HS-3511-04-0300

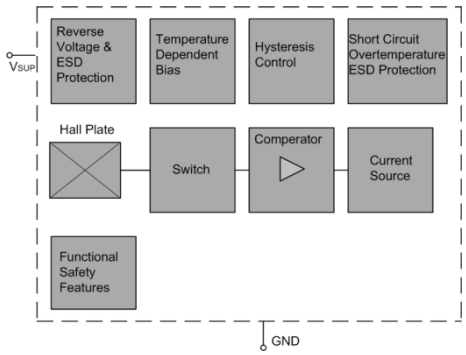
Product image serves as example only.

HS-3511-04-0300

Latching 2 - Wire

Flange Mount Hall Effect Sensor

Block Diagram



Features

› Compact size
› Various switching sensivities
› Customized types available

Approvals

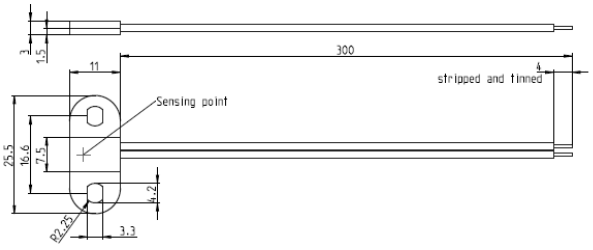
RoHS REACH IP67

Absolute Maximum Ratings

Symbol	Parameter	wire colour	Min.	Max.	Unit	Conditions
V_{SUP}	Supply voltage	red	- 18		V	t < 1000 h [1]
			-	28	V	t < 96 h [1]
			-	32	V	t < 5 min [1]
			-	40	V	t < 5 x 400 ms [1] with series resistor R_V> 100 Ohm
V_{OUT}	Output voltage	red	- 0.5		V	t < 1000 h [1]
			-	28	V	t < 96 h [1]
			-	32	V	t < 5 min [1]
			-	40	V	t < 5 x 400 ms [1] with series resistor R_V > 100 Ohm
I_O	Output current	red	-	65	mA	
I_{OR}	Reverse output current	red	- 50		mA	

[1] No cumulative stress All voltages listed are referenced to ground (GND)

Dimensions



Wire Assignment

Name	Function	Cable colour
VSUP	Supply voltage and output	red
GND	Ground	black

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└── wire length [mm]

Material Information

	Material	Colour
Housing	PA6	black
Cable	UL1007/1569, AWG 24	red, black
Potting compound	Epoxy	black

Environmental Characteristics

Operating temperature	°C	- 20 to + 85

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Characteristics

At recommended operation conditions if not otherwise specified in the column "Conditions".
Typical characteristics for T_J = 25 °C and V_{SUP} = 12 V

Symbol	Parameter	wire colour	Min.	Typ.	Max.	Unit	Conditions
Supply							
I_{SUPlo}	Low supply current	red	5		7	mA	
I_{SUPlo}	High supply current	red	12		17	mA	
I_{SUPhi}	Reverse current	red			1	mA	for V_{SUP} = - 18 V
Output							
t_f	Output fall time[1)]				1	µs	[1)] V_{SUP} = 12 V;
t_f	Output rise time				1	µs	
t_d	Delay time [1)]			16		µs	
t_{samp}	Output refresh period		1.6	2	2.66	µs	
t_{en}	Enable time of output after settling of V_{SUP}			50		µs	V_{SUP} = 12 V B > B_{on} + 2 mT or B < B_{off} - 2 mT
Power-on-self-test							
Self test can be triggered externally; details on request							
[1)] Guaranteed by design							

Recommended Operating Conditions

Symbol	Parameter	wire colour	Min.	Max.	Unit	Conditions
V_{SUP}	Supply voltage	red	3.0	24	V	

Magnetic Characteristics Overview

Symbol	Parameter	wire colour	Min.	Typ.	Max.	Unit	Conditions
B_{ONth}	ON threshold range [1)]	-	- 30		30	mT	
B_{OOth}	OFF threshold range [1)]	-	- 30		30	mT	
B_{th}	Adjustable step size [2)]	-		0.5		mT	
T_C	Temperatur compensation of magnetic thresholds [3)]	-	0		- 3000	ppm/K	

[1)] Available range

[2)] Small steps at small values, bigger steps at higher values. May not be undercut

[3)] Different temperature compensation available on request

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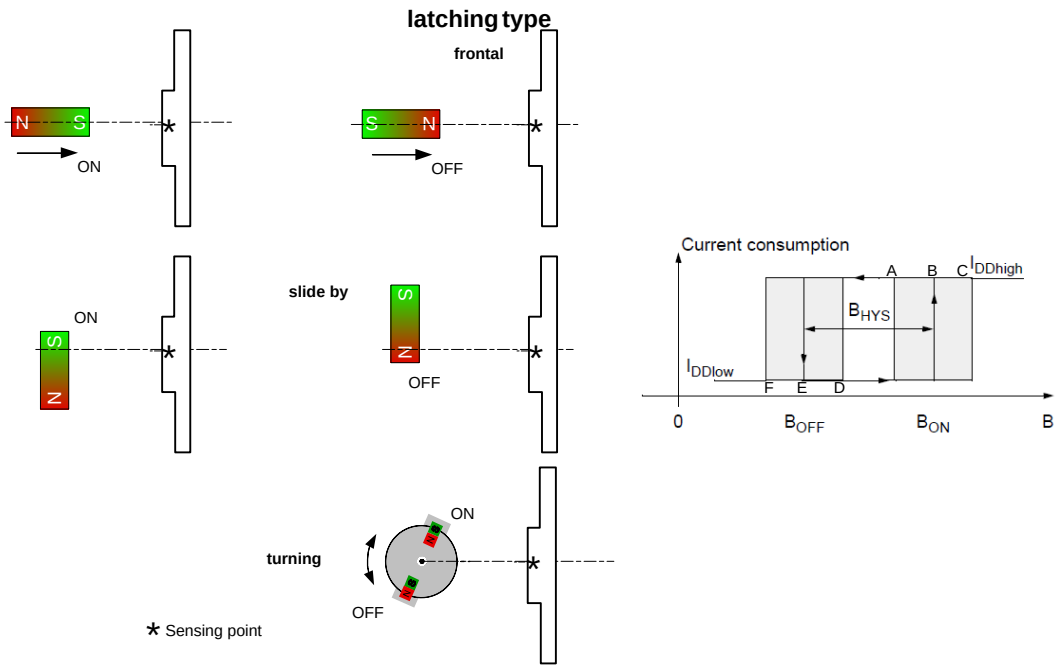
Magnetic Characteristics

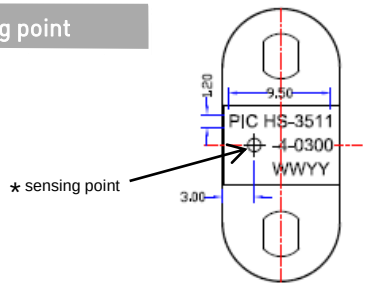
Switching Type	Temp. koeff. of magnetic thresh.	On point B_{ON} [mT]			Off point B_{OFF} [mT]			Hysteresis BHYS [1] [mT]		
	TC [ppm/K]	Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.
latching	0	tbd.	12.0	tbd.	tbd.	- 12.0	tbd.	-	24.0	-
		A	B	C	D	E	F			

[1] The hysteresis is the difference between the switching points $B_{HYS} = B_{ON} - B_{OFF}$

Magnetic Approach (for example)



Off-center position of sensing point



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