



EVERLIGHT ELECTRONICS CO., LTD.

MODEL NO: _____ **Device Number:** DHI-092-003 **REV:** 1.0
HI400 **ECN:** _____ **Page:** 2/6

NOTES:

1. This drawing measure is a standard value. All dimensions are in millimeter.
2. In case of designation is tolerance $\pm 0.3\text{mm}$.
3. Lead spacing is measured where the lead emerge from the package.
4. Protruded resin under flange 1.0 mm Max.
5. Lens color : Black.
6. Above specification may be changed without notice. EVERLIGHT will reserve authority on material change for above specification.
7. These specification sheets include materials protected under copyright of EVERLIGHT corporation. Please don't reproduce or cause anyone to reproduce them without EVERLIGHT consent.
8. When using this product, please observe the absolute maximum ratings and the instructions for use outlined in these specification sheets. EVERLIGHT assumes no responsibility for any damage resulting from use of the product which does not comply with the absolute maximum ratings and the instructions included in these specification sheets.

FEATURES:

1. 4V to 20V operation.
2. No need for reverse voltage.
3. High reliability.
4. Small size.
5. Output compatible with all digital logic families.

APPLICATIONS:

1. Brushless DC motor.
2. Rotation detection.
3. Displacement detection.
4. Speed sensing.



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ABSOLUTE MAXIMUM RATINGS:

(Ta=25°C)

PARAMTER	SYMBOL	RATING	UNIT	CONDITION
Supply Voltage	V _{CC}	20	V	-
Supply Current	I _{CC}	25	mA	-
Output Current- Continuous Peak(Start Up)	I _{OUT}	300 700	mA	-
Maximum Power Dissipation	P _D	500	mW	-
Operating Ambient Temperature	T _A	-20~+85	°C	-
Storage Temperature	T _{STG}	-55~+120	°C	-
Soldering Temperature	T _{SOL}	260	°C	1/16 inch from body for 5 seconds

ELECTICAL CHARACTERISTICS:

(Ta=25°C)

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITION
Supply Voltage	V _{CC}	4	-	20	V	Operating
Output Saturation Voltage	V _{CE(SAT)}	-	250	500	mV	V _{CC} =14V, I _{OUT} =400mA, B>Bop
Supply Current	I _{CC}	-	18	25	mA	V _{CC} =20V, Output Open
Output Leakage Current	I _{LEAK}	-	-	5	μA	V _{CE} =14V, V _{CC} =14V
Output Rise Time	t _r	-	3.0	10	μS	V _{CC} =14V, R _L =820Ω,
Output Rise Time	t _f	-	0.3	1.5	μS	C _L =20pF

MAGNETIC SPECIFICATION:

(Ta=25°C)

Condition: V_{CC}=20V

Unit :Gauss

Bin Number	Bin 1	Bin 2	Bin 3	Bin 4
Min	1	55	85	125
Max	70	100	140	200



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TYPICAL CHARACTERISTICS CURVES:

Fig. 1 Supply Current V.S. Supply Voltage

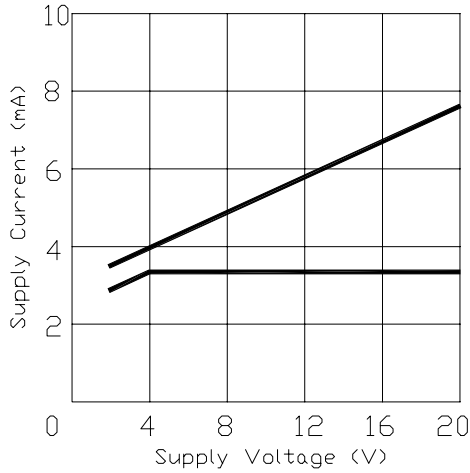


Fig. 2 Output Low Voltage V.S. Supply Voltage

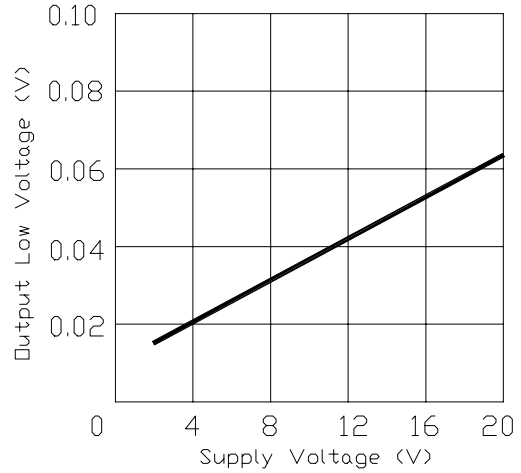


Fig. 3 Switch Points (Bop,Brp) V.S. Supply Voltage

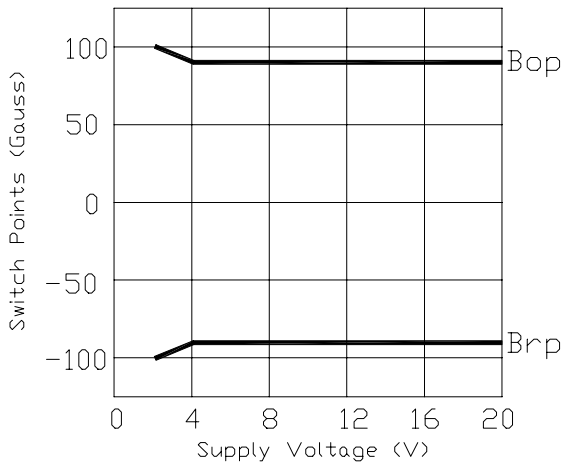


Fig. 4 Switch Points V.S. Ambient Temperature

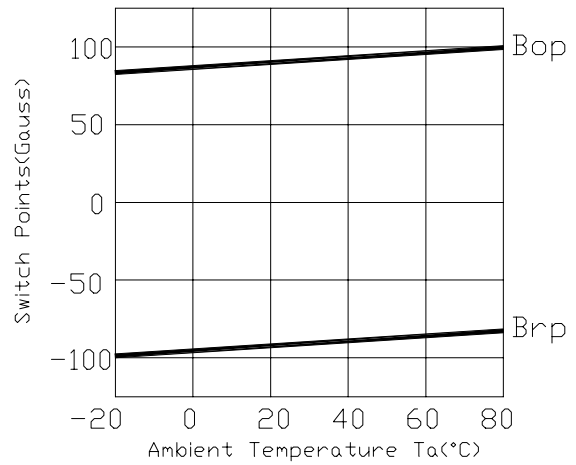


Fig. 5 Supply Current V.S. Ambient Temperature

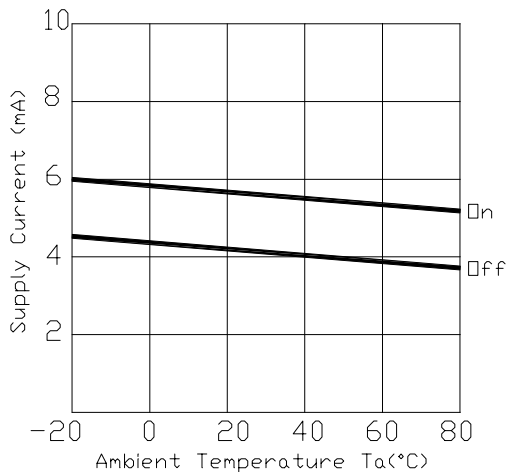
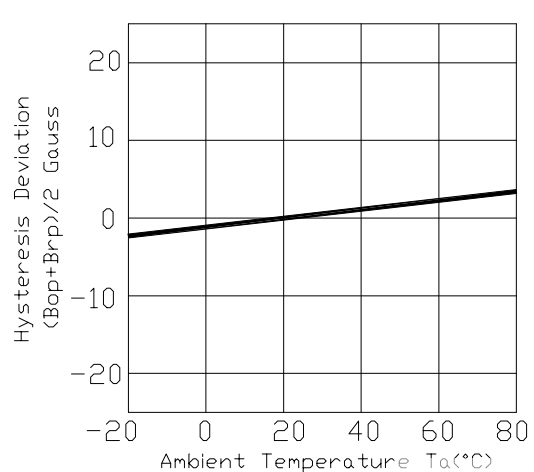


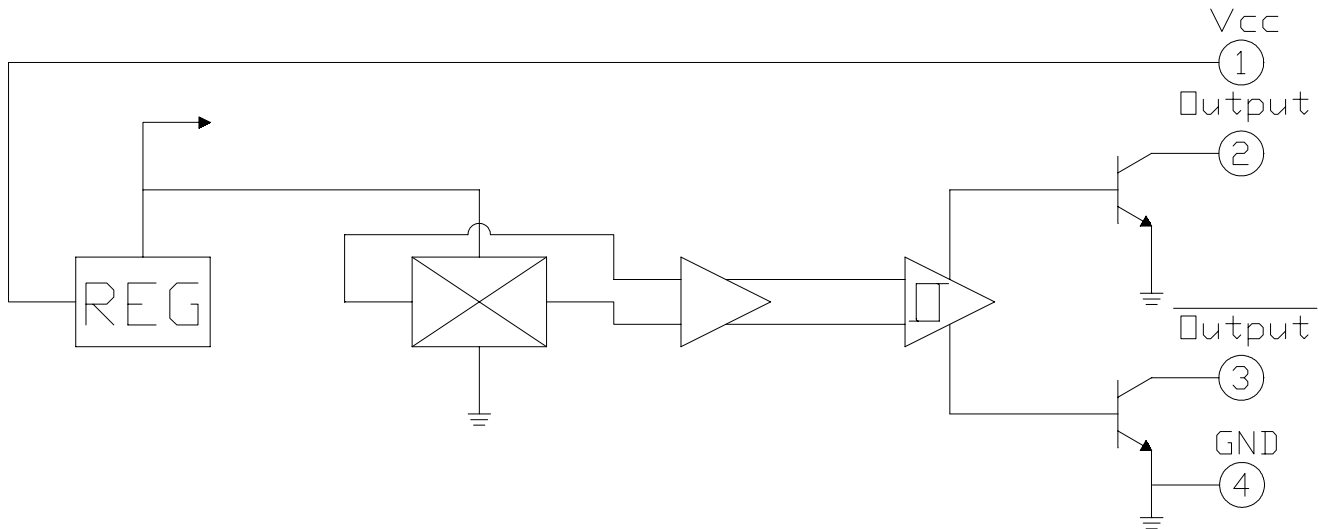
Fig. 6 Hysteresis Deviation V.S. Ambient Temperature





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FUNCTION BLOCK DIAGRAM:



RELIABILITY:

The reliability of products shall be satisfied with items listed below.

Confidence level : 90%

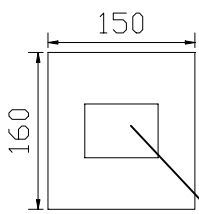
LTPD : 10%

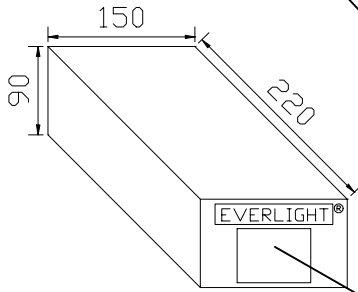
TEST ITEMS	TEST CONDITIONS	FAILURE JUDGEMENT CRITERIA	SAMPLES(n)
			DEFECTIVE(c)
Operation life	V _{cc} =12V, T _a =25°C 1000hrs	L : Lower Specification Limit U : Upper Specification Limit	n=22 , c=0
Temperature cycle	1 cycle -55°C to +85°C (30min) (30min) 50 cycle test		n=22 , c=0
Thermal shock	-10°C to +100°C (5min) (10sec) (5min) 50 cycle test		n=22 , c=0
High temperature storage	Temp : +150°C 1000hrs		n=22 , c=0
Low temperature storage	Temp : -55°C 1000hrs		n=22 , c=0
High temperature High humidity	T _A : 85°C RH : 85% 1000hrs		n=22 , c=0
Solder heat	Temp : 260 ± 10°C sec 4mm Form the bottom of the package		n=22 , c=0

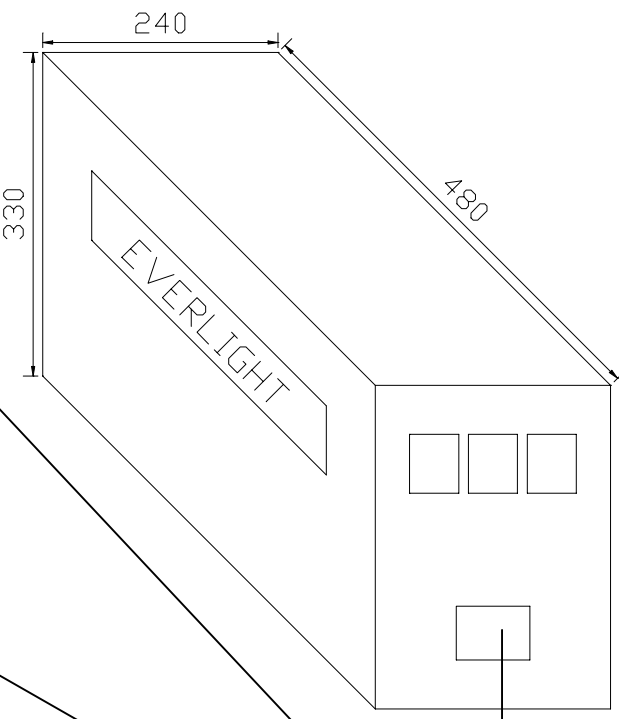


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PACKING SPECIFICATIONS: (UNIT : mm)

1. Bag: 

2. Box: 

3. Carton: 

Packing Quantity Specification:
 1. 1000Pcs/1bag, 10bags/1box
 2. 10boxes/1Carton

Label Specification:
 CPN : Customer's Production Nimber
 P/N : Production Number
 QTY : Packing Quantity
 CAT : Ranks
 HUE : Reference
 REF : Reference
 LOT NO : Lot Number
 MADE IN TAIWAN : Production place

Label