

Electrical Specifications

Absolute Maximum Ratings ($T_A = 25\text{ }^{\circ}\text{C}$ unless otherwise noted)

Supply Voltage, V_{CC}	25 V
Storage Temperature Range, T_S	-65 $^{\circ}\text{C}$ to +150 $^{\circ}\text{C}$
Operating Temperature Range, T_A	-55 $^{\circ}\text{C}$ to +150 $^{\circ}\text{C}$
Lead Soldering Temperature (1/8 in. (3.2 mm) from case for 5 seconds with soldering iron)	260 $^{\circ}\text{C}$ ⁽¹⁾
Output ON Current, I_{SINK}	25 mA
Output OFF Voltage, V_{OUT}	25 V
Magnetic Flux Density, B	Unlimited

Notes:

(1) Heat sink leads during hand soldering.

Electrical Characteristics ($T_A = 25\text{ }^{\circ}\text{C}$ unless otherwise noted)

Part Number	Hi-Reliability Hallogic® Sensor	Operate Point Gauss MIN / TYP / MAX	Release Point Gauss MIN / TYP / MAX	Hysteresis Gauss MIN / TYP / MAX	V _{CC} (VOLTS) MIN / MAX	Package
OMH090B	Uni-Polar Non- Latching	50 / 90 / 180	30 / 65 / 160	10 / 30 / 60	4.5 / 24.0	Through Hole
OMH090S						
OMH3040		70 / 150 / 200	50 / 115 / 180	10 / 35 / 60		
OMH3040B						
OMH3040S						
OMH3075	Bi-Polar Latching	50 / 150 / 250	-250 / -150 / -50	100 / 250 / 500		
OMH3075B						
OMH3075S						

General Note

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Electrical Specifications

Electrical Characteristics ($V_{CC} = 4.5 \text{ V}$ to 24 V , $T_A = 25^\circ \text{C}$ unless otherwise noted)

OMH090B, OMH090S Uni-Polar

SYMBOL	PARAMETER	MIN	TYP	MAX	UNITS	TEST CONDITIONS
B_{OP}	Magnetic Operate Point ⁽¹⁾	50 20	135 -	180 210	Gauss	+25 °C -55 °C & +125 °C
B_{RP}	Magnetic Release Point	30 25	100 -	160 160	Gauss	+25 °C -55 °C & +125 °C
B_H	Magnetic Hysteresis	10 5	30 -	60 95	Gauss	+25 °C -55 °C & +125 °C
I_{CC}	Supply Current	- -	- 6	10 9	mA	-55 °C, $V_{CC} = 24 \text{ V}$, Output Off, $B < 250 \text{ Gauss}$ +25 °C & +125 °C
V_{OL}	Output Saturation Voltage	-	100	400	mV	$V_{CC} = 4.5 \text{ V}$, $I_{OL} = 20 \text{ mA}$, $B \geq 250 \text{ Gauss}$
I_{OH}	Output Leakage Current	- - -	- 0.10 -	10 11 12	μA	-55 °C, $V_{CC} = 24 \text{ V}$, $V_{OUT} = 24 \text{ V}$, $B \leq 30 \text{ Gauss}$ +25 °C +125 °C
t_r, t_f	Output Rise Time and Fall Time	-	0.20	1	μs	$R_L = 820 \Omega$, $C_L = 20 \text{ pF}$, $V_{CC} = 14 \text{ V}$ (guaranteed not tested)

Electrical Characteristics ($V_{CC} = 4.5 \text{ V}$ to 24 V , $T_A = 25^\circ \text{C}$ unless otherwise noted)

OMH3040, OMH3040B, OMH3040S Uni-Polar

SYMBOL	PARAMETER	MIN	TYP	MAX	UNITS	TEST CONDITIONS
B_{OP}	Magnetic Operate Point ⁽¹⁾	70 75	150 -	200 270	Gauss	+25 °C -55 °C & +125 °C
B_{RP}	Magnetic Release Point	50 25	115 -	180 210	Gauss	+25 °C -55 °C & +125 °C
B_H	Magnetic Hysteresis	10 10	35 -	60 -	Gauss	+25 °C -55 °C & +125 °C
I_{CC}	Supply Current	- -	- 6	10 9	mA	-55 °C, $V_{CC} = 24 \text{ V}$, Output Off, $B < 250 \text{ Gauss}$ +25 °C & +125 °C
V_{OL}	Output Saturation Voltage	-	100	400	mV	$V_{CC} = 4.5 \text{ V}$, $I_{OL} = 20 \text{ mA}$, $B \geq 250 \text{ Gauss}$
I_{OH}	Output Leakage Current	- - -	- 0.10 -	11 10 12	μA	-55 °C, $V_{CC} = 24 \text{ V}$, $V_{OUT} = 24 \text{ V}$, $B \leq 25 \text{ Gauss}$ +25 °C, $V_{CC} = 24 \text{ V}$, $V_{OUT} = 24 \text{ V}$, $B \leq 50 \text{ Gauss}$ +125 °C, $V_{CC} = 24 \text{ V}$, $V_{OUT} = 24 \text{ V}$, $B \leq 25 \text{ Gauss}$
t_r, t_f	Output Rise Time and Fall Time	-	0.20	1	μs	$R_L = 820 \Omega$, $C_L = 20 \text{ pF}$, $V_{CC} = 12 \text{ V}$ (guaranteed not tested)

Notes:

(1) South pole facing symbolized surface.

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Electrical Specifications

Electrical Characteristics ($V_{CC} = 4.5 \text{ V}$ to 24 V , $T_A = 25 \text{ }^{\circ}\text{C}$ unless otherwise noted)

OMH3075, OMH3075B, OMH3075S Bi-Polar Latching

SYMBOL	PARAMETER	MIN	TYP	MAX	UNITS	TEST CONDITIONS
B_{OP}	Magnetic Operate Point ⁽¹⁾	50 25	150 -	250 275	Gauss	+25 °C -55 °C & +125 °C
B_{RP}	Magnetic Release Point	-250 -275	-150 -	-50 -25	Gauss	+25 °C -55 °C & +125 °C
B_H	Magnetic Hysteresis	100 50	260 -	500 -	Gauss	+25 °C -55 °C & +125 °C
I_{CC}	Supply Current	- -	- 6	10 9	mA	-55 °C +25 °C & +125 °C, $V_{CC} = 24 \text{ V}$, (Output Off), $B \leq -250 \text{ Gauss}$
V_{OL}	Output Saturation Voltage	-	100	400	mV	$V_{CC} = 4.5 \text{ V}$, $I_{OL} = 20 \text{ mA}$, $B \geq 250 \text{ Gauss}$
I_{OH}	Output Leakage Current	-	0.10	1.0	μA	$V_{CC} = 24 \text{ V}$, $V_{OUT} = 24 \text{ V}$, $B \leq -250 \text{ Gauss}$
t_r, t_f	Output Rise Time and Fall Time	-	0.20	1	μs	$R_L = 820 \Omega$, $C_L = 20 \text{ pF}$, $V_{CC} = 12 \text{ V}$ (guaranteed not tested)

Notes:

(1) South pole facing symbolized surface.

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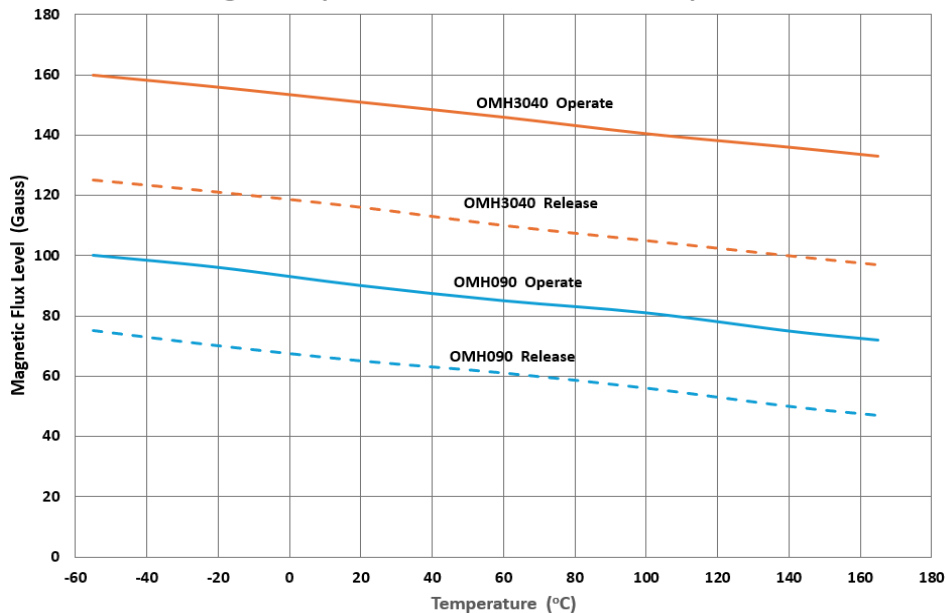
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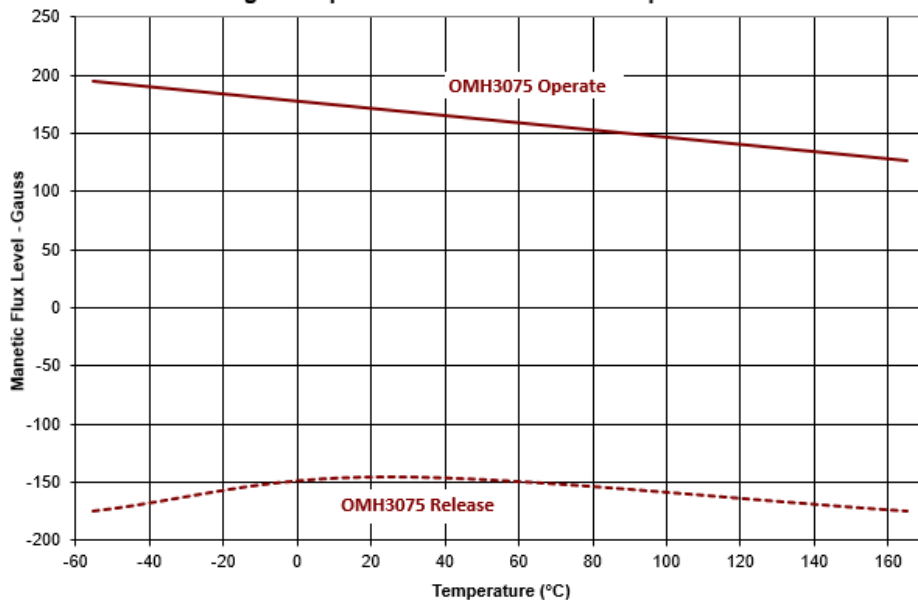
Performance

OMH090, OMH3040, OMH3075 (B, S)

Magnetic Operate & Release Points vs Temperature



Magnetic Operate & Release Points vs Temperature



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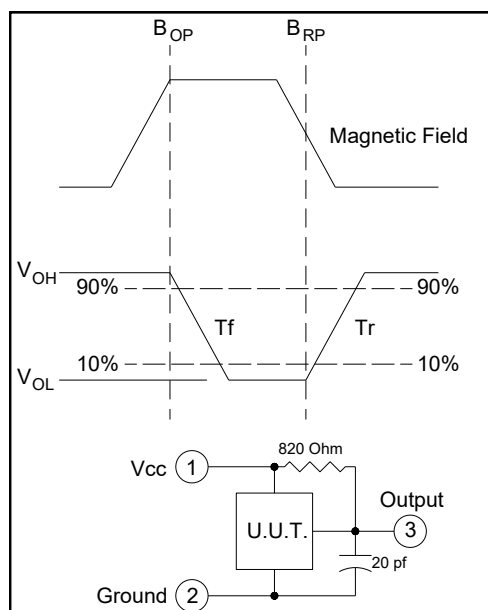
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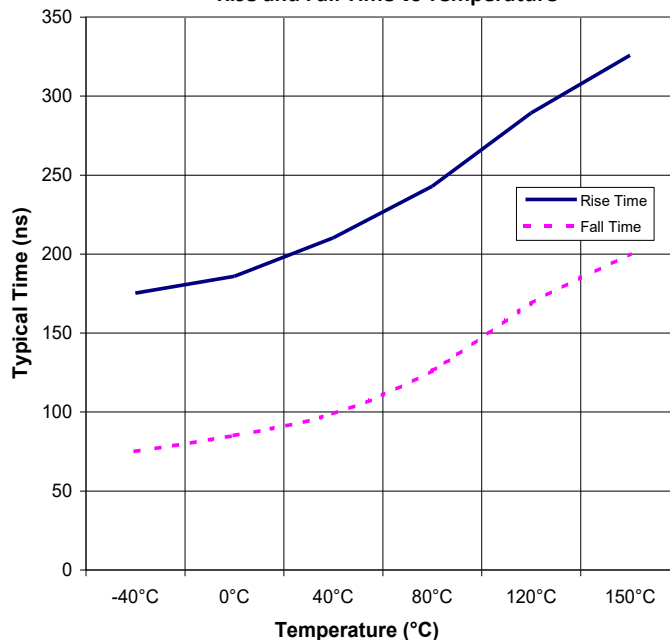
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Performance

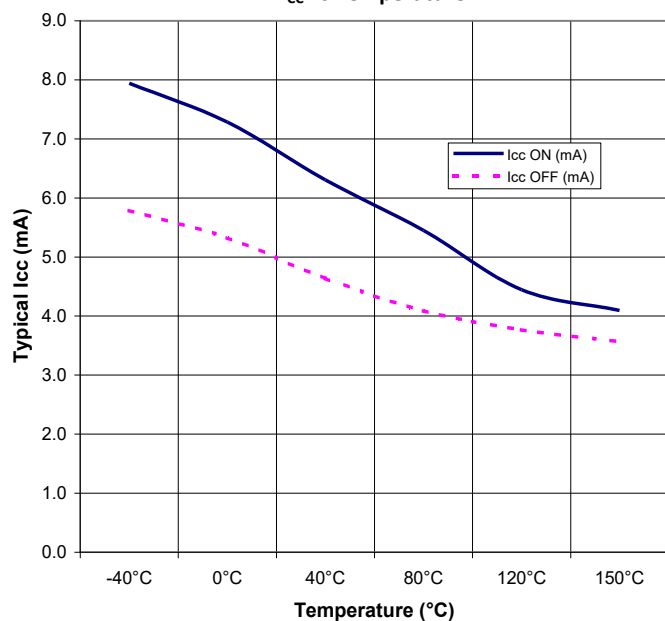
OMH3040, OMH3075 (B, S)



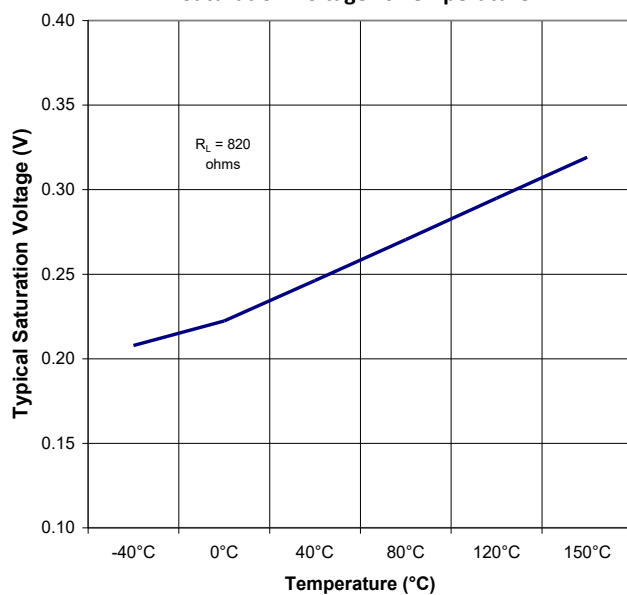
Rise and Fall Time vs Temperature



I_{cc} vs Temperature



Saturation Voltage vs Temperature



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