

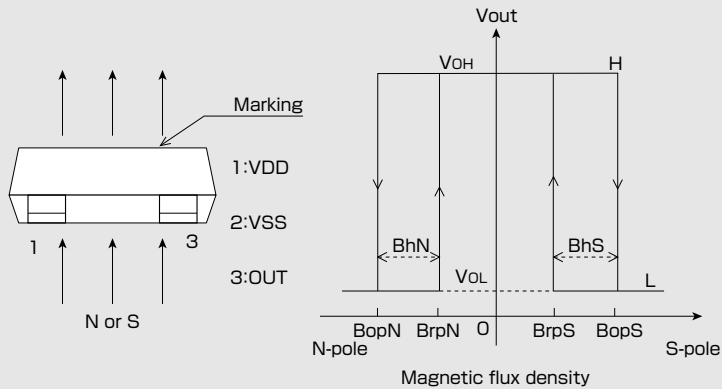
EM-6781

Shipped in packet-tape reel(3000pcs/Reel)

EM-6781 is ultra-small Hall effect ICs of a single silicon chip composed of Hall element and a signal processing IC.

Omnipolar Hall Effect Switch	Supply Voltage 1.6~5.5V	Hall Element Pulse Excitation	High Sensitivity Bop:3mT	Output CMOS	SMT
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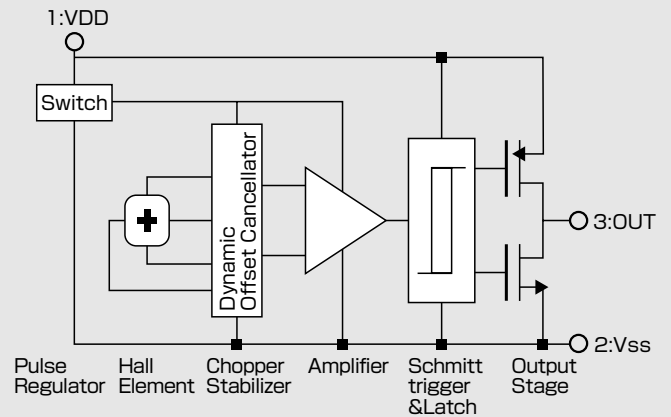
Operational Characteristics



Absolute Maximum Ratings (Ta=25°C)

Item	Symbol	Limit	Unit
Supply Voltage	VDD	-0.1 ~ 6.0	V
Output Current	I _{out}	±0.5	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=1.85V)

Item	Symbol	Conditions	Min.	Typ.	Max.	Unit
Supply Voltage	VDD		1.6		5.5	V
Operating Point	B _{OpS} B _{OpN}		1.4*	3.0	4.0	mT
Release Point	B _{rpS} B _{rpN}		1.1	2.2	3.7*	mT
Hysteresis	B _{hS} B _{hN}		0.3*	0.8	1.5*	mT
Period	T _p			50	100	ms
Output High Voltage	V _{OH}	I _o =-0.5mA	VDD-0.4			V
Output Low Voltage	V _{OL}	I _o =+0.5mA			0.4	V
Supply Current	I _{DD}	Average		6.5	9	μA

1 [mT]=10 [Gauss]

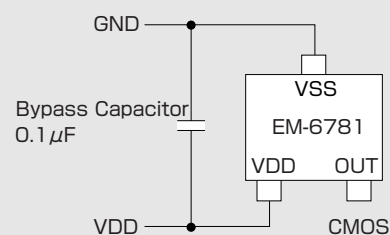
The characteristics with [*] marks are design targets.

Magnetic Characteristics ② (Ta=-30°C~85°C VDD=1.85V)

Item	Symbol	Conditions	Min.	Typ.	Max.	Unit
Operating Point	B _{OpS} B _{OpN}		1.2	3.0	4.4	mT
Release Point	B _{rpS} B _{rpN}		0.9	2.2	4.1	mT
Hysteresis	B _{hS} B _{hN}		0.1	0.8	1.7	mT

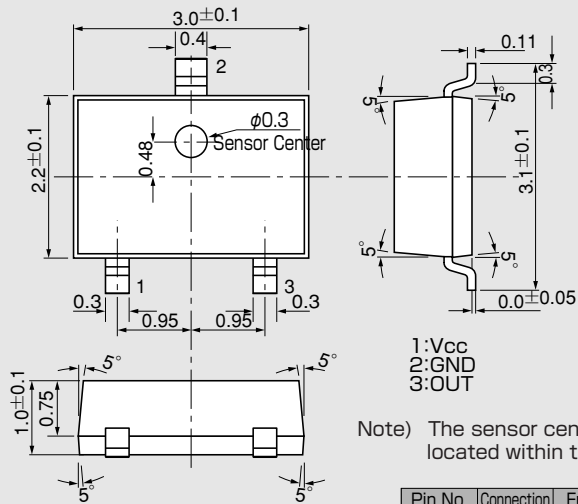
Note) The above specifications are design targets.

Application Circuit



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●Package (Unit:mm)

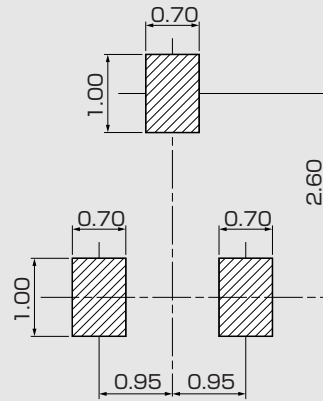


1:Vcc
2:GND
3:OUT

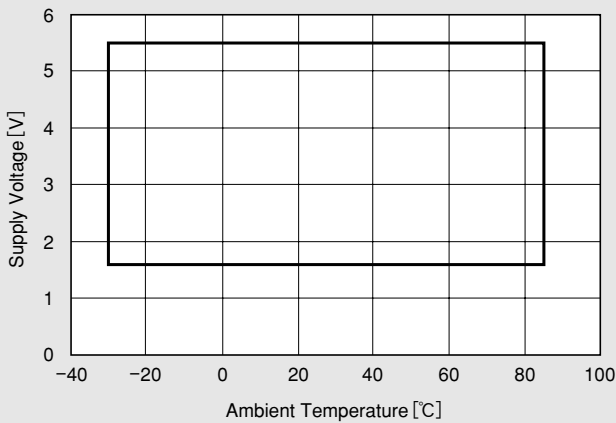
Note) The sensor center is located within the $\phi 0.3$ mm circle.

Pin No.	Connection	Function
1	VDD	Supply Voltage
2	VSS	GND
3	OUT	Output Voltage

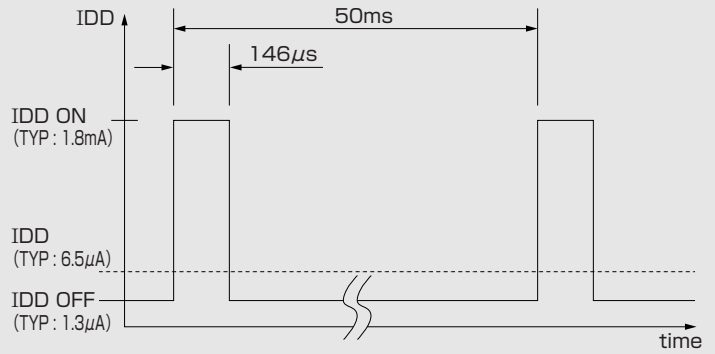
●(For reference only)Land Pattern (Unit:mm)



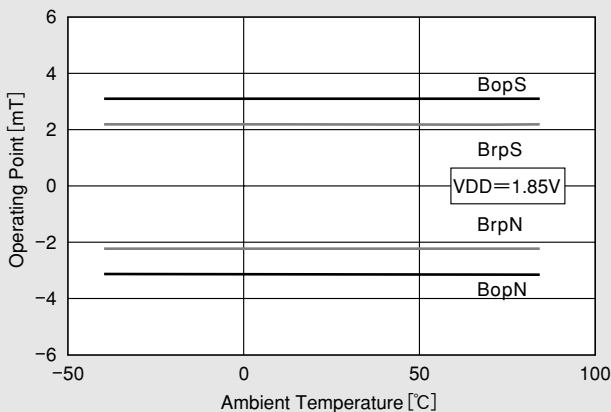
●Supply Voltage



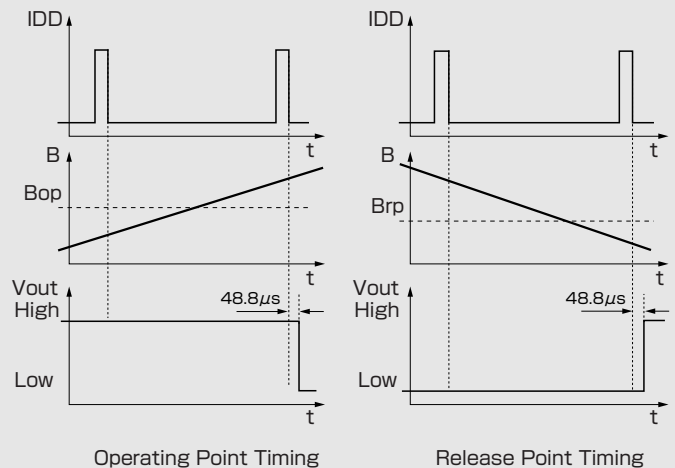
●IDD Pulse Driving (VDD=1.85V)



●Temperature Dependence of Bop, Brp



●Function Timing Chart



This Hall IC's output is held as internal data just before the internal circuit turns OFF (IDD OFF). And after 48.8 μ s, the output changes.
Note) 48.8 μ s in figures is typical value

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April 4, 2012