

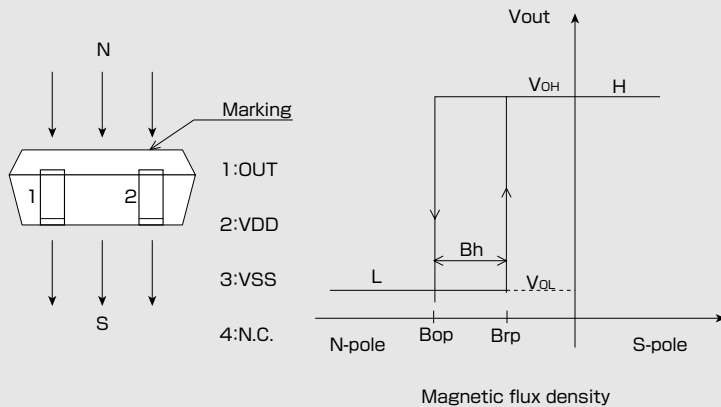
EM-1661

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

EM-1661 is ultra-small Hall effect ICs of a single silicon chip composed of Hall element and a signal processing IC.

Unipolar Hall Effect Switch	Supply Voltage 2.4~3.3V	Hall Element Pulse Excitation	High Sensitivity Bop:3mT	Output CMOS	SMT
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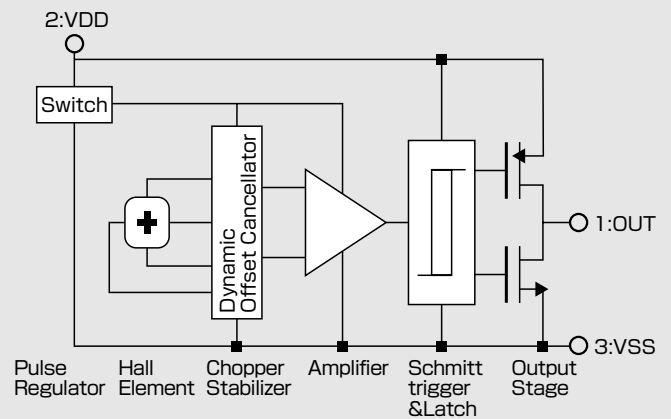
Operational Characteristics



Absolute Maximum Ratings (Ta=25°C)

Item	Symbol	Limit	Unit
Supply Voltage	VDD	-0.1 ~ 5.0	V
Output Current	I _{out}	±1	mA
Operating Temperature Range	Topr	-30 ~ 85	°C
Storage Temperature Range	Tstg	-40 ~ 125	°C

Functional Block Diagram



Magnetic ① and Electrical Characteristics (Ta=25°C VDD=3V)

Item	Symbol	Conditions	Min.	Typ.	Max.	Unit
Supply Voltage	VDD		2.4	3.0	3.3	V
Operating Point	B _{op}		-4.0	-3.0	-2.0*	mT
Release Point	B _{rp}		-3.2*	-2.2	-1.2	mT
Hysteresis	B _h		0.3*	0.8	1.5*	mT
Period	T _p			50	70	ms
Output High Voltage	V _{OH}	I _o =-1.0mA	VDD - 0.4			V
Output Low Voltage	V _{OL}	I _o =+1.0mA			0.4	V
Supply Current	IDD	Average		5	7	μA

1 [mT]=10 [Gauss]

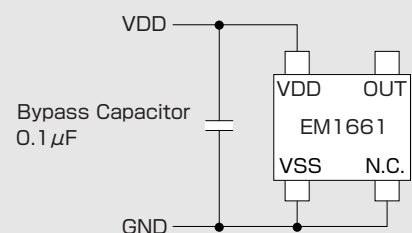
The characteristics with [*] marks are design targets.

Magnetic Characteristics ② (Ta=-30°C~85°C VDD=3V)

Item	Symbol	Conditions	Min.	Typ.	Max.	Unit
Operating Point	B _{op}		-4.2	-3.0	-1.8	mT
Release Point	B _{rp}		-3.4	-2.2	-1.0	mT
Hysteresis	B _h		0.3	0.8	1.5	mT

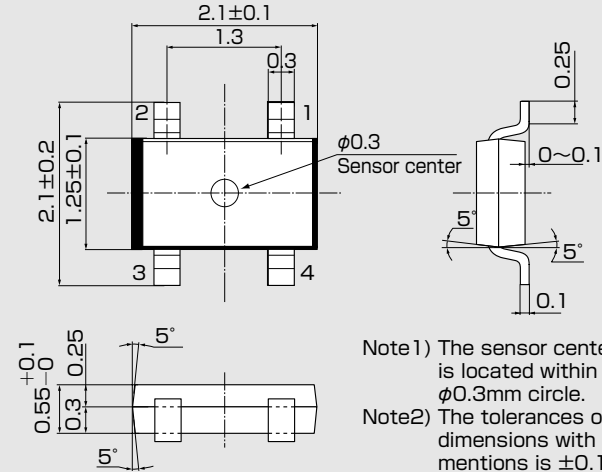
Note) The above specifications are design targets.

Application Circuit



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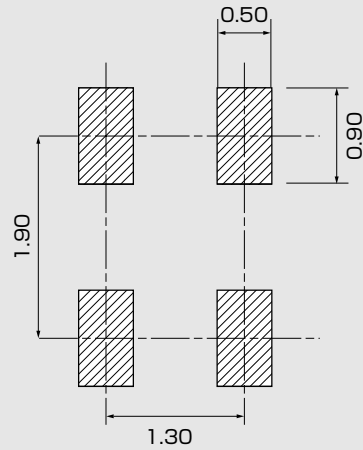
●Package (Unit:mm)



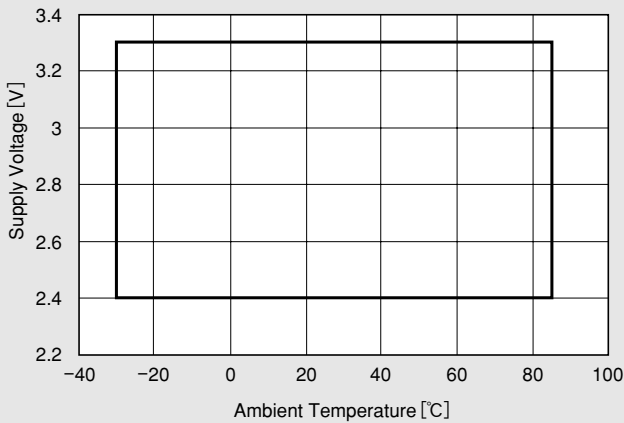
- Note1) The sensor center is located within the $\phi 0.3\text{mm}$ circle.
- Note2) The tolerances of dimensions with no mentions is $\pm 0.1\text{mm}$.
- Note3) Coplanarity: The differences between standoff of terminals are max. 0.1mm .

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

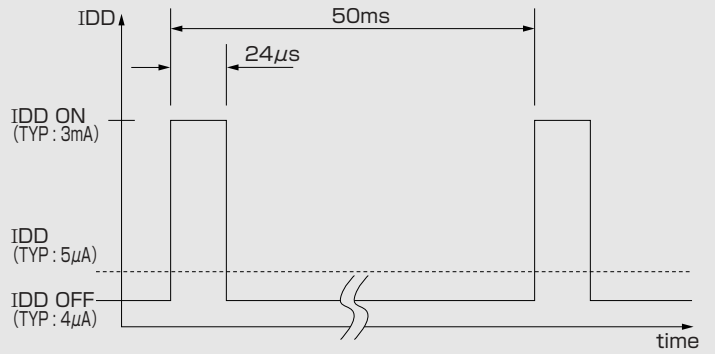
●(For reference only)Land Pattern (Unit:mm)



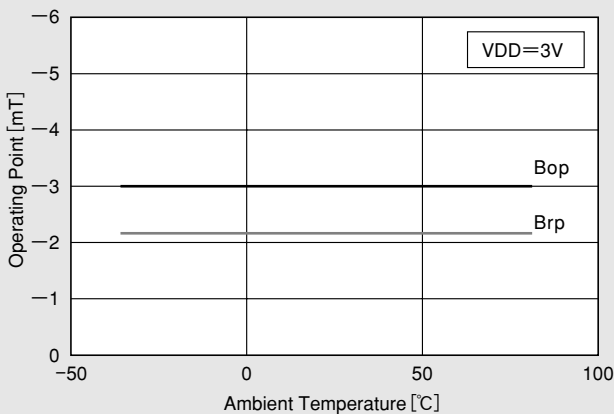
●Supply Voltage



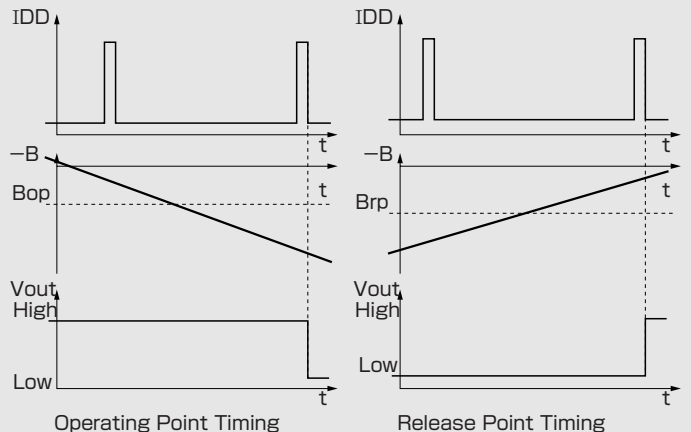
●IDD Pulse Driving (VDD=3V)



●Temperature Dependence of Bop, Brp



●Function Timing Chart



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June 2, 2010