LT253A

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

■ Features

- 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℃)
- Long life time due to noncontact-type

■ Applications

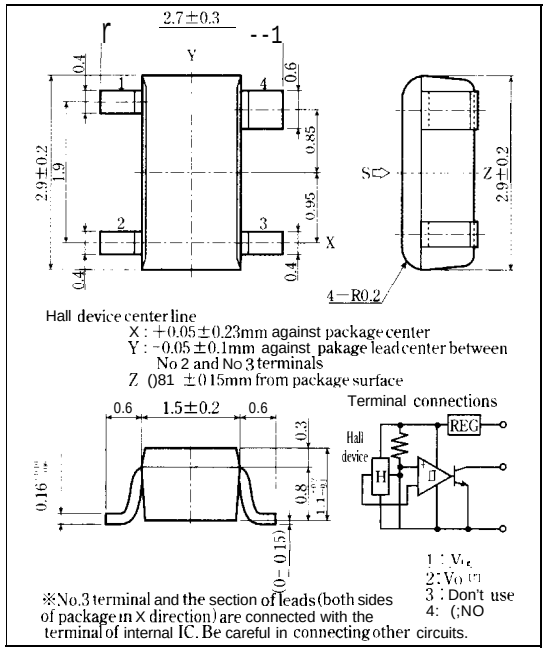
- FDD
- HDD
- Water meter
- Car stereo
- Microswitch,etc.

■ Absolute Maximum Ratings (Ta=25℃)

Parameter	Symbol	Rating	Unit
Supply voltage	V_{CC}	18	V
output voltage	V_{OUT}	18	v
Output current	1()	5	mA
Power dissipation	P_D	100	mW
operating temperature	T_{opr}	–20 to +125	℃
Storage temperature	T_{stg}	–55 to +150	℃
Soldering temperature※1	T_{sol}	260	℃

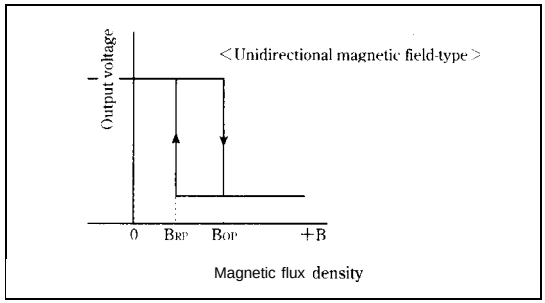
※ 1 Soldering time within 10 seconds

■ Outline Dimensions (Unit : mm)



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

■ Operating Explanation



■ Electrical Characteristics (Ta=25℃)

Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Operating magnetic flux density	B_{OP}	V_{CC}=16V	—	18	30	mT
	B_{RP}	V_{OO}=16V	10	16	—	mT
Hysteresis breadth	B_H	R_L=10kΩ		2	5	mT
Operating voltage	V_{CC}		4.5	—	16	V
Supply current	I_{CC}	V_{CC}=16V, B=≦10mT	—	—	10.5	mA
Low level output voltage	V_{OL}	I_O=4mA, B≧30mT	—	—	0.4	v
Output leakage current	I_{OH}	V_{CC} = 16V, B≦10mT, V_{OO}= 16V	—	—	10	μA
Operating point temperature drift	△B_{OP}	V_{CC}=16V, Ta=−5℃ to+60℃	—	2,0	4,5	mT
		V_{CC}=16V, Ta=−20℃ to+80℃	—	2.5	8.0	mT

Fig. 1 Operating Magnetic Flux Density vs. Supply Voltage

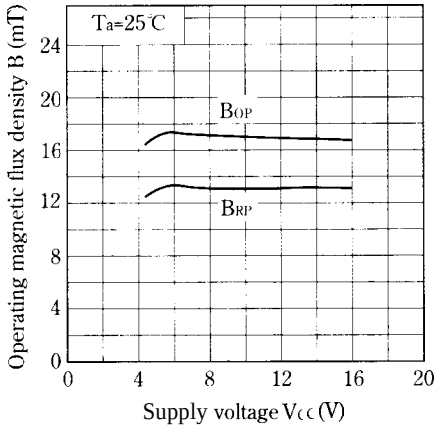


Fig. 2 Operating Magnetic Flux Density vs. Ambient Temperature

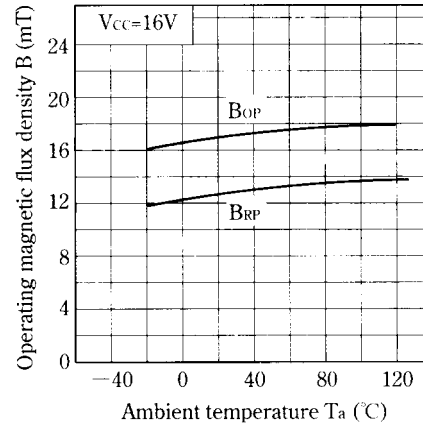


Fig. 3 Supply Current vs. Supply Voltage

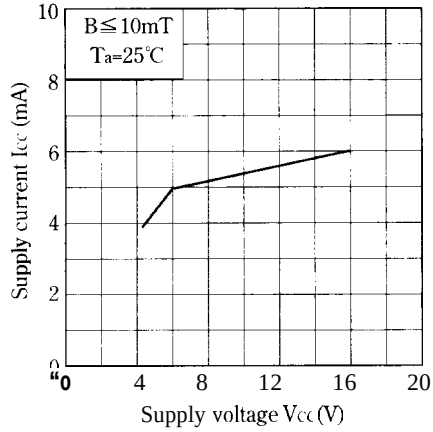


Fig. 4 Supply Current vs. Ambient Temperature

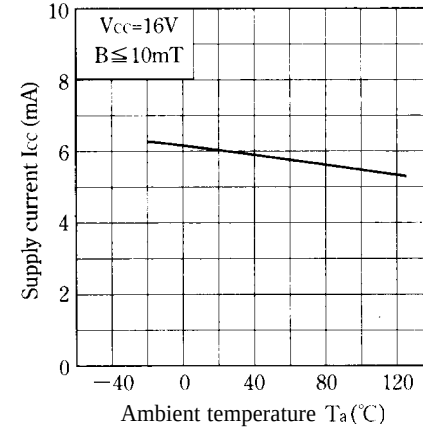


Fig. 5 Low Level Output Voltage vs. Output Current

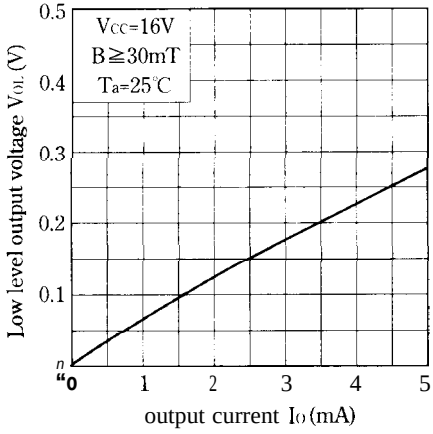


Fig. 6 Low Level Output Voltage vs. Ambient Temperature