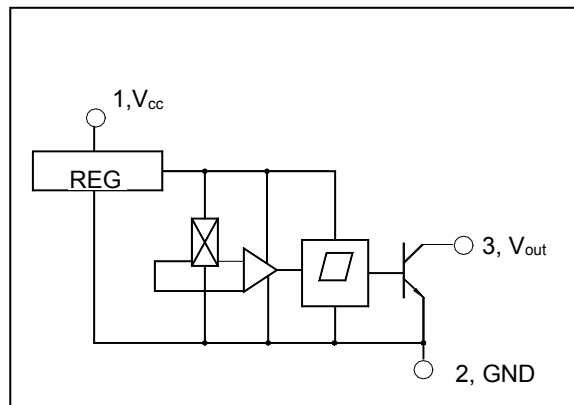
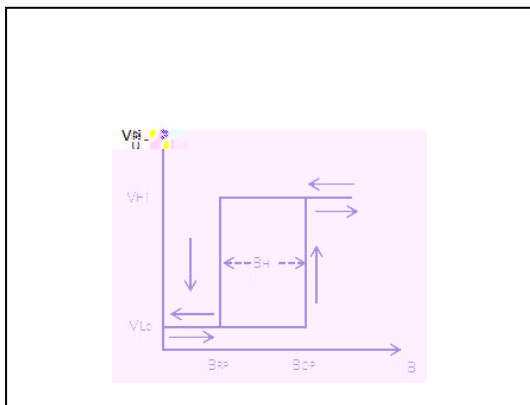


HAL501U Hall-effect switch integrated circuits for high temperature operating based on Hall-effect principle, apply the semiconductor monolithic technology, which includes a voltage regulator, Hall voltage generator, differential amplifier, Schmitt trigger and an open-collector output on a single silicon chip. ICs can convert the input magnetic field signal into digital voltage output.

- Small size
- High Sensitivity
- Quick Response
- Good Temperature Performance
- High Accuracy
- Excellent Reliability

- Non-contact Switch
- Automotive Ignition
- Position control
- Revolution detection
- Safe alarm device
- Textile control system

- Supply Voltage V_{CC} 30V
- Output Current I_O50mA
- Operating Temperature Range T_A-40 150 ,
- Storage Temperature Range T_S-65 150



$T_A=25$

Parameter	Test Condition	Symbol	Value			Unit
			Min	Typ	Max	
Supply Voltage	$V_{CC}=4.5V$ 24V	V_{CC}	3.8	-	30	V
Output Low Voltage	$V_{CC}=4.5v$, $V_o=24V$ $I_o=20mA$, $B \geq BOP$	VOL	-	175	400	mV
Output Leakage Current	$V_o=24V$, $B < BRP$	IOH	-	<1.0	10	μA
Supply Current	$V_{CC}=24V$ V_o open-collector output	I_{CC}	-	6	10	mA
Output Rise time	$V_{CC}=12V$ $R_L = 820 \Omega$ $C_L = 20pF$	t_r	-	0.2	1.5	μS
Output Fall time		t_f	-	0.18	1.5	μS
Frequency		F		100		KHz

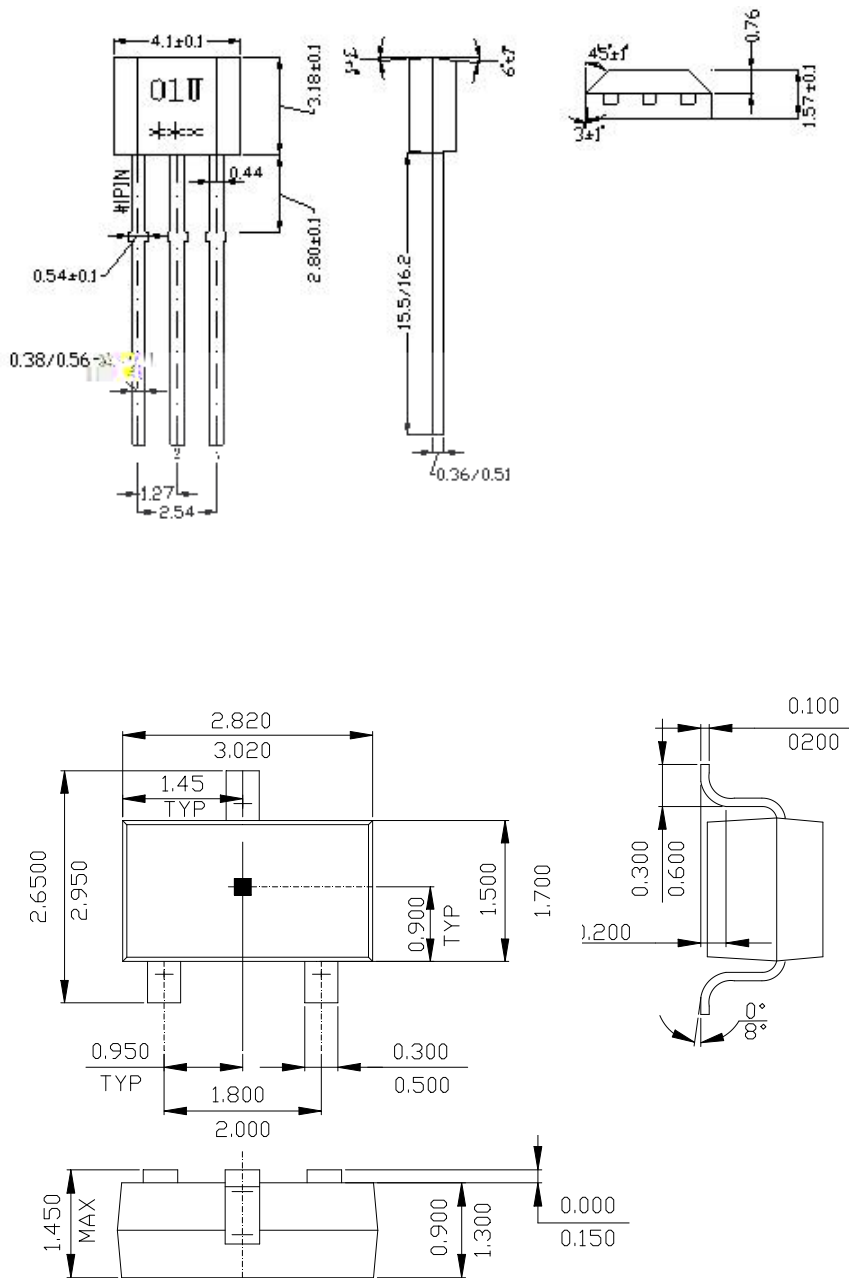
(Unit: mT)

Parameter	symbol	Value			Unit
		Min	Typ	Max	
Operate Point	B_{OP}	6	12	16	mT
Release Point	B_{RP}	2	7	11	mT
Hysteresis	B_{hys}		5		mT

Model	HAL501U	Operating Temperature	-40 150	Package	TO-92S	1000pcs/bag
					SOT-23-3	3000pcs/reel

DC Operating Parameters $T_A = -40 \text{ C}$ to 150 C , $V_{DD} = 2.5V$ to $24V$ (unless otherwise specified)

South pole (TO)	$B > B_{OP}$	High
North pole (SOT)	$B > B_{OP}$	High
Null or weak magnetic field	$B = 0$ or $B < BRP$	Low



1.VCC 2.Ground 3.Output

- ◆ Mechanical Stress Should be lessened as far as possible in the process of assembly, and add one 1K pull-up Resistor between Pin1 and Pin 3.
- ◆ The soldering temperature at the leads should be less than 260 with 5 seconds.