

A1281 is an Unipolar Hall switch of low operating voltage and low sensitivity.

DMOS Hall
Effect Switch

Supply Voltage
3.0 ~ 24V

Bop : 175 Gauss
Brp : 130 Gauss

Output
Open Drain

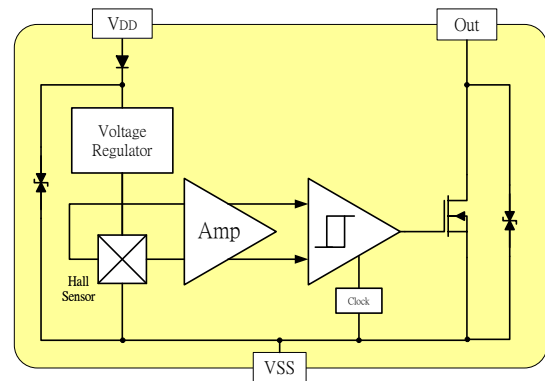
Package
SIP-3(I3)
SOT-23(S3)



◆ Absolute Maximum Ratings At ($T_a=25^\circ\text{C}$)

Characteristics	Values	Unit
Supply voltage (V_{DD})	28	V
Output Voltage, (V_{out})	28	V
Output current, (I_{SINK})	50	mA
Operating Temperature Range, (T_A)	-40 ~ +125	$^\circ\text{C}$
Storage temperature Range, (T_s)	-55 ~ +150	$^\circ\text{C}$
Package Power Dissipation, (P_d)	606 / 230	mW

◆ Functional Block Diagram



◆ Electrical Specifications

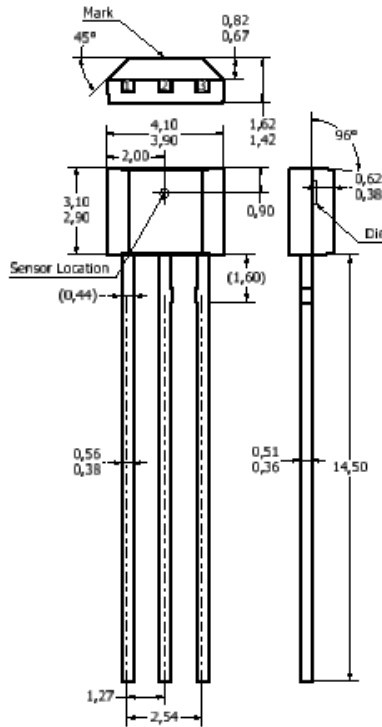
DC Operating Parameters : $T_A=+25^\circ\text{C}$, $V_{DD}=12\text{V}$

Parameters	Test Conditions	Min	Typ	Max	Units
Supply Voltage, (V_{DD})	Operating	3.0		24.0	V
Supply Current, (I_{DD})	$B < B_{OP}$		2.5	5.0	mA
Output Saturation Voltage, ($V_{DS(ON)}$)	$I_{out}=20\text{mA}, B > B_{OP}$			500.0	mV
Output Leakage Current, (I_{off})	$I_{OFF} B < B_{RP}, V_{OUT} = 20\text{V}$			10.0	μA
Output Rise Time, (T_r)	$R_L=1\text{k}\Omega, C_L=20\text{pF}$		0.04	0.45	μs
Output Fall Time, (T_f)	$R_L=1\text{k}\Omega; C_L=20\text{pF}$		0.18	0.45	μs
Electro-Static Discharge	HBM	4			KV
Operate Point, (B_{OP})	I3(S3)	140(-250)		250(-140)	Gauss
Release Point, (B_{RP})	I3(S3)	95(-205)		205(-95)	Gauss
Hysteresis, (B_{HYS})	$ B_{OP} - B_{RP} $		45		Gauss

◆ Package Dimension and Sensor Location

I3 Package

(Top View)



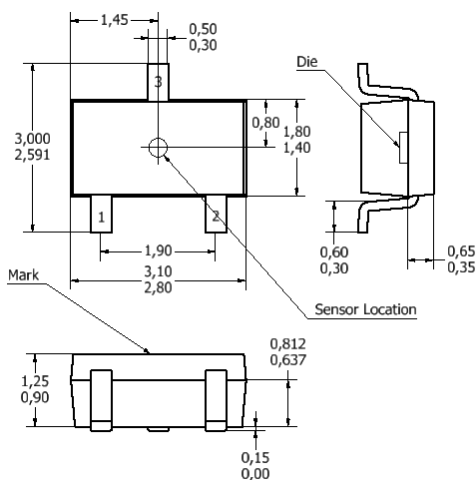
NOTES:

1. Controlling dimension: mm
2. Leads must be free of flash and plating voids
3. Do not bend leads within 1 mm of lead to package interface.
4. PINOUT:

Pin No.	Pin Name	Function
1	V _{DD}	Power Supply
2	V _{SS}	Ground
3	V _{OUT}	Output

S3 Package

(Top View)



NOTES:

1. Controlling dimension: mm
2. Leads must be free of flash and plating voids
3. Lead thickness after solder plating will be 0.254mm maximum
4. PINOUT:

Pin No.	Pin Name	Function
1	V _{DD}	Power Supply
2	V _{OUT}	Output
3	V _{SS}	Ground