

HS-3511-02-0300



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Latching 3 - 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_{SUP}	Supply current	red		1.6	2.4	mA	
I_{SUPHi}	Reverse current				1	mA	for $V_{SUP} = -18\text{ V}$
Output							
V_{ol}	Port low output voltage	white		0.13	0.4	V	$I_o = 20\text{ mA}$
					0.5	V	$I_o = 25\text{ mA}$
t_f	Output fall time ¹⁾				1	μs	¹⁾ $V_{SUP} = 12\text{ V}$; $R_L = 820$; $C_L = 20\text{ pF}$
t_r	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	$V_{SUP} = 12\text{ V}$ $B > B_{on} + 2\text{ mT}$ or $B < B_{off} - 2\text{ mT}$

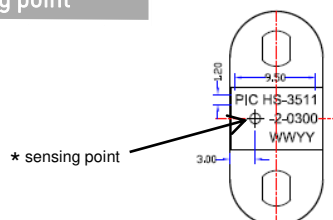
Power-on-self-test

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	2.7	24	V	
V_{OUT}	Output voltage	white		24	V	
I_{OUT}	Output current	white		25	mA	

Off-center position of sensing point



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Magnetic Characteristics Overview

Symbol	Parameter	wire colour	Min.	Typ.	Max.	Unit	Conditions
B_{ONth}	ON threshold range ¹⁾	-	- 30		30	mT	
B_{OFFth}	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

Magnetic Characteristics

Switching Type	Temp. koeff. of magnetic thresh. TC [ppm/K]	On point B_{ON}			Off point B_{OFF}			Hysteresis B_{HYS} ¹⁾		
		[mT]			[mT]			[mT]		
		Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.
latching	- 1000	tbd.	2.5	tbd.	tbd.	- 2.5	tbd.	-	5.0	-
		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)

