Single Output Hall Effect Latch

Features

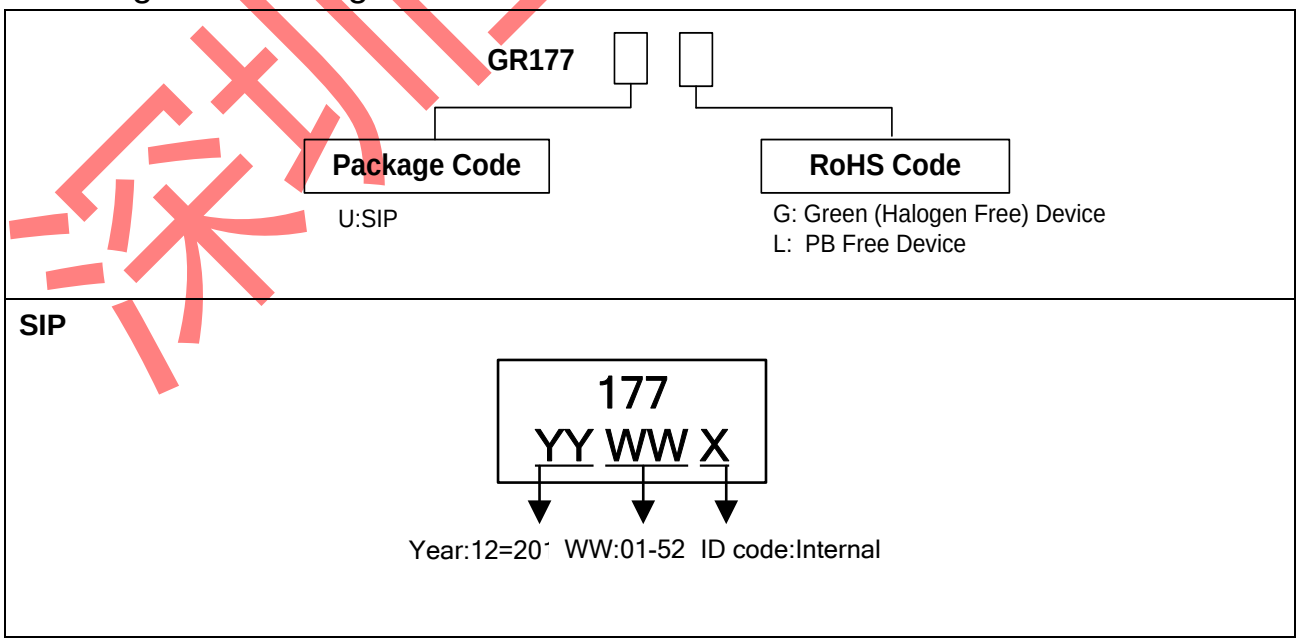
- 3.3V to 26V DC operation voltage
- Temperature compensation
- Wide operating voltage range
- Open-Drain pre-driver
- 25mA maximum sinking output current.
- -40°C to 85°C operating temperature
- Low Profile SIP-3L Package(Green and PB Free)

Description

GR177 is an integrated Hall effect latched sensor designed for electronic commutation of brush-less DC motor applications. The device using HV BCD process includes an on-chip Hall voltage generator for magnetic sensing, a comparator that amplifies the Hall voltage, and a Schmitt trigger to provide switching hysteresis for noise rejection, and open-collector output. An internal band-gap regulator is used to provide temperature compensated supply voltage for internal circuits and allows a wide operating supply range.

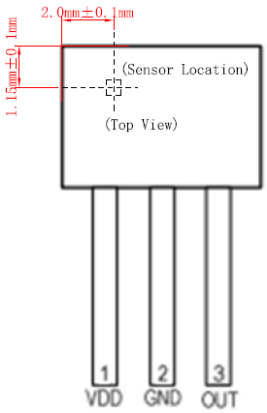
If a magnetic flux density larger than threshold Bop, OUT is turned on(low). The output state is held until a magnetic flux density reversal falls below Brp causing OUT to be turned off (high).

Ordering and Marking Information



grenergy OPTO Inc. reserves the right to make changes to improve reliability or manufacture ability without notice, and advise customers to obtain the latest version of relevant information to verify before placing orders.

Pin Configuration



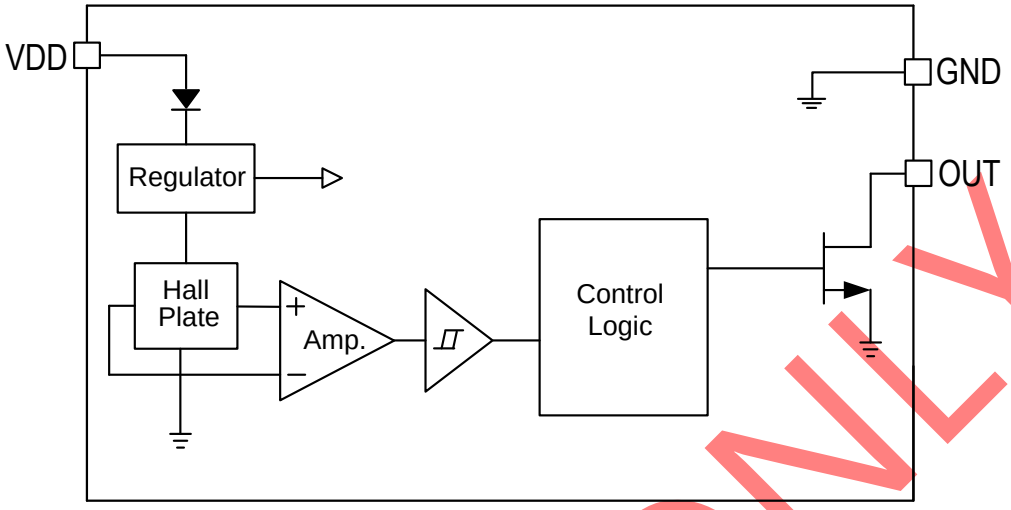
Pin Description

Pin No.	Name	Function
1	VDD	Power Supply Pin
2	GND	Ground Pin
3	OUT	Output

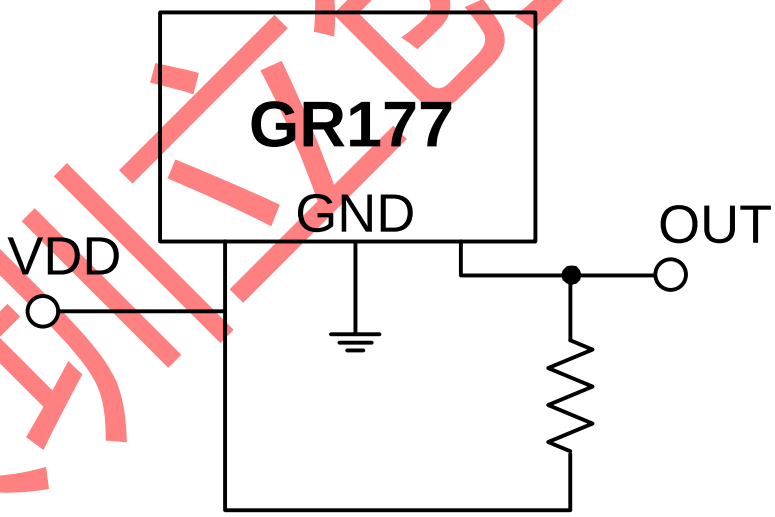
Absolute Maximum Ratings

Supply Voltage VCC, VCC ---------- 28V
Reverse VCC Polarity Voltage, VRCC ---------- -28V
Magnetic Flux Density, B ---------- Unlimited Gauss
Output Current(Continuous), IO ---------- 25mA
Power Dissipation, PD ---------- 550mW
Storage Temperature Range, TSTG ---------- -65℃ ~ 150 ℃
Thermal Resistance from Junction to case, θJC ---------- 49℃/W
Thermal Resistance from Junction to ambient, θJA ---------- 227℃/W
Ambient Temperature, TA ---------- -40℃~85℃

Function Block



Application Circuit



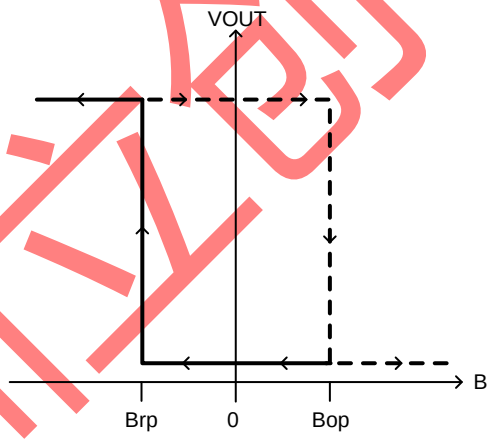
Electrical Characteristics (VCC = 12.0V & TA = +25℃, unless otherwise noted.)

Parameter	Min.	Typ.	Max.	Unit
SUPPLY VOLTAGE				
Supply Voltage, VDD(Operating)	3.3	-	26	V
Startup Current, IDD (Operating)	-	3.0	4.5	uA
Output Leakage Current, IOFF(VOUT =12V)	-	<0.1	10	uA
Output Saturation Voltage, Vds (sat)(IOUT =20mA)	-	0.3	-	V
Magnetic			(1mT=10 Gauss)	
Operate Point, BOP	5	35	60	Gauss
Release Point, BRP	-60	-35	-5	Gauss
Hysteresis, BHYS	-	70	-	Gauss

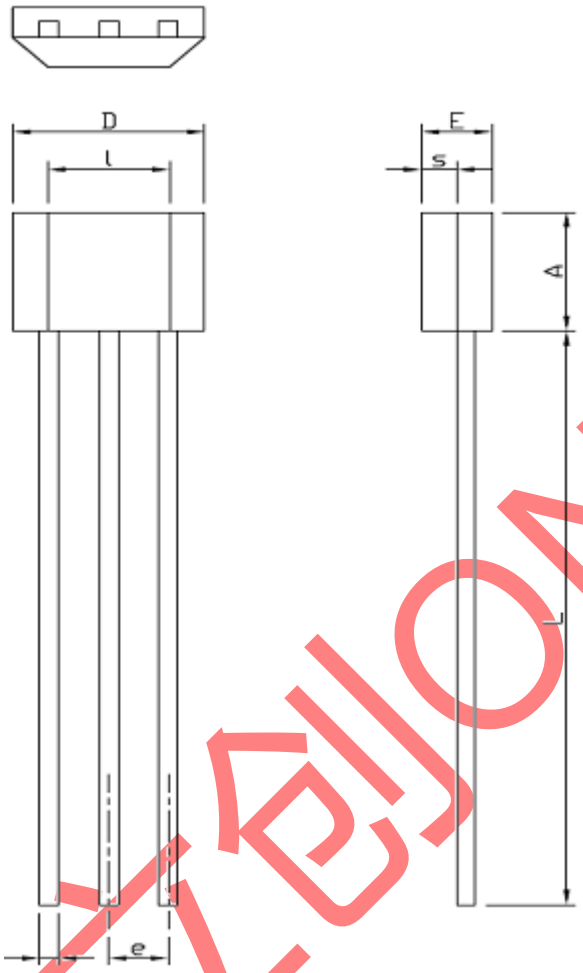
Driver output vs. magnetic pole

Characteristics	Test Conditions	DO
North pole	B < Brp	High
South pole	B > Bop	Low

Note: The magnetic pole is applied facing the branded side of the package



SIP-3



SYMBOL	SIP-3	
	MILLIMETERS	
	MIN.	MAX.
A	2.80	3.30
b	0.33	0.56
D	3.90	4.30
e	1.27 BSC	
E	1.20	1.76
l	2.40	2.80
L	13.60	15.60
s	0.56	0.96