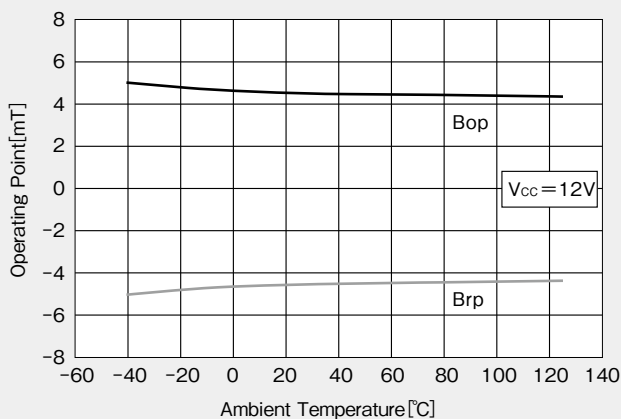


- Note1) The sensor center is located within the  $\phi 0.3$ mm circle.
- Note2) The tolerances of dimensions with no mentions is  $\pm 0.1$ mm.
- Note3) The sensor part is located 0.6mm(typ.) far from marking surface.

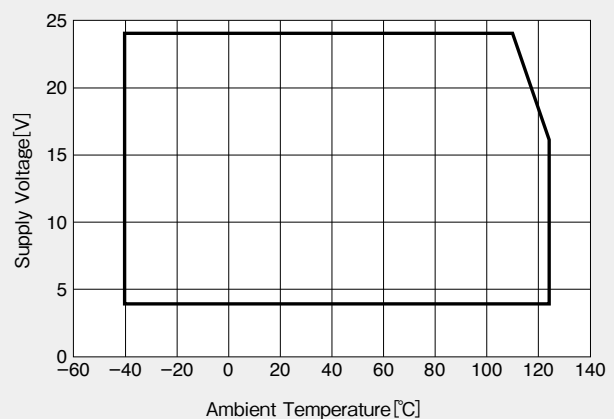
●(For reference only)Land Pattern (Unit:mm)



●Temperature Dependence of Bop, Brp



●Supply Voltage Derating Curve



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