

LT230A

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

■ Features

- Same temperature coefficient of magnetic flux density as a magnet
- Operation by small magnet due to high sensitivity
Operating point <20mT
- 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
- Noncontact switch

■ Absolute Maximum Ratings

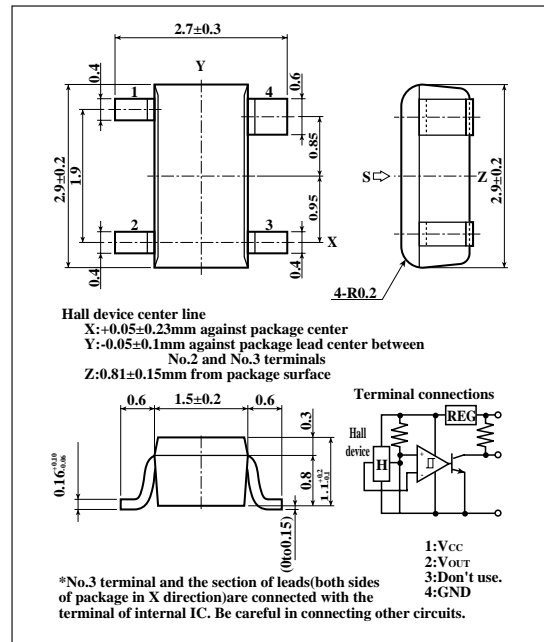
(T_a=25°C)

Parameter	Symbol	Rating	Unit
Supply voltage	V _{CC}	18	V
Output voltage	V _{OUT}	18	V
Output current	I _O	5	mA
Power dissipation	P _b	100	mW
Operating temperature	T _{opr}	-20 to +125	°C
Storage temperature	T _{stg}	-55 to +150	°C
Soldering temperature*	T _{sol}	260	°C

* Soldering time : within 10 seconds

■ Outline Dimensions

(Unit : Fmm)



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

■ Electrical Characteristics

(T_a=25°C)

Parameter	Symbol	Condition	MIN.	TYP.	MAX.	Unit
Operating magnetic flux density	B _{OP}	V _{CC} =5V	-	13	20	mT
	B _{RP}	V _{OO} =5V	5	11	-	mT
Hysteresis breadth	B _H	R _L =10KΩ	1	-	6	mT
Operating voltage	V _{CC}		4.5	-	16	V
Supply current	I _{CC}	V _{CC} =16V, B=<5mT	-	-	10.5	mA
Low level output voltage	V _{OL}	I _O =4mA, B>=20mT	-	-	0.4	V
Output leakage current	I _{OH}	V _{CC} =16V, V _{OO} =16V, B=<10mT	-	-	10	μA
Operating point temperature drift	ΔB _{OP}	V _{CC} =5V, T _a =-20°C to +80°C	-	-0.2	-	%/C

SHARP

In the absence of confirmation by device specification sheets, SHARP takes no responsibility for any defects that may occur in equipment using any SHARP devices shown in catalogs, data books, etc. Contact SHARP in order to obtain the latest device specification sheets before using any SHARP device.

Fig. 1 Operating Magnetic Flux Density vs. Supply Voltage

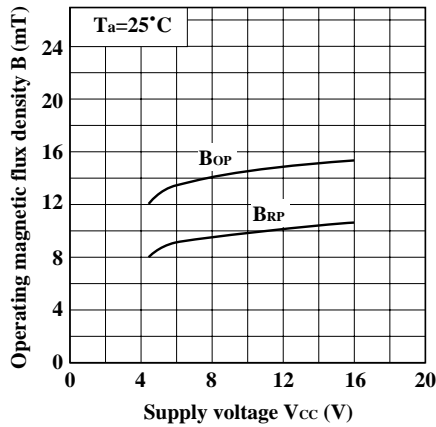


Fig. 2 Operating Magnetic Flux Density vs. Ambient Temperature

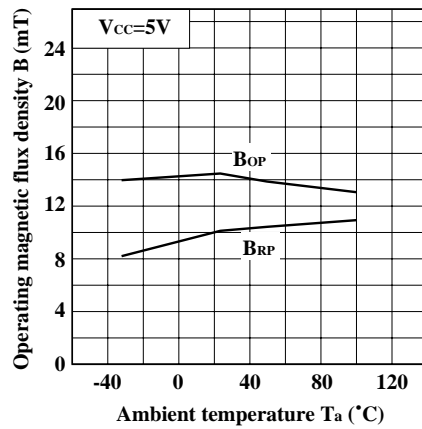


Fig. 3 Supply Current vs. Supply Voltage

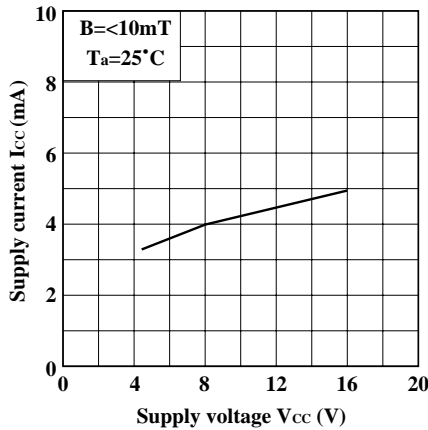


Fig. 4 Supply Current vs. Ambient Temperature

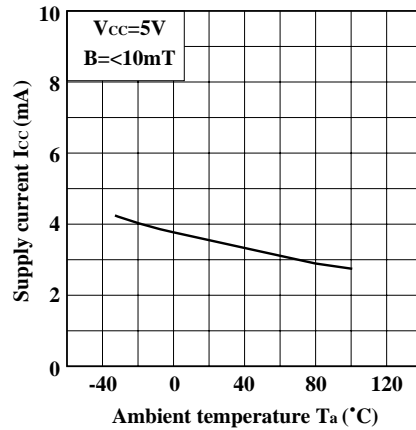


Fig. 5 Low Level Output Voltage vs. Output Current

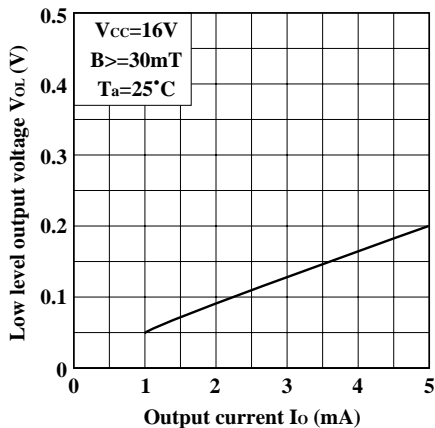


Fig. 6 Low Level Output Voltage vs. Ambient Temperature

