LT230A

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

■ Features

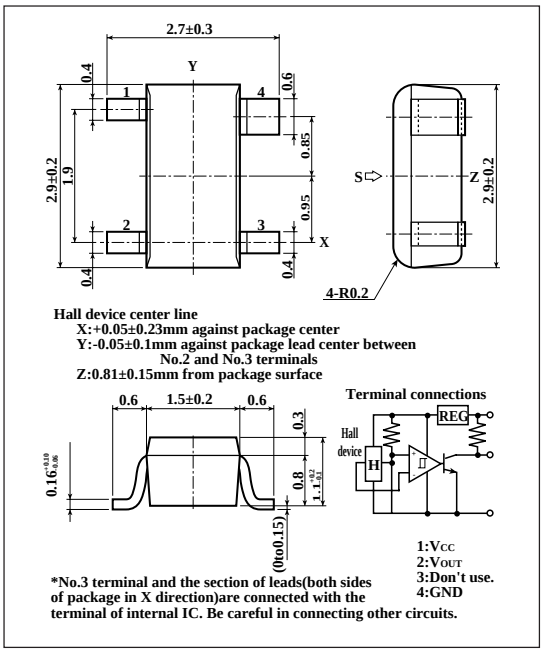
- Same temperature coefficient of magnetic flux density as a magnet
- Operation by small magnet due to high sensitivity Operating point <20mT
- Combining a GaAs Hall device and an IC in a compact package (2.9X1.5X1.1mm)
- Wide operation temperature range obtained by GaAs Hall device (-20 to +125˚C)
- Long life time due to noncontact-type

■ Applications

- FDD
- HDD
- Noncontact switch

■ Outline Dimentions

(Unit : Fmm)



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

■ 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_D	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

■ 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

Fig. 1 Operating Magnetic Flux Density vs. Supply Voltage

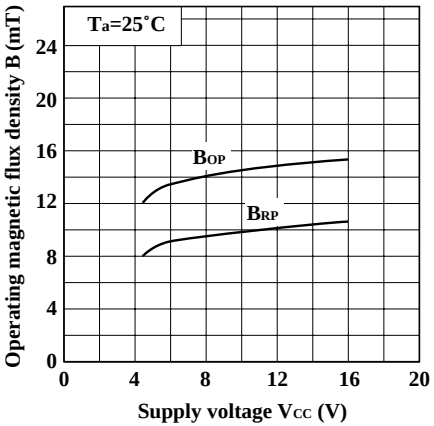


Fig. 2 Operating Magnetic Flux Density vs. Ambient Temperature

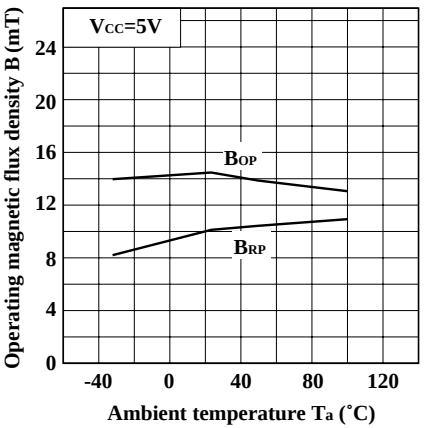


Fig. 3 Supply Current vs. Supply Voltage

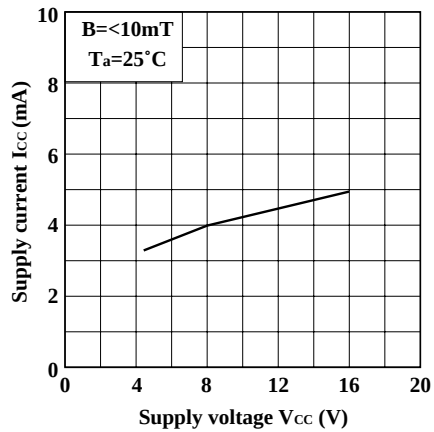


Fig. 4 Supply Current vs. Ambient Temperature

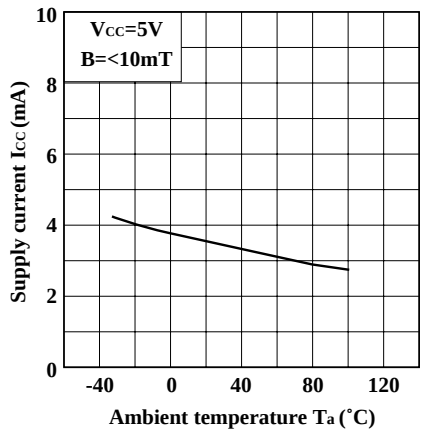


Fig. 5 Low Level Output Voltage vs. Output Current

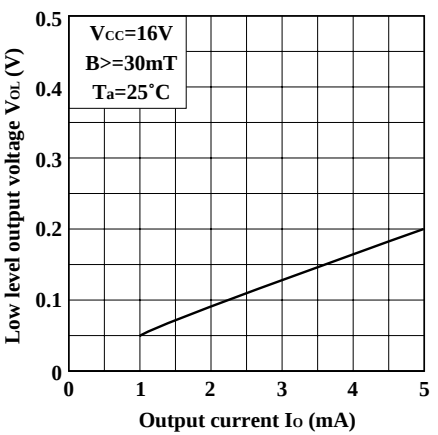


Fig. 6 Low Level Output Voltage vs. Ambient Temperature