EM-6781

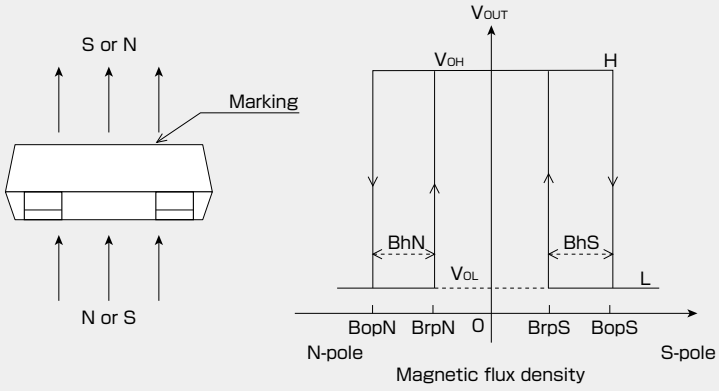
Shipped in packet-tape reel(3000pcs/Reel)

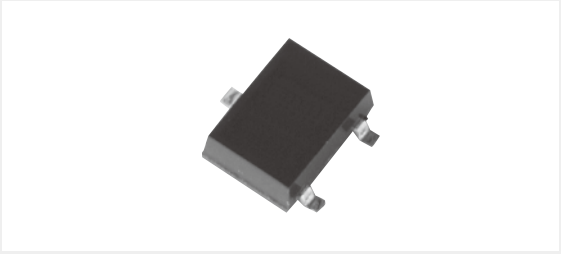
EM-6781 is ultra-small Hall effect ICs of a single silicon chip composed of Hall element and a signal processing IC.

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

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

●Operational Characteristics





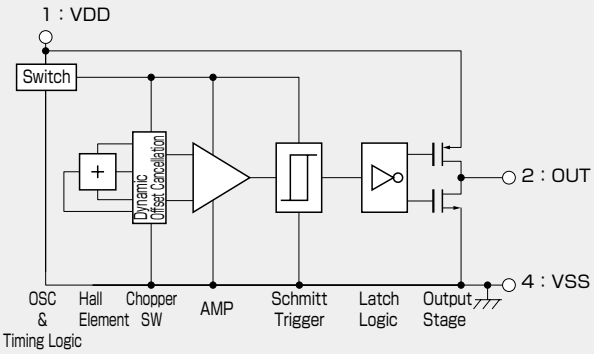
●Absolute Maximum Ratings (Ta=25℃)

Item	Symbol	Min.	Max.	Unit
Supply Voltage	V_{DD}	−0.1	6.0	V
Output Current	I_{OUT}	−0.5	+0.5	mA
Storage Temperature Range	T_{STG}	−40	+125	℃

●Recommended Operating Conditions

Item	Symbol	Min.	Typ.	Max.	Unit
Supply Voltage	V_{DD}	1.6	1.85	5.5	V
Operating Temperature Range	Topr	−30	+25	+85	℃

●Functional Block Diagram



●Magnetic ① and Electrical Characteristics (Ta=25℃ V_{DD}=1.85V)

Item	Symbol	Conditions	Min.	Typ.	Max.	Unit
Operating Point	BopS |BopN|		1.4*	3.0	4.0	mT
Releasing Point	BrpS |BrpN|		1.1	2.2	3.7*	mT
Hysteresis	BhS |BhN|		0.3*	0.8	1.5*	mT
Period	Tp			50	100	ms
Output High Voltage	V_{OH}	Io=−0.5mA	V_{DD} −0.4			V
Output Low Voltage	V_{OL}	Io=+0.5mA			0.4	V
Supply Current	I_{DD}	Average		6.5	9	μA

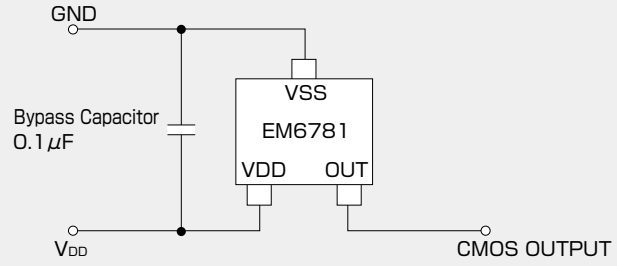
The characteristics with「*」marks are design targets. 1 [mT] =10 [Gauss]

●Magnetic Characteristics ② (Ta=−30～+85℃ V_{DD}=1.85V)

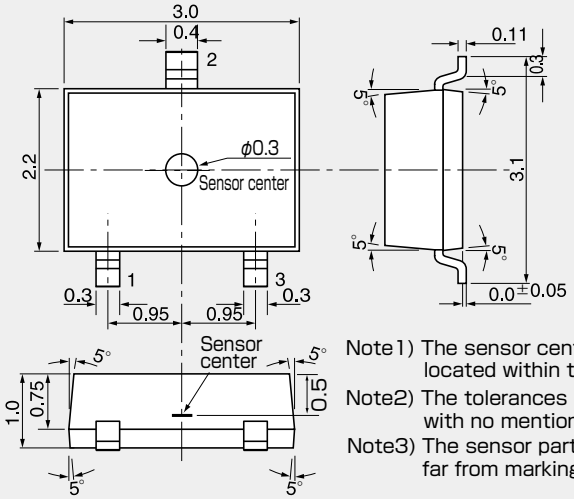
Item	Symbol	Conditions	Min.	Typ.	Max.	Unit
Operating Point	BopS |BopN|		1.2	3.0	4.4	mT
Releasing Point	BrpS |BrpN|		0.9	2.2	4.1	mT
Hysteresis	BhS |BhN|		0.1	0.8	1.7	mT

Note) The above specifications are design targets.

●Application Circuit



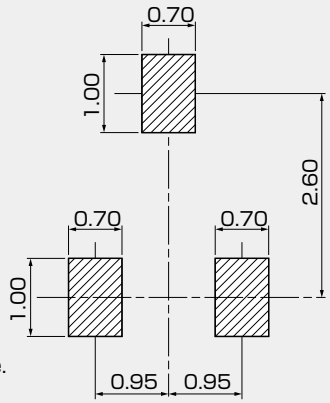
●Package (Unit:mm)



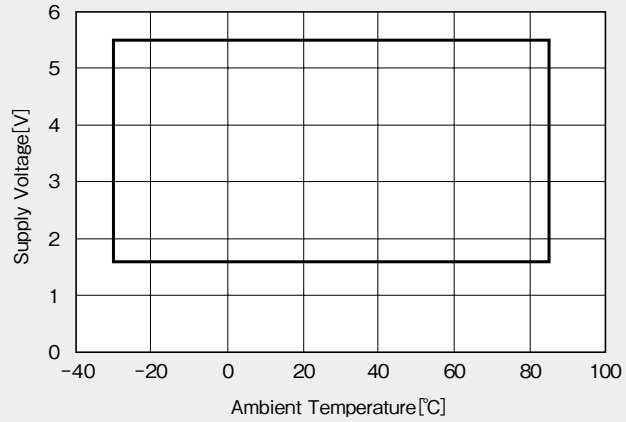
Note1) The sensor center is located within the φ0.3mm circle.
Note2) The tolerances of dimensions with no mentions is ±0.1mm.
Note3) The sensor part is located 0.5mm(typ.) far from marking surface.

Pin No.	Pin Name	Function
1	VDD	Power Supply
2	VSS	Ground
3	OUT	Output

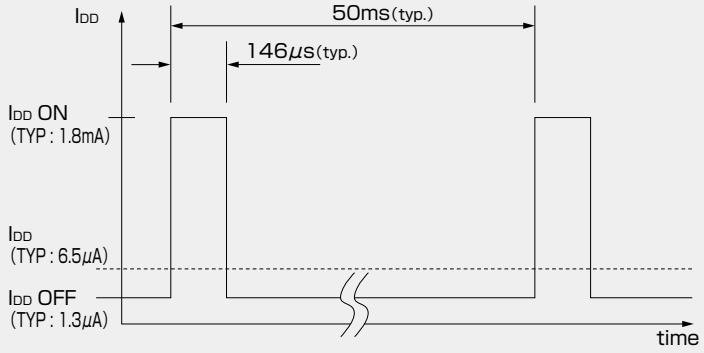
●(For reference only)Land Pattern (Unit:mm)



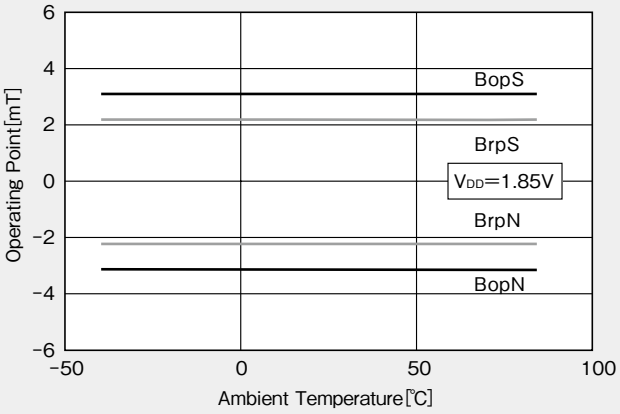
●Supply Voltage



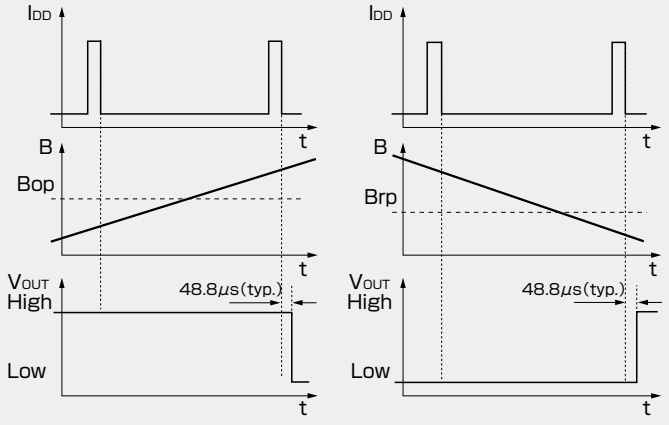
●IDD Pulse Driving (V_{DD}=1.85V)



●Temperature Dependence of Bop. Brp



●Function Timing Chart



Operating Point Timing　　Releasing Point Timing

This Hall effect IC's output is held as internal data just before the internal circuit turns OFF (I_{DD} OFF). And after 48.8 μs, the output changes.

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