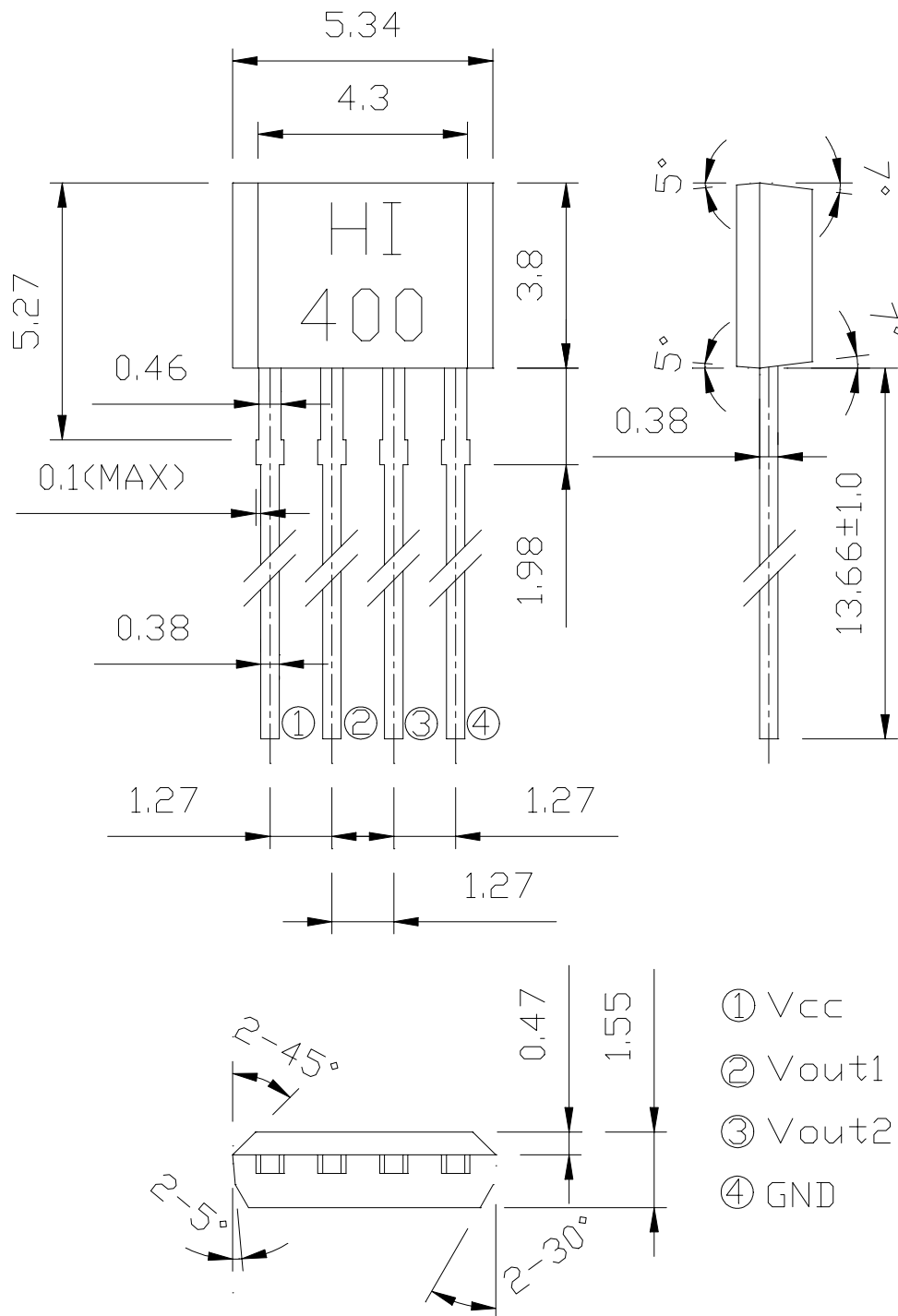




EVERLIGHT ELECTRONICS CO., LTD.

Device Number: DHI-092-003 REV: 1.0
MODEL NO: HI400 ECN: Page: 1/6

■ PACKAGE DIMENSIONS:



Office: NO 25,Lane.76, Chung Yang Rd., Sec.3, Tucheng, Taipei 236, Taiwan, R.O.C.
TEL: 886-2-2267-2000,2267-9936(22Lines)
FAX: 886-2-2267-6189
http: [//www.everlight.com](http://www.everlight.com)



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.



EVERLIGHT ELECTRONICS CO., LTD.

Device Number: **DHI-092-003** REV: **1.0**
MODEL NO: **HI400** ECN: _____ Page: **3/6**

■ ABSOLUTE MAXIMUM RATINGS: (Ta=25°C)

PARAMETER	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

■ ELECTRICAL 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>B _{op}
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, C _L =20pF
Output Fall Time	t _f	-	0.3	1.5	μs	

■ 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



Device Number: DHI-092-003 REV: 1.0
MODEL NO: HI400 ECN: Page: 4/6

TYPICAL CHARACTERISTICS CURVES:

Fig. 1 Supply Current V.S. Supply Voltage

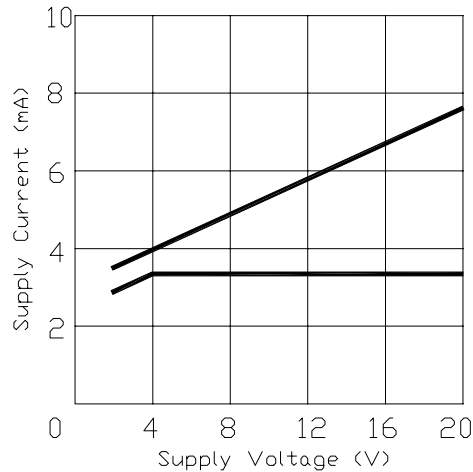


Fig. 2 Output Low Voltage V.S. Supply Voltage

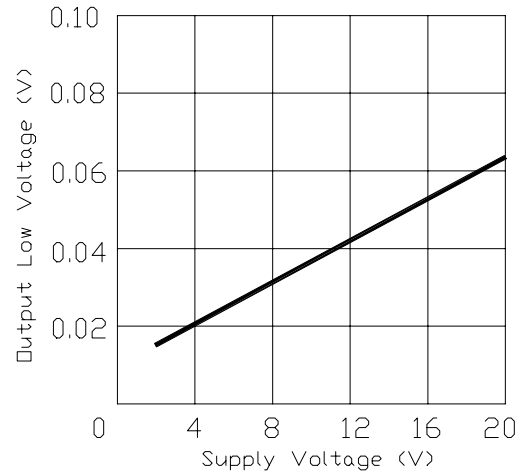


Fig. 3 Switch Points (Bop, Brp) V.S. Supply Voltage

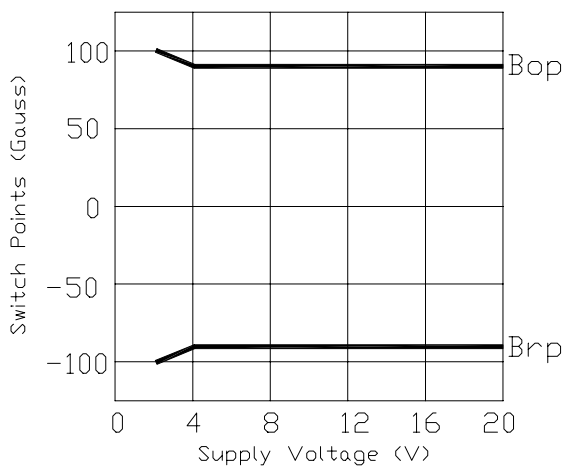


Fig. 4 Switch Points V.S. Ambient Temperature

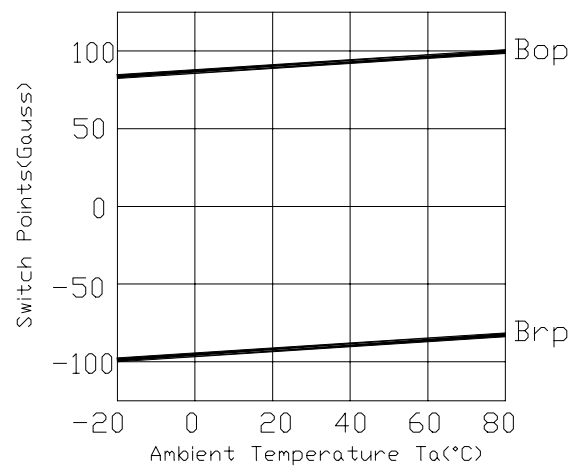


Fig. 5 Supply Current V.S. Ambient Temperature

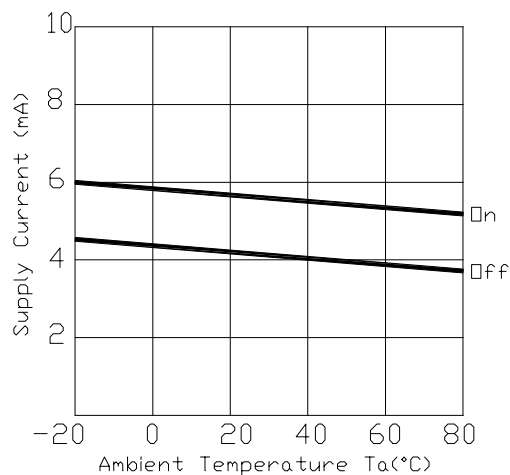
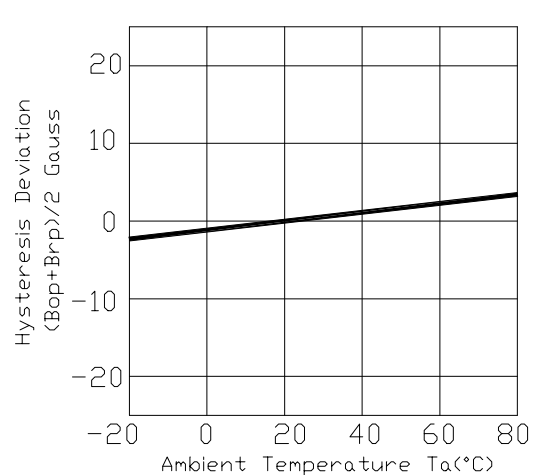
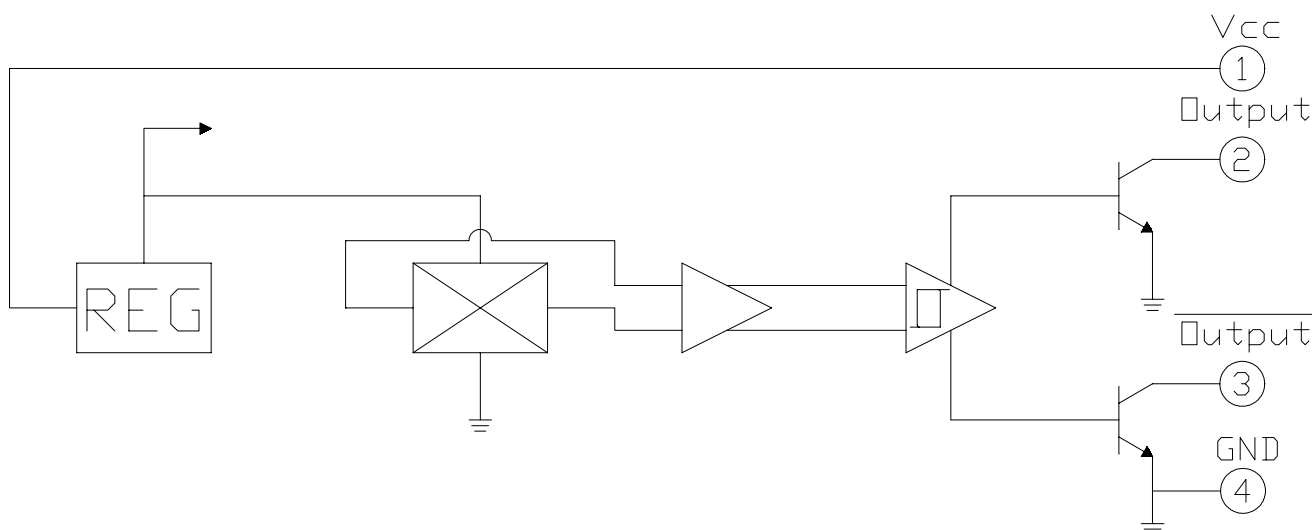


Fig. 6 Hysteresis Deviation V.S. Ambient Temperature





Device Number: DHI-092-003 REV: 1.0
MODEL NO: HI400 ECN: Page: 5/6

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	Vcc=12V,Ta=25℃ 1000hrs	Bop <± 20Gauss Brp <± 20Gauss 0.8*L<I _{CC} <1.2*U* V _{SAT} <1.5*U I _{LEAK} <1.5*U L : Lower Specification Limit U : Upper Specification Limit	n=22 , c=0
Temperature cycle	1 cycle -55℃ to +85℃ (30min) (30min) 50 cycle test		n=22 , c=0
Thermal shock	-10℃ to +100℃ (5min) (10sec) (5min) 50 cycle test		n=22 , c=0
High temperature storage	Temp : +150℃ 1000hrs		n=22 , c=0
Low temperature storage	Temp : -55℃ 1000hrs		n=22 , c=0
High temperature High humidity	TA : 85℃ RH : 85% 1000hrs		n=22 , c=0
Solder heat	Temp : 260 ± 10℃ sec 4mm Form the bottom of the package		n=22 , c=0

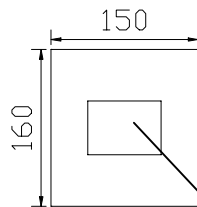


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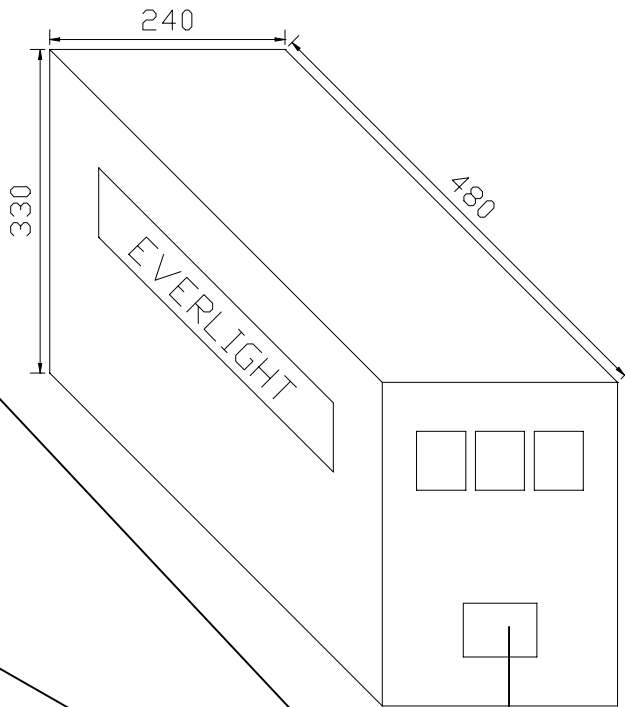
Device Number: DHI-092-003 REV: 1.0
MODEL NO: HI400 ECN: Page: 6/6

■ **PACKING SPECIFICATIONS:** (UNIT : mm)

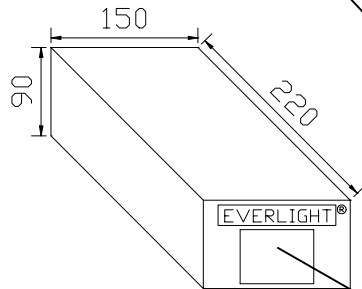
1.Bag:



3.Carton:



2.Box:



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