

# EM-1011

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

EM-1011 is ultra-small Hall effect ICs of a single silicon chip composed of Hall element and a signal processing IC.

Bipolar Hall Effect Latch

Supply Voltage 3.5~18V

Hall Element Continuous Excitation

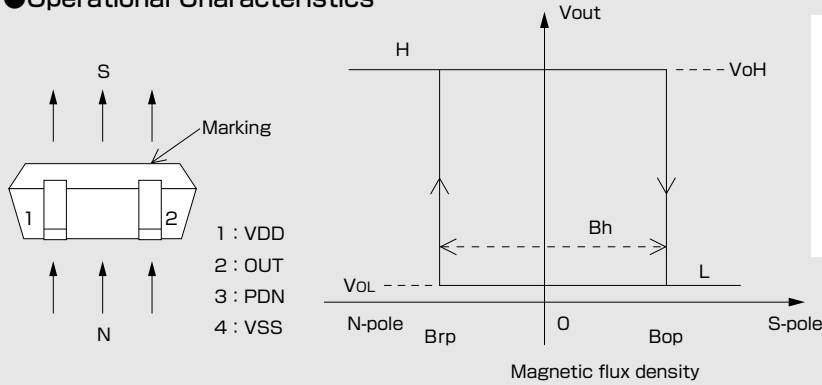
High Sensitivity Bop:3mT

Output Open Drain

SMT

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

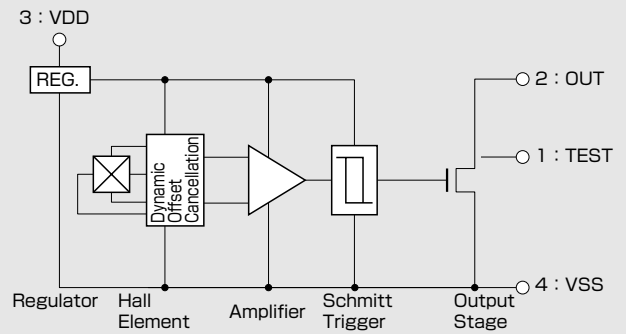
## ●Operational Characteristics



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

Item	Symbol	Limit	Unit
Supply Voltage	VDD	-0.3 ~ 25	V
Output Current	I <sub>sink</sub>	12	mA
Output Supply Voltage	V <sub>out</sub>	-0.3 ~ 25	V
Operating Temperature Range	Topr	-30 ~ 115	°C
Storage Temperature Range	Tstg	-40 ~ 125	°C

## ●Functional Block Diagram



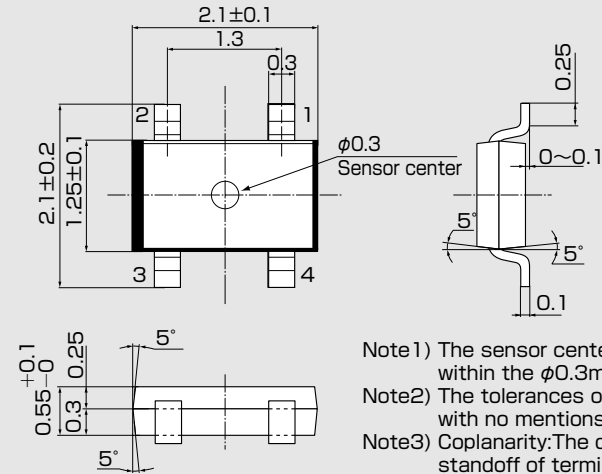
## ●Magnetic and Electrical Characteristics (Ta=25°C VDD=12V)

Item	Symbol	Conditions	Min.	Typ.	Max.	Unit
Supply Voltage	VDD		3.5		18	V
Operating Point	B <sub>OP</sub>		0.5	3	6	mT
Release Point	B <sub>rp</sub>		-6	-3	-0.5	mT
Hysteresis	B <sub>h</sub>		1	6	12	mT
Output Saturation Voltage	V <sub>sat</sub>	OUT="L" I <sub>sink</sub> =10mA		0.2	0.4	V
Output Leakage Current	I <sub>leak</sub>	OUT="H"			1	μA
Supply Current	I <sub>DD</sub>	OUT="H"	0.5	3	6	mA

1 [mT] = 10 [Gauss]

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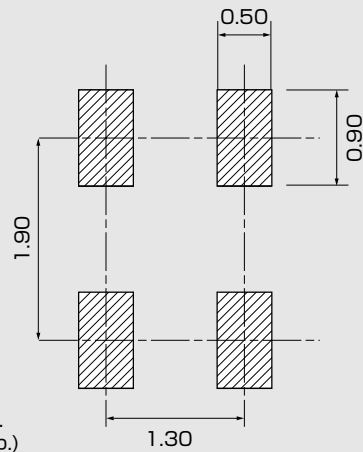
●Package (Unit:mm)



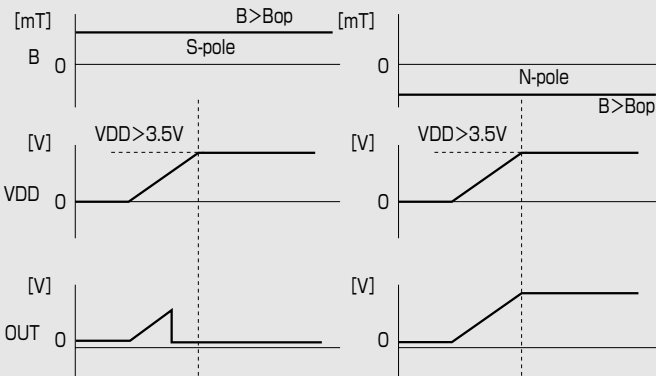
Pin No.	Pin Name	Function	Comment
1	TEST	TEST	N.C
2	OUT	Output Voltage	
3	VDD	Supply Voltage	
4	VSS	GND	

- Note 1) The sensor center is located within the  $\phi 0.3$ mm circle.
- Note 2) The tolerances of dimensions with no mentions is  $\pm 0.1$ mm.
- Note 3) Coplanarity: The differences between standoff of terminals are max. 0.1 mm.
- Note 4) The sensor part is located 0.4mm (typ.) far from marking surface.

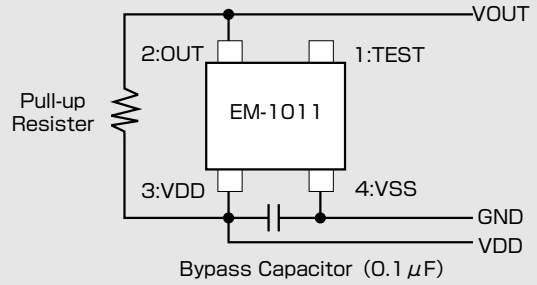
●(For reference only) Land Pattern (Unit:mm)



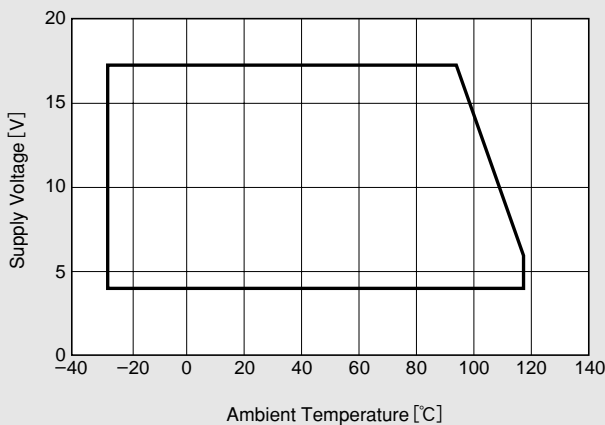
●Output during start-up period



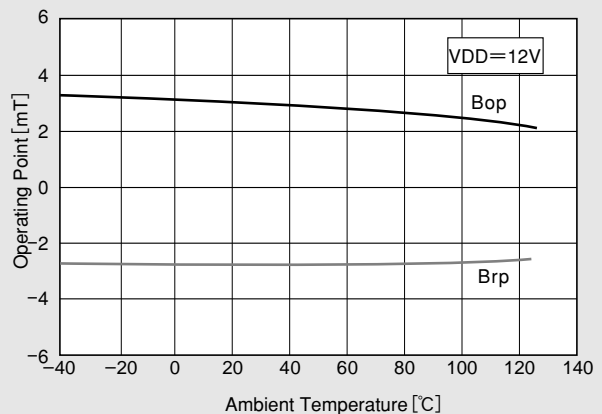
●Application Circuit



●Supply Voltage



●Temperature Dependence of Bop, Brp



## IMPORTANT NOTICE

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April 4, 2012