

OH14A Hall Effect Element

1. Order Information

Part Number	Operation Temperature	Available Rank:
OH14A	-40 ~ 120°C	C/D/E

2. Maximum Ratings (Ta=25°C)

Parameter	Symbol	Rating	Unit
Maximum Input Current	I _{max}	20 (at 25°C)	mA
Maximum Power Dissipation	P _{max}	150 (at 25°C)	mW
Operating Temperature Range	T _{op}	- 40 ~ + 120	°C
Storage Temperature Range	T _{st}	- 40 ~ + 150	°C

3. Electrical Characteristics (Measured at 25°C)

Parameter	Symbol	Measurement Conditions	Min	Max	Unit
Output Hall Voltage	V _H	V _{in} = 1V, B = 500G	168	274	mV
Input Resistance	R _{in}	I = 0.1mA	240	550	Ω
Output Resistance	R _{out}	I = 0.1mA	240	550	Ω
Offset Voltage	V _O	V _{in} = 1V, B = 0G	- 7	+ 7	mV
Temp. Coeff. of V _H	α	T _a = 0 ~ + 40°C AVG.	-	- 1.8	% /°C
Temp. Coeff. of R _{in} , R _{out}	β	T _a = 0 ~ + 40°C AVG.	-	- 1.8	% /°C

※ V_H = V_{HM} - V_O (V_{HM} : The output voltage measured at 500G.)

4. Rank Classification and Mark on Output Hall Voltage

Output Hall Voltage, V _H (mV)	Rank	Mark	Measurement Conditions
168~ 204	C	■ C	V _{in} = 1V, B = 500G (Constant Voltage)
196~ 236	D	■ D	
228 ~ 274	E	■ E	

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5. Method for Mounting

5.1 Lead Frame

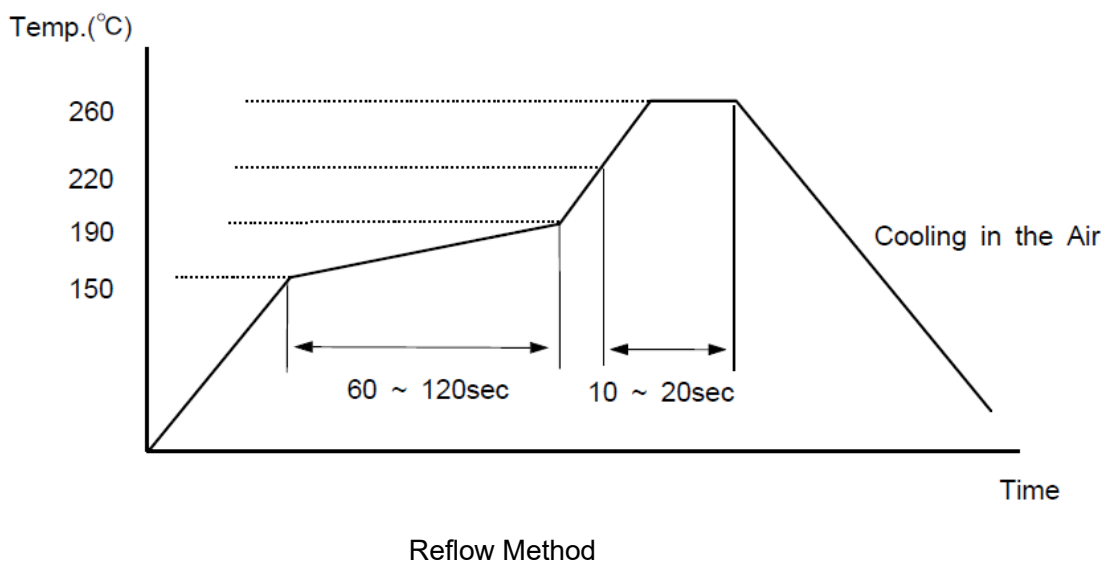
- 1) The material of the lead frame is phosphor bronze alloy, and the die bonded surface is plated by silver. The minimum thickness of the plating is $3.0\mu\text{m}$.
- 2) Pure Sn plates lead Frame, and the thickness is controlled by $4\sim 12\mu\text{m}$.

5.2 Soldering Conditions on PCB

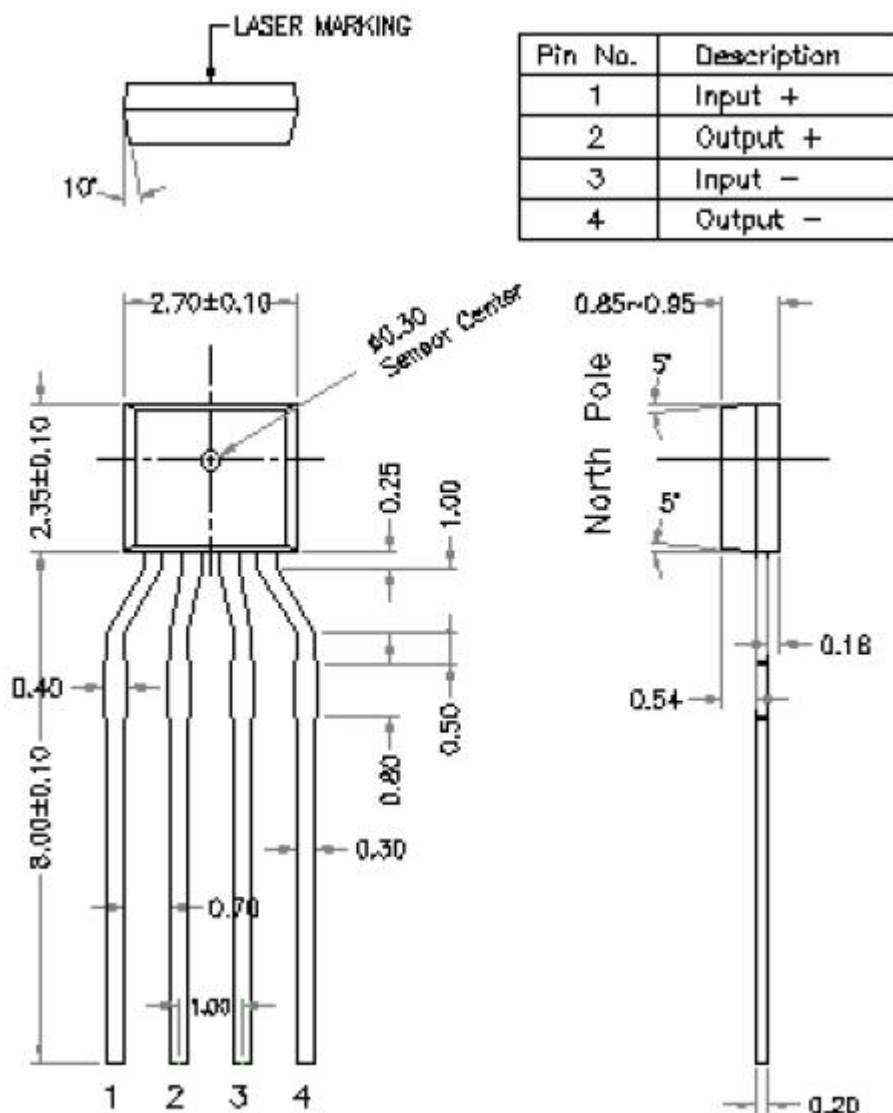
- 1) No rapid heating and cooling.
- 2) Preheating is recommended for 1~2minutes at $150\sim 190^\circ\text{C}$.
- 3) Reflowing is recommended for 10~20seconds at $220\sim 260^\circ\text{C}$.

5.3. Soldering Method and Temperature

Items	Methods	Temperature
Reflow	Soldering by Passing the Heated Zone	Max 250°C in 20sec
Solder Iron	Soldering by Soldering Iron	Max 350°C in 3sec

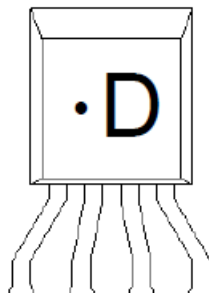


6. Dimension unit:mm



7. Mark method

Devices should be marked by Laser beam in the form of "■ +Rank"



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8. RELIABILITY

8.1 TEST CONDITION

TEST ITEM	CONDITION
HIGH TEMP. STORAGE	Ta=150°C,t=1000HR
HIGH TEMP. OPERATION	Ta=120°C,Iopr=10mA,t=1000HR
LOW TEMP. OPERATION	Ta=-40°C,Iopr=6mA,t=1000HR
HIGH TEMP. HIGH HUMIDITY OPERATION	Ta=85°C,HR=85%,Iopr=9mA,t=1000HR
PCT	Ta=121°C,HR=100%,Pv=2atm,t=24HR
THERMAL SHOCK	T(L)=-55°C,T(H)=150°C,t=(L,H)=30min,M=30CYCLE
HIGH HUMIDITY TEMPERATURE CYCLE	T(L)=-20°C,T(H)=85°C,t=(L,H)=30min,HR=95%,M=40CYCLE
SOLDERING HEAT RESISTANCE	solder temp=260°C,t=10sec,REFLOW
ESD(MM)	V=500V, C=200pF, R=0Ω(EIAJ TEST CONDITION)

8.2 CRITERION FOR JUDGING

After each reliability test, samples should be kept for at least 24 hrs in room temp. & humidity, and then measured.

The change rates should be confined within the ranges as follows.

item	OK SPEC	NG/OK
Rin	UNDER ±20%	OK (SPEC SATISFYING)
Rout	UNDER ±20%	
VH	UNDER ±20%	
Vo	Max: ±15mV	

9. Caution on treating

On surface mounting, please keep the statements written by mounting conditions. Safekeeping Period is 6 month at room temperature in the condition of being packed



10. The Analysis of RoHS(Restriction of Hazardous Substances)

It is guaranteed that there are no RoHS materials in Hall Sensor by specific analysis results.

- References: ROHS 6 Materials

- 1) Cadmium (Cd)
- 2) Lead (Pb)
- 3) Mercury (Hg)
- 4) Hexavalent Chromium (CrVI)
- 5) PBBs (Polybrominated Biphenyls)
- 6) PBDEs (Polybrominated Diphenyl Ethers)

11. Halogen Free

OH14A Hall sensor guarantees that it contains no Halogenated materials.

That is Halogen-Free product and is confirmed by specific analysis results.

- References: Halogen materials

- 1) Fluorine(F)
- 2) Chlorine (Cl)
- 3) Bromine (Br)
- 4) Iodine (I)



For more information:

Ouzhuo Technology service you through a worldwide network of sales offices and distributors. For application assistance, current specifications, pricing, or the nearest Authorized Distributor, you could reach us the way you are convenient, thank you for your support!

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NOTICE:

The information presented in this datasheet is for reference only. Specifications may change without notice.

