

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

EM-0711 is ultra-small Hall effect ICs of a single silicon chip composed of Hall element and a signal processing IC.

Bipolar Hall Effect Latch Supply Voltage 1.6~5.5V

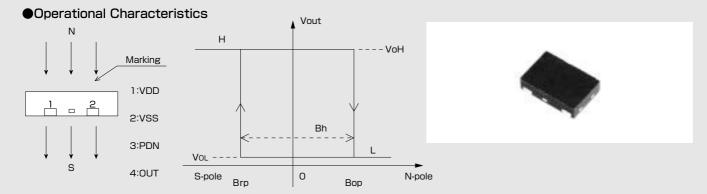
Power down **Function**

Ultra High Sensitivity Bop:1.8mT

Output **CMOS**

SON

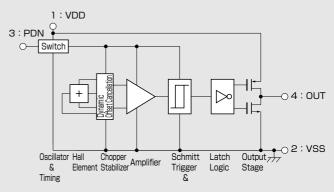
Notice: It is requested to read and accept "IMPORTANT NOTICE" written on the back of the front cover of this catalogue



Magnetic flux density ●Absolute Maximum Ratings (Ta=25°C)

Item	Symbol	Limit	Unit	
Supply Voltage	VDD	−0.1 ~ 6.0	V	
PDN input voltage	V _{in}	−0.1 ~ VDD+0.1	V	
PDN input current	I _{in}	±10	mA	
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=3.0V)

Item	Symbol	Conditions	Min.	Тур.	Max.	Unit
Supply Voltage	VDD		1.6		5.5	V
Operating Point	B _{OP}			1.8	4.0	mT
Release Point	B _{rp}		-4.0	-1.8		mT
Hysteresis	Bh			3.6		mT
PDN input High voltage	۷IH		0.7VDD			V
PDN input Low voltage	VIL				0.3	V
Output High Voltage	V _{OH}	Io=-0.5mA	VDD -0.4			V
Output Low Voltage	V _{OL}	Io=+0.5mA			0.4	V
Supply Current1*2	IDD1	PDN=L			1	μΑ
Supply Current2*2	IDD2	PDN=H,Average		2.5	6	mA
PDN input Current	Iin		-1		1	μΑ
PDN mode transition time1	T _{PD} 1	Active→PDN			100	μsec
PDN mode transition time2	T _{PD} 2	PDN→Active			100	μsec

■Magnetic Characteristics ② (Ta=-30~+85°C VDD=3.0V)

Item	Symbol	Conditions	Min.	Тур.	Max.	Unit
Operating Point	B _{OP}			1.8	4.2	mT
Release Point	B _{rp}		-4.2	-1.8		mT
Hysteresis	Bh			3.6		mT

Note) The above specifications are design targets.

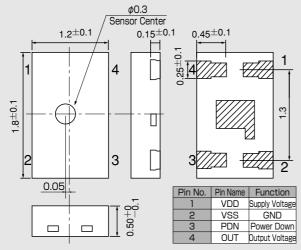
^{1 [}mT] =10 [Gauss]
*1: Positive("+") polarity flux is defined as the magnetic flux from south pole which is direct toward to the branded face of the sensor (Bop,Brp) *2: In case of PDN pin is held at VDD or VSS.

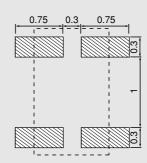
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●Package (Unit:mm)

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





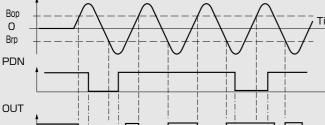
%Note1) The sensor center is located within the ϕ 0.3mm circle. Note2) The tolerances of dimensions with no mentions is \pm 0.1mm. Note3) Coplanarity:The differences between standoff of terminals are max.50 μ m.

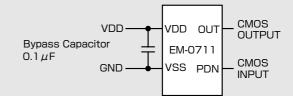
Note5) The center shadow area of the bottom of HIC does not need to be soldered.

This area shares the lead frame with VSS inside the package and please be careful not to short this area to pins except No.2.

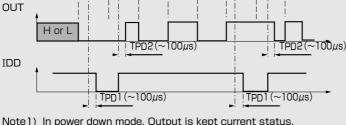
Note4) Shaded area is plating area

Function Timing Chart





Application Circuit

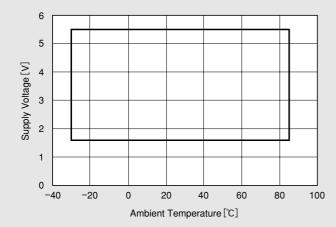


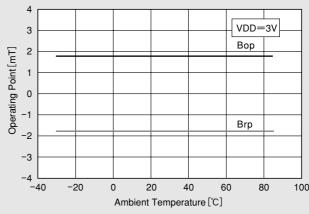
Note1) In power down mode, Output is kept current status.

Note2) When VDD is supplied output settling time after power supply voltage exceeds 1.6V is equal to TPD2.

Supply Voltage

●Temparature Dependence of Bop. Brp





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