EM-1771

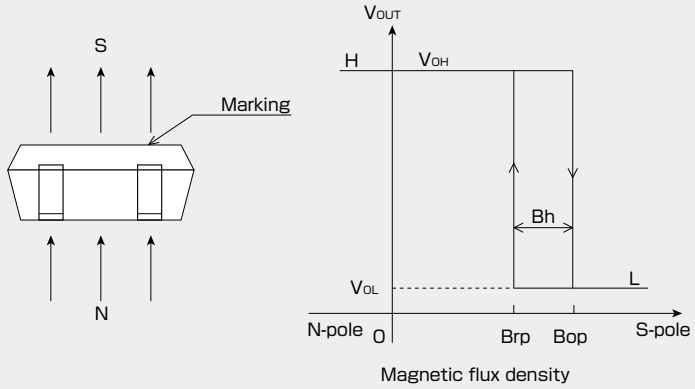
Shipped in packet-tape reel(5000pcs/Reel)

EM-1771 is ultra-small Hall effect ICs of a single silicon chip composed of Hall element and a signal processing IC.

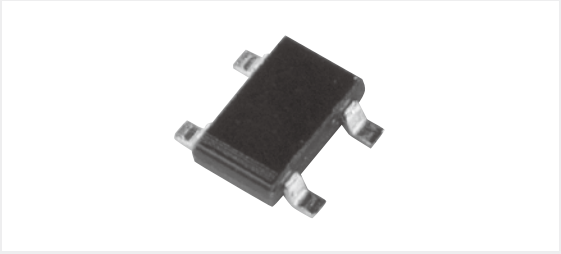
Unipolar Hall Effect Switch	Supply Voltage 1.6～5.5V	Hall Element Pulse Excitation	High Sensitivity Bop:3mT	Output CMOS	SMT

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

●Operational Characteristics



Magnetic flux density



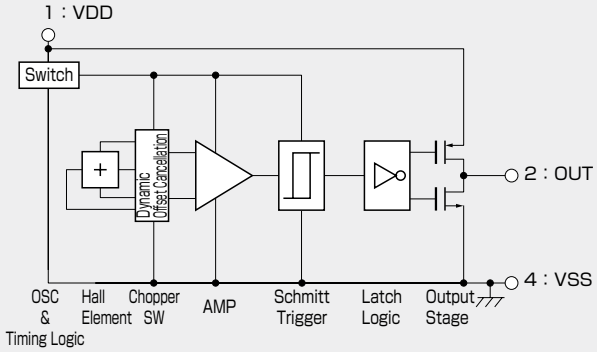
●Absolute Maximum Ratings (Ta=25℃)

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	Bop		1.4*	3.0	4.0	mT
Releasing Point	Brp		1.1	2.2	3.7*	mT
Hysteresis	Bh		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		4	9	μA

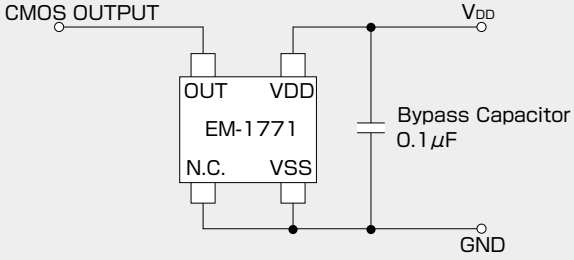
The characteristics with「*」marks are design targets. 1 [mT] =10 [Gauss]

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

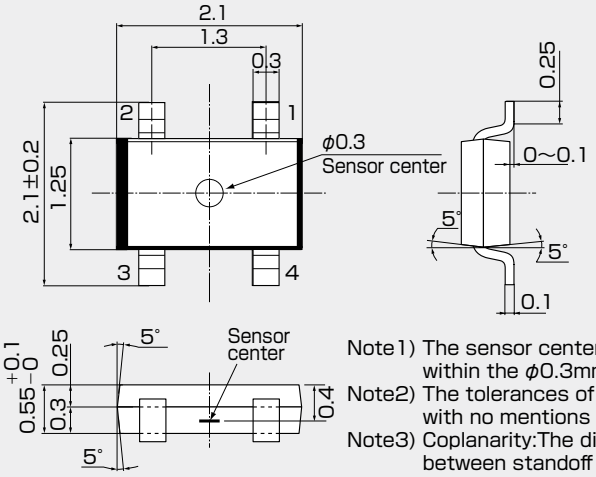
Item	Symbol	Conditions	Min.	Typ.	Max.	Unit
Operating Point	Bop		1.2	3.0	4.4	mT
Releasing Point	Brp		0.9	2.2	4.1	mT
Hysteresis	Bh		0.1	0.8	1.7	mT

Note) The above specifications are design targets.

●Application Circuit



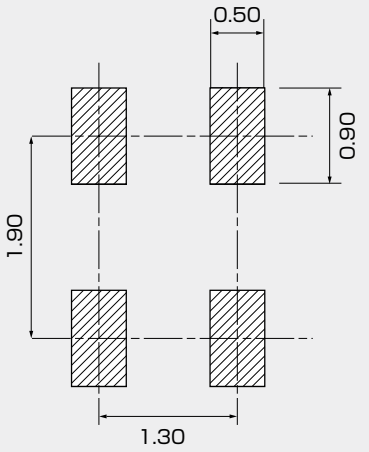
●Package (Unit:mm)



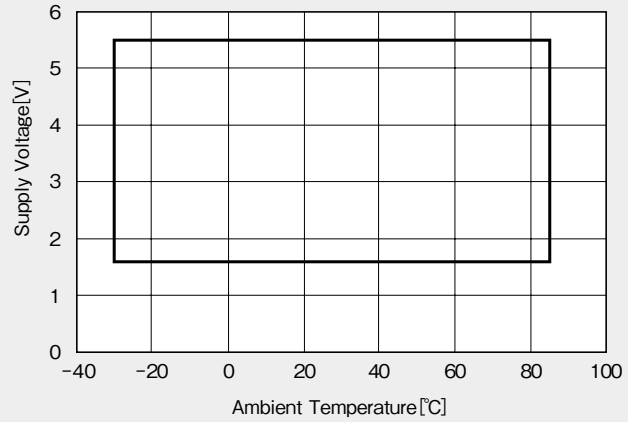
Pin No.	Pin Name	Function	Note
1	VDD	Power Supply	
2	OUT	Output	
3	N.C.	–	Short to Ground
4	VSS	Ground	

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 differences between standoff of terminals are max.0.1mm.
Note4) The sensor part is located 0.4mm(typ.) far from marking surface.

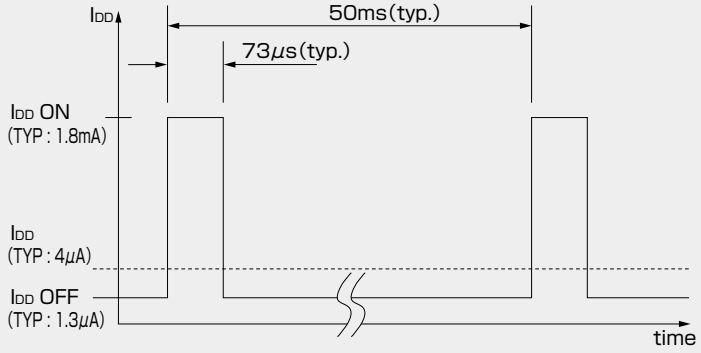
●(For reference only)Land Pattern(Unit:mm)



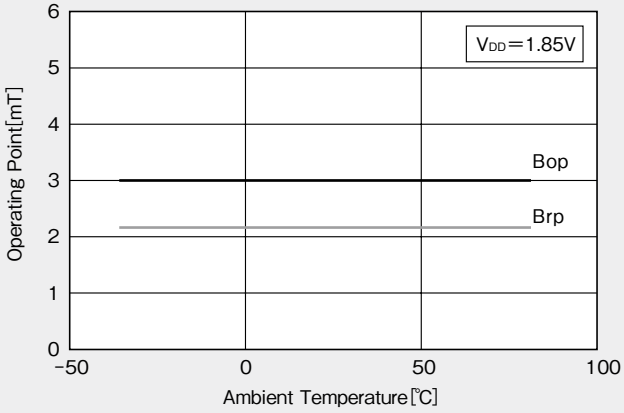
●Supply Voltage



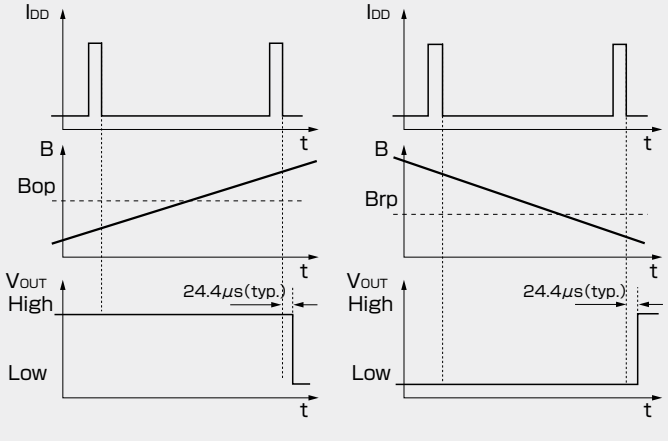
●IDD Pulse Driving (V_{DD}=1.85V)



●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 24.4 μs, the output changes.

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