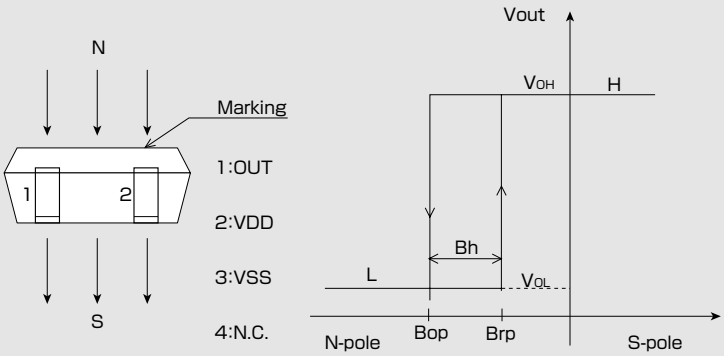
EM-1661

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

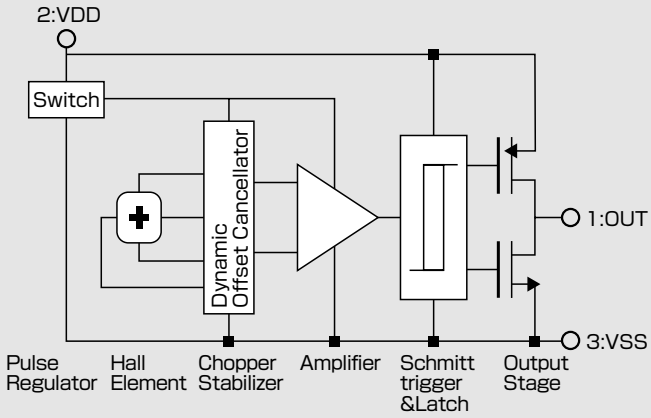
●Operational Characteristics



●Absolute Maximum Ratings (Ta=25℃)

Item	Symbol	Limit	Unit
Supply Voltage	VDD	−0.1 ~ 5.0	V
Output Current	I_{out}	±1	mA
Operating Temperature Range	Topr	−30 ~ 85	℃
Storage Temperature Range	Tstg	−40 ~ 125	℃

●Functional Block Diagram



●Magnetic ① and Electrical Characteristics (Ta=25℃ 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	VOH	Io=−1.0mA	VDD −0.4			V
Output Low Voltage	VOL	Io=+1.0mA			0.4	V
Supply Current	IDD	Average		5	7	μA

1 [mT] =10 [Gauss]

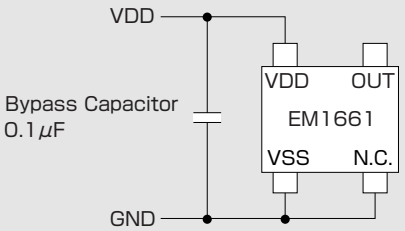
The characteristics with 「*」 marks are design targets.

●Magnetic Characteristics ② (Ta=−30℃~85℃ 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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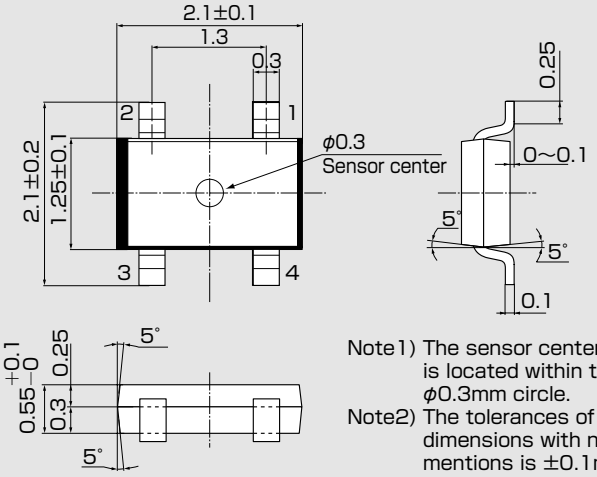
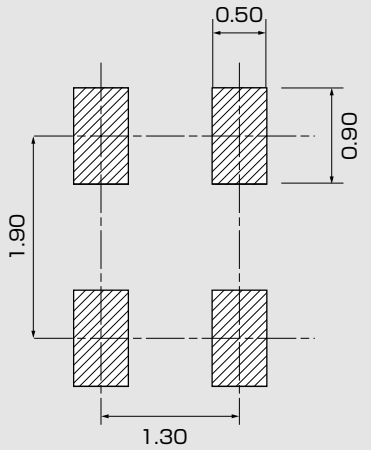
●Package (Unit:mm)



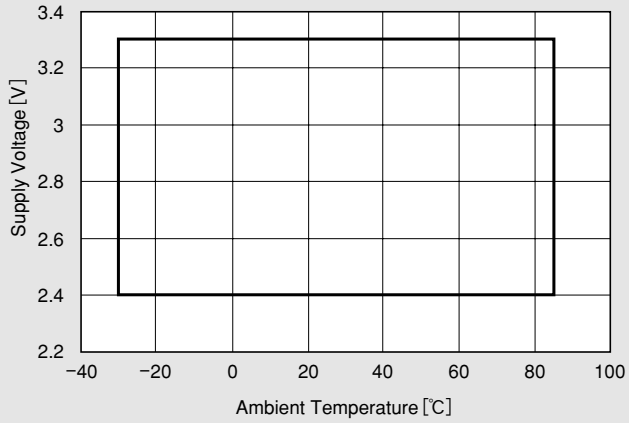
Note1) The sensor center is located within the φ0.3mm circle.
Note2) The tolerances of dimensions with no mentions is ±0.1mm.
Note3) Coplanarity:The differnces between standoff of terminals are max. 0.1mm.

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

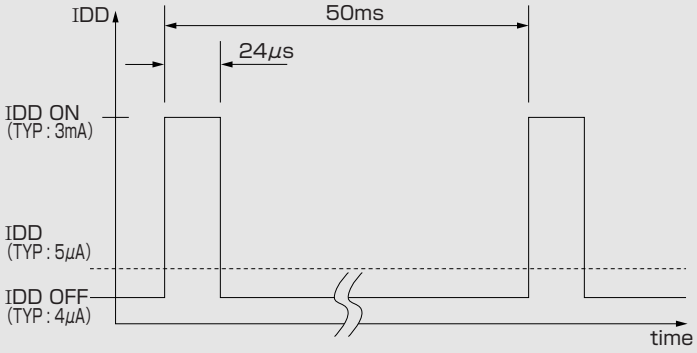
●(For reference only)Land Pattern (Unit:mm)



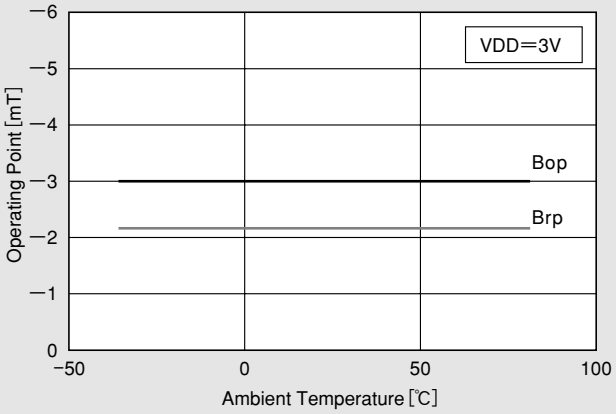
●Supply Voltage



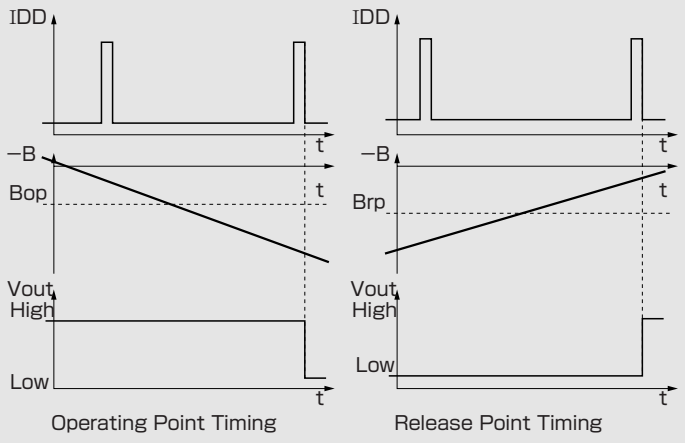
●IDD Pulse Driving (VDD=3V)



●Temparature Dependence of Bop. Brp



●Function Timing Chart



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June 2, 2010