

Hall Effect Sensor Flatpack

multicomp **PRO**

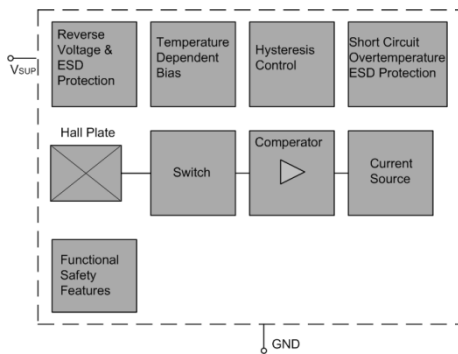
RoHS
Compliant



Features

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

Block Diagram

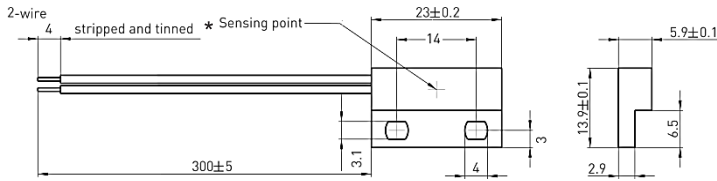


Symbol	Parameter	Wire colour	Min.	Max.	Unit	Conditions
V_{SUP}	Supply voltage	Red	-18		V	$t < 1000 \text{ h}^{1)}$
			--	28		$t < 96 \text{ h}^{1)}$
			--	32		$t < 5 \text{ min}^{1)}$
			--	40		$t < 5 \times 400 \text{ ms}^{1)}$ with series resistor $R_V > 100\Omega$
V_{OUT}	Output voltage		-0.5		V	$t < 1000 \text{ h}^{1)}$
			--	28		$t < 96 \text{ h}^{1)}$
			--	32		$t < 5 \text{ min}^{1)}$
			--	40		$t < 5 \times 400 \text{ ms}^{1)}$ with series resistor $R_V > 100\Omega$
I_O	Output current	--	65	mA		
I_{OR}	Reverse output current	-50				

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

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Dimensions



Wire Assignment		
Name	Function	Cable colour
VSUP	Supply voltage and output	Red
GND	Ground	Black

Environmental Characteristics

Operating temperature - 20°C to + 85°C

Material Information		
	Material	Colour
Housing	ABS	Nickel
Cable	UL1007/1569, AWG 24	Red, Black
Potting compound	Epoxy	Black

Characteristics

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

Typical characteristics for $T_J = 25^\circ\text{C}$ 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	for $V_{SUP} = -18\text{ V}$
I_{SUPlo}	High supply current		12		17		
I_{SUPhi}	Reverse current				1		
Output							
t_f	Output fall time ¹⁾	--			1	μs	¹⁾ $V_{SUP} = 12\text{ V};$ $B > B_{on} + 2\text{ mT}$ or $B < B_{off} - 2\text{ mT}$
t_r	Output rise time				1		
t_d	Delay time ¹⁾			16	--		
t_{smp}	Output refresh period		1.6	2	2.66		
t_{en}	Enable time of output after settling of V_{SUP}			50			

Recommended Operating Conditions

Symbol	Parameter	Wire colour	Min.	Max.	Unit
V_{SUP}	Supply voltage	Red	3	24	V

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Magnetic Characteristics Overview

Symbol	Parameter	Min.	Typ.	Max.	Unit
B _{ONth}	ON threshold range ¹⁾	-30		30	mT
B _{OFFth}	OFF threshold range ¹⁾	-30		30	
B _{th}	Adjustable step size ²⁾		0.5		
T _C	Temperature compensation of magnetic thresholds ³⁾	0		-3000	ppm/K

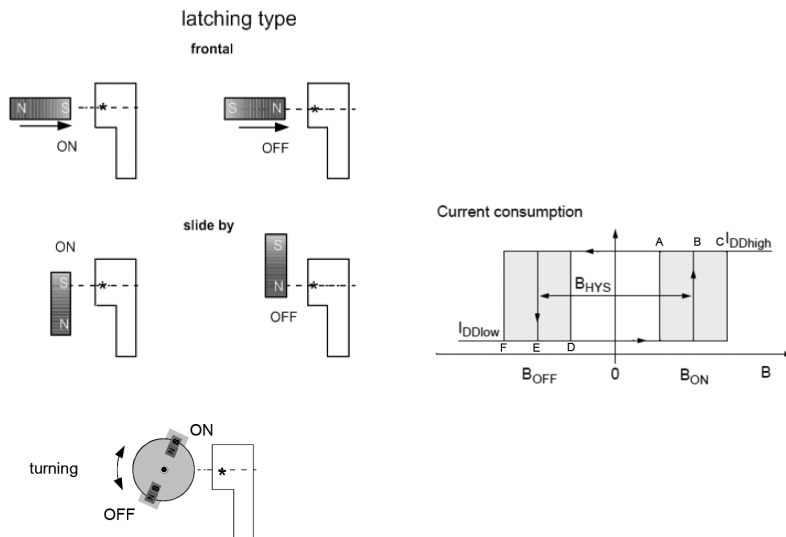
1) Available range
 2) Small steps at small values, bigger steps at higher values. May not be undercut
 3) Different temperature compensation available on request

Magnetic Characteristics

SwitchingType	Temp. coeff. of magnetic thresh. TC [ppm/K]	On point B _{ON} [mT]			Off point B _{OFF} [mT]			Hysteresis B _{HYS} ¹⁾ [mT]		
		Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.
latching	0	tbd.	12	tbd.	tbd.	12	tbd.	-	24	-
		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)



* Sensing point

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Part Number Table

Description	Part Number
2 Wire, Flat Pack Hall Effect Sensor, Latching	MP-HS-324-04-0300

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