

# LT280A

GaAs Hall IC for Noncontact Switch  
(Unidirectional magnetic field-type)

## ■ Features

- Suitable for portable equipment due to 3V operation
- Operation by small magnet due to high sensitivity  
Operating point < 30mT
- Combining a GaAs Hall device and an IC in a compact package (2.9X1.5X1.1mm)
- Wide operation temperature range obtained by GaAs Hall device (-20 to +125°C)
- Long life time due to noncontact-type

## ■ Applications

- FDD
- HDD
- Water meter
- Car stereo
- Microswitch, etc.

## ■ Absolute Maximum Ratings

( $T_a=25^\circ\text{C}$ )

Parameter	Symbol	Rating	Unit
Supply voltage	$V_{CC}$	6.5	V
Output voltage	$V_{OUT}$	6.5	V
Output current	$I_O$	5	mA
Power dissipation	$P_D$	100	mW
Operating temperature	$T_{opr}$	-20 to +125	°C
Storage temperature	$T_{stg}$	-55 to +150	°C
Soldering temperature <sup>*1</sup>	$T_{sol}$	260	°C

\*1 Soldering time : within 10 seconds

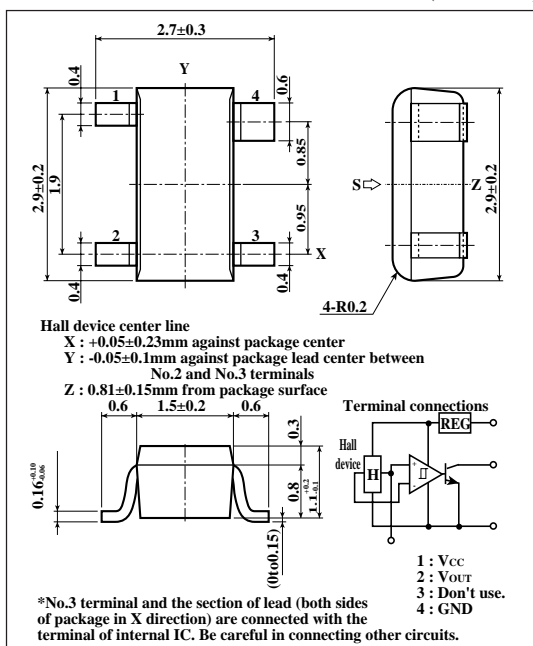
## ■ Electrical Characteristics

( $T_a=25^\circ\text{C}$ )

Parameter	Symbol	Condition	MIN.	TYP.	MAX.	Unit
Operating magnetic flux density	$B_{OP}$	$V_{CC}=3V$	11.0	-	30.0	mT
	$B_{RP}$	$V_{OO}=3V$	10.0	-	29.0	mT
Hysteresis breadth	$B_H$	$R_L=4.7k\Omega$	1.0	-	6.0	mT
Operating voltage	$V_{CC}$		2.7	-	6.0	V
Supply current	$I_{CC}$	$V_{CC}=3V, B<10mT$	-	3.5	7.0	mA
Low level output voltage	$V_{OL}$	$I_O=4mA, B>=30mT$	-	-	0.4	V
Output leakage current	$I_{OH}$	$V_{CC}=3V, V_{OO}=3V, B<10mT$	-	-	10	$\mu\text{A}$
Operating point temperature drift	$\Delta B_{OP}$	$V_{CC}=3V, T_a=-20^\circ\text{C}$ to $+80^\circ\text{C}$	-	2.5	8.0	mT

## ■ Outline Dimensions

(Unit : mm)



As for dimensions of tape-packaged products, refer to page 44 .

## ■ Operating Explanation

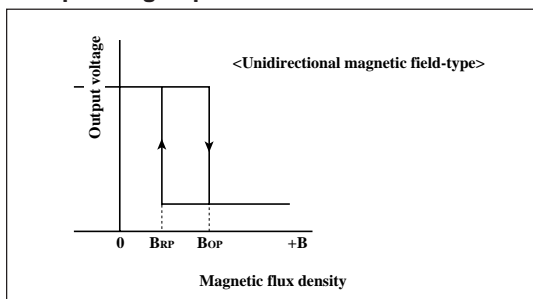


Fig. 1 Operating Magnetic Flux Density vs. Supply Voltage

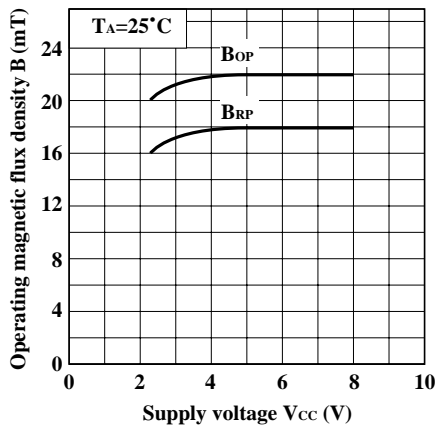


Fig. 2 Operating Magnetic Flux Density vs. Ambient Temperature

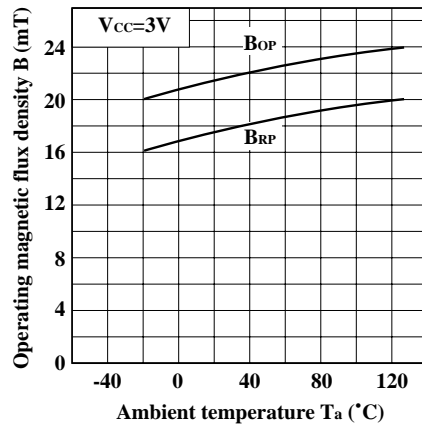


Fig. 3 Supply Current vs. Supply Voltage

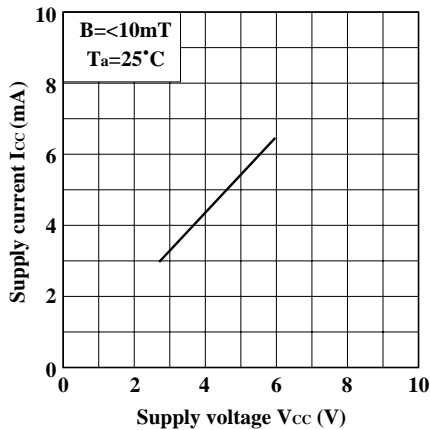


Fig. 4 Supply Current vs. Ambient Temperature

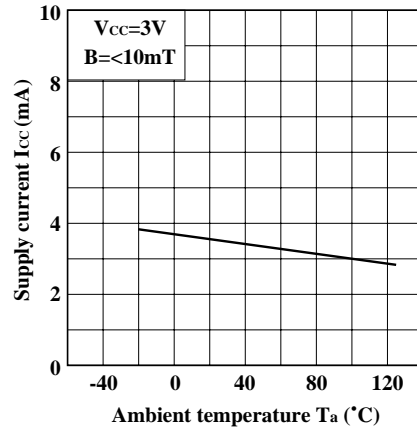


Fig. 5 Low Level Output Voltage vs. Output Current

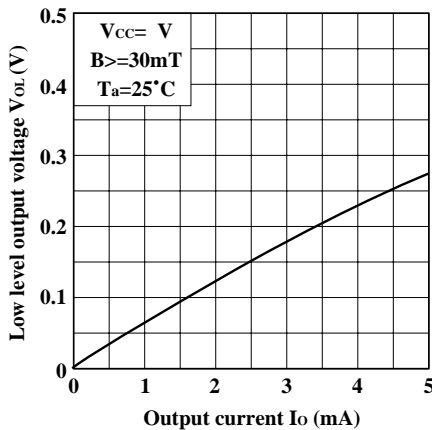


Fig. 6 Low Level Output Voltage vs. Ambient Temperature

