Hall Effect Sensor
Flatpack

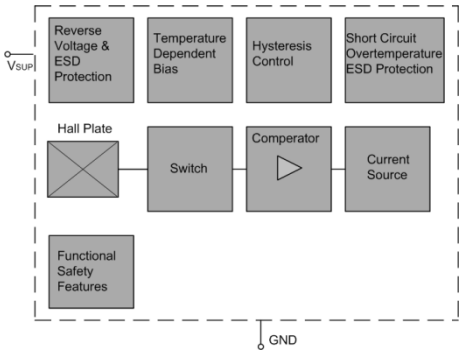
multicomp PRO

RoHS Compliant

Features

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

Block Diagram



Absolute Maximum Ratings

Stresses beyond those listed in the “Absolute Maximum Ratings“ may cause permanent damage to the device Functional operation of the device at these conditions is not implied. Exposure to the absolute rating conditions for extended periods will affect device reliability

Symbol	Parameter	Wire colour	Min.	Max.	Unit	Conditions
V_{SUP}	Supply voltage	Red	-18		V	t < 1000 h [1]
			--	28		t < 96 h [1]
			--	32		t < 5 min [1]
			--	40		t < 5 x 400 ms [1] with series resistor R_V > 100Ω
V_{OUT}	Output voltage		- 0.5			t < 1000 h [1]
			--	28		t < 96 h [1]
			--	32		t < 5 min [1]
			--	40		t < 5 x 400 ms [1] with series resistor R_V > 100Ω
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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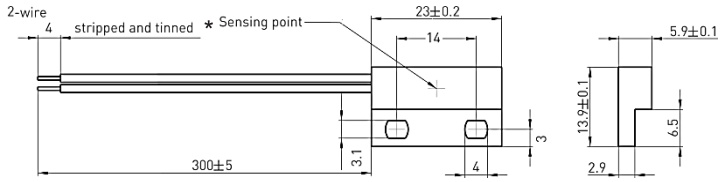
Dimensions



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

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

Environmental Characteristics

Operating temperature - 20°C to + 85°C

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	2		7	mA	
I_{SUPlo}	High supply current		12		17		
I_{SUPhi}	Reverse current				1		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		
t_d	Delay time [1)]			16	--		
t_{samp}	Output refresh period		1.6	2	2.66		
t_{en}	Enable time of output after settling of V_{SUP}			50			V_{SUP} = 12 V B > B_{on} + 2 mT or B < B_{off}-2 mT

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_{OOth}	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

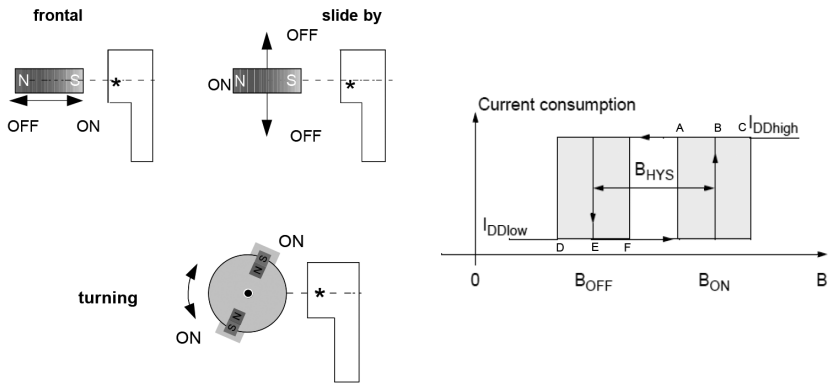
Magnetic Characteristics

SwitchingType	Temp. koeff. of magne tic thresh. TC [ppm/K]	On point B_{ON} [mT]			Off point B_{OFF} [mT]			Hysteresis BHYS[1)] [mT]		
		Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.
latching	0	tbd.	6	tbd.	tbd.	4	tbd.	-	2	-
		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)

unipolar type



* Sensing point

Part Number Table

Description	Part Number
2 Wire, Flat Pack Hall Effect Sensor, Unipolar	MP-HS-324-05-0300