

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 (2.9 X 1.5 X 1.1mm)
- 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
- Micro switch, etc.

Absolute Maximum Ratings (T_a=25°C)

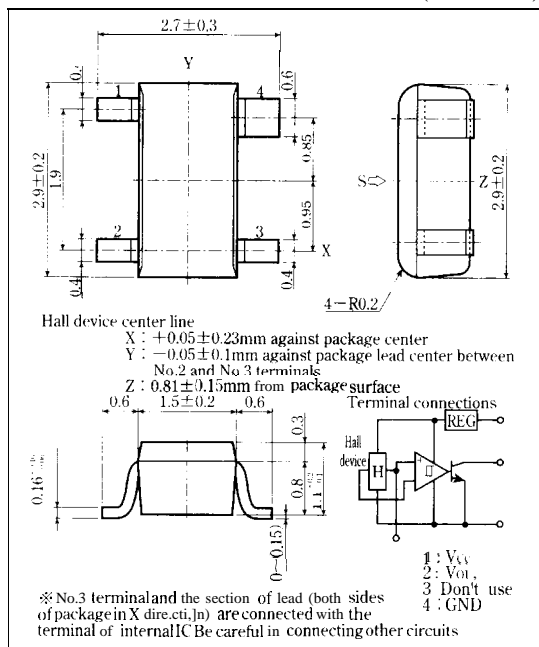
Parameter	Symbol	Rating	Unit
Supply voltage	V _{CC}	6.5	V
output voltage	V _{OUT}	6.5	v
Output current	I _O	5	mA
Power dissipation	I P _D	100	mW
Operating temperature	T _{opr}	-20 to +125	°C
Storage temperature	T _{stg}	-55 to +150	°C
Soldering temperature ¹	T _{sol}	260	°C

* 1 Soldering time within 10 seconds

Electrical Characteristics (T_a=25°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 _I =4.7kΩ	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	μA
operating point temperature drift	ΔB _{OP}	V _{CC} =3V, T _a =-20°C to +80°C	—	2.5	8.0	mT

Outline Dimensions (Unit: mm)



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

Operating Explanation

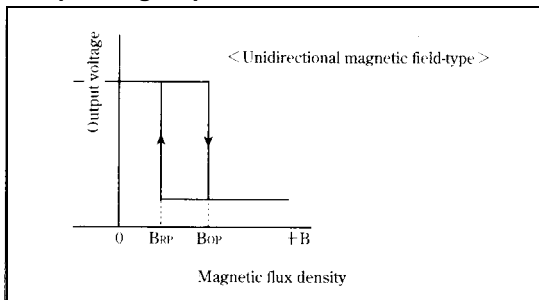


Fig. 1 Operating Magnetic Flux Density vs. Supply Voltage

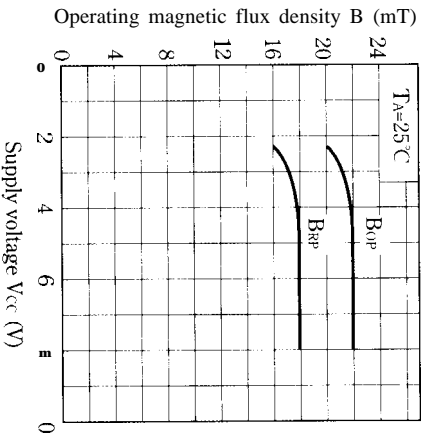


Fig. 2 Operating Magnetic Flux Density vs. Ambient Temperature

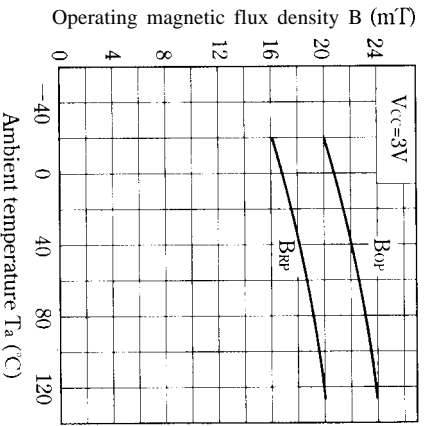


Fig. 3 Supply Current vs. Supply Voltage

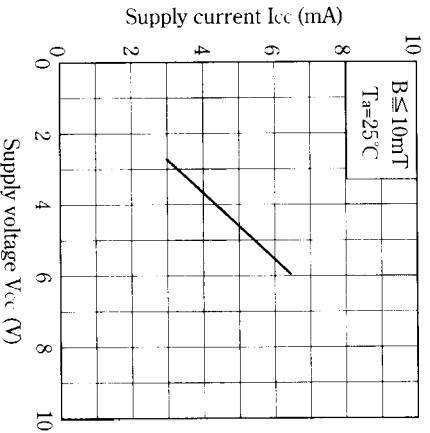


Fig. 4 Supply Current vs. Ambient Temperature

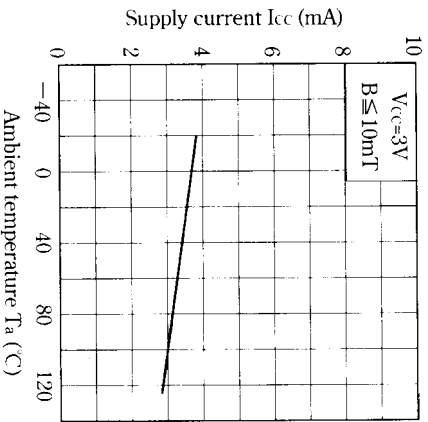


Fig. 5 Low Level Output Voltage vs. Output Current

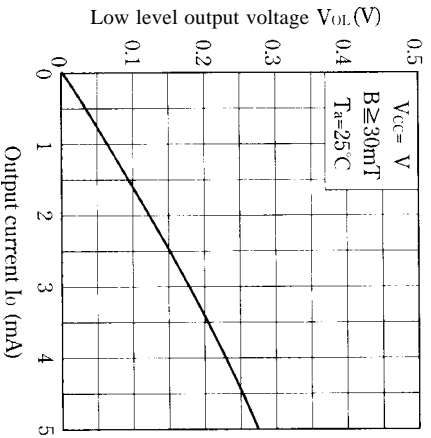


Fig. 6 Low Level Output Voltage vs. Ambient Temperature

