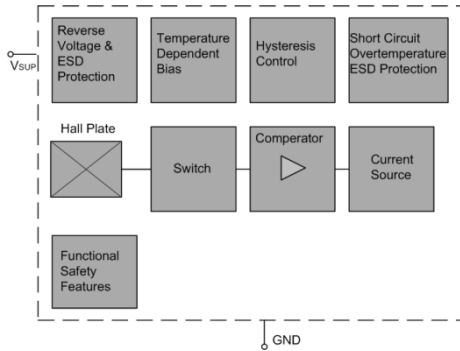


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Product image serves as example only.

Block Diagram



HS-3511-04-0300

Latching 2 - Wire
Flatpack Hall Effect Sensor

Features

- › Compact size
- › Various switching sensitivities
- › Customized types available

Approvals

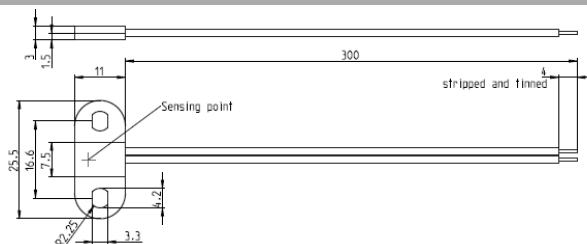


Absolute Maximum Ratings

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
V _{SUP}	Supply voltage and output	red
GND	Ground	black

HS-3511-04-0300

└── wire length [mm]

Environmental Characteristics

Operating temperature	°C	- 20 to + 85
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Material Information

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

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Latching 2 - Wire
Flatpack Hall Effect Sensor

Characteristics

At recommended operation conditions if not otherwise specified in the column "Conditions".

Typical characteristics for $T_J = 25\text{ }^\circ\text{C}$ and $V_{SUP} = 12\text{ V}$

Symbol	Parameter	wire colour	Min.	Typ.	Max.	Unit	Conditions
Supply							
I_{SUPLo}	Low supply current	red	5		7	mA	
I_{SUPHi}	High supply current	red	12		17	mA	
I_{SUPHi}	Reverse current	red			1	mA	for $V_{SUP} = -18\text{ V}$
Output							
t_f	Output fall time ¹⁾				1	μs	¹⁾ $V_{SUP} = 12\text{ V}$;
t_r	Output rise time				1	μs	
t_d	Delay time ¹⁾			16		μs	
t_{samp}	Output refresh period		1.6		2.66	μs	
t_{en}	Enable time of output after settling of V_{SUP}			50		μs	$V_{SUP} = 12\text{ V}$ $B > B_{on} + 2\text{ mT}$ or $B < B_{off} - 2\text{ mT}$

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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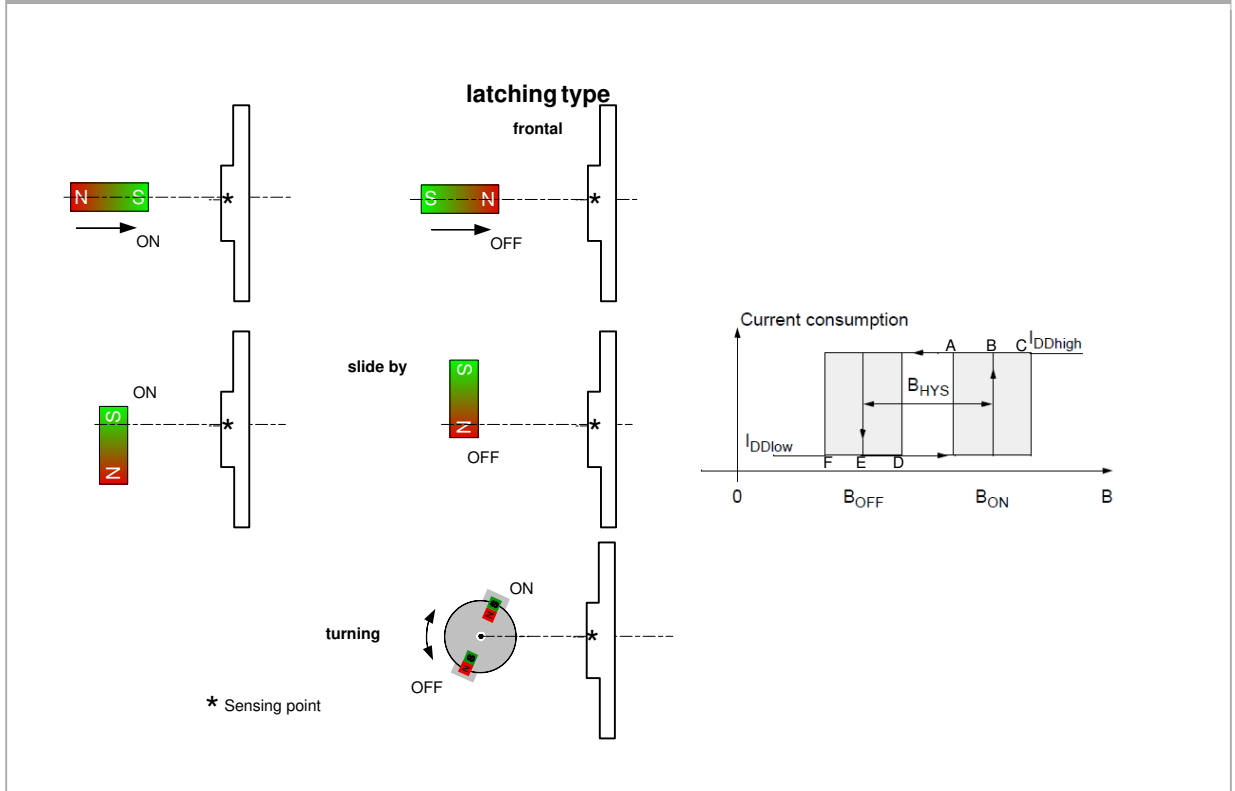
Latching 2 - Wire
Flatpack Hall Effect Sensor

Magnetic Characteristics

Switching Type	Temp. koeff. of magnetic thresh. TC [ppm/K]	On point B _{ON}			Off point B _{OFF}			Hysteresis BHYS ¹⁾		
		[mT]			[mT]			[mT]		
		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

