OH12A Hall Effect Element

1. Order Information

Part number	Operation Temperature	Rank	Package
OH12A, Old Part number: SH12A	-40 ~ 120℃	F (266 ~ 320mV) E (228 ~ 274mV)	SOT143, 3000 pcs/reel

2. Maximum Ratings (Ta=25℃)

Parameter	Symbol	Rating	Unit
Maximum Input Current	Imax	20 (at 25℃)	mA
Maximum Power Dissipation	Pmax	150 (at 25℃)	mW
Operating Temperature Range	Top	- 40 ~ + 120	℃
Storage Temperature Range	Tst	- 40 ~ + 150	℃

3. Electrical Characteristics (Measured at 25℃)

Parameter	Symbol	Measurement Conditions	Min	Max	Unit
Output Hall Voltage	V_H	Vin = 1V, B = 500G	122	320	mV
Input Resistance	Rin	I = 0.1mA	240	550	Ω
Output Resistance	Rout	I = 0.1mA	240	550	Ω
Offset Voltage	V_O	Vin = 1V, B = 0G	- 7	+ 7	mV
Temp. Coeff. of VH	α	Ta = 0 ~ + 40℃ AVG.	-	- 1.8	% /℃
Temp. Coeff. of Rin, Rout	β	Ta = 0 ~ + 40℃ AVG.	-	- 1.8	% /℃

※ VH = VHM - VO (VHM : The output voltage measured at 500G.)

4. Rank Classification and Mark on Output Hall Voltage

Output Hall Voltage, VH (mV)	Rank	Mark	Measurement Conditions
228 ~ 274	E	SSE	Vin = 1V, B = 500G (Constant Voltage)
266 ~ 320	F	SSF	

※ If there is no special requirement, we generally provide RANK F products.

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5. Method for Mounting

5-1. Soldering Conditions on PCB

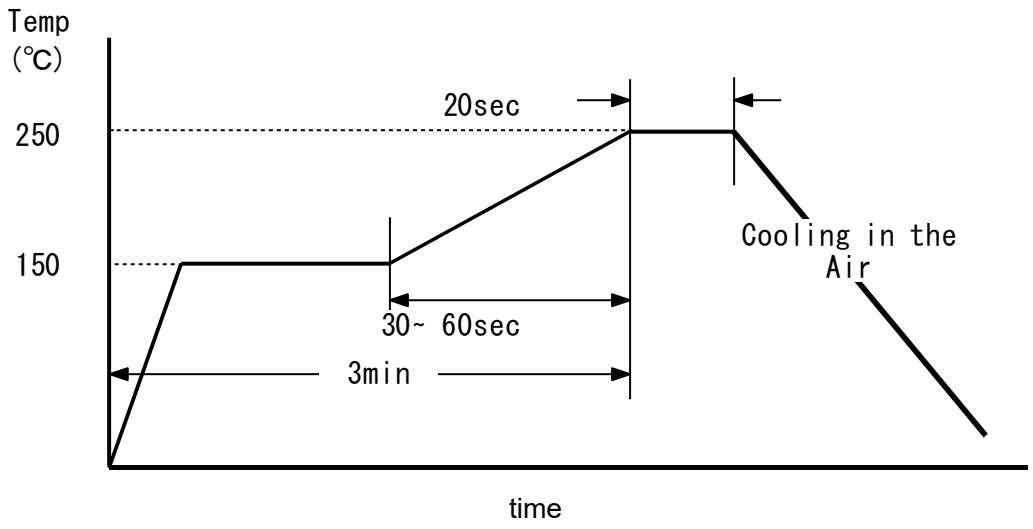
No Rapid Heating and Cooling.

Recommended Preheating condition is at 130～150℃ for 2～3minutes .

Recommended Reflowing condition is at 220～230℃ for 10～15seconds .

5-2. Soldering Method and Temperature

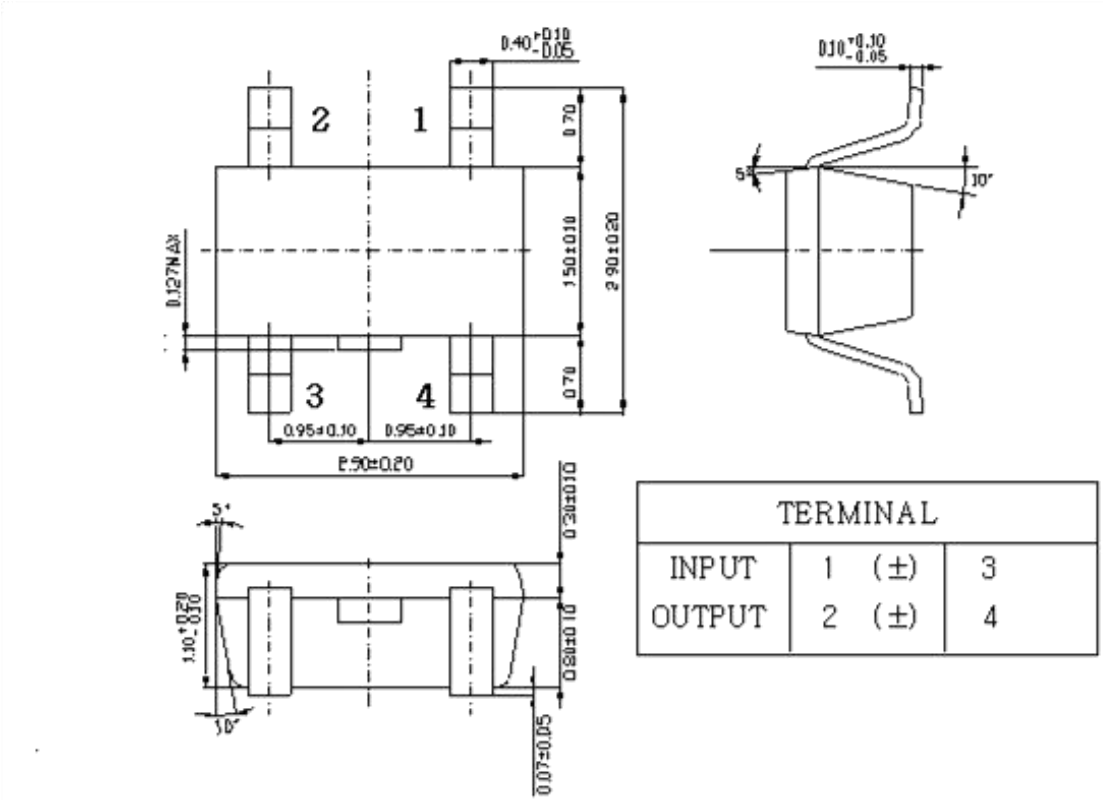
Items	Methods	Temperature
Reflow	Soldering by Passing the Heated Zone	Max 250℃ in 20sec
Solder Iron	Soldering by Soldering Iron	Max 300℃ in 3sec



Reflow Method

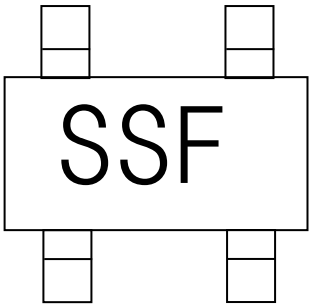
6. Dimension (Unit: mm)

SOT143



TERMINAL		
INPUT	1 (±)	3
OUTPUT	2 (±)	4

7. Mark method



8. RELIABILITY

8.1 TEST CONDITION

	CONDITION
HIGH TEMP. STORAGE	Ta=110℃, t=1000HR
LOW TEMP. STORAGE	Ta=-40℃, t=1000HR
HIGH TEMP. OPERATION	Ta=100℃, Iopr=6mA, t=1000HR
LOW TEMP. OPERATION	Ta=-20℃, Iopr=6mA, t=1000HR
HIGH TEMP. HIGH HUMIDITY OPERATION	Ta=60℃, HR=90%, Iopr=9mA, t=1000HR
HUMIDITY	Ta=60℃, HR=90%, t=1000HR
PCT	Ta=121℃, HR=100%, Pv=2atm, t=24HR
THERMAL SHOCK	T(L)=-55℃, T(H)=150℃, t=(L,H)=30min, M=30CYCLE
SOLDERING HEAT RESISTANCE	solder temp=250±5℃, t=10sec, REFLOW
SOLDABILITY	solder temp=230±5℃, t=5sec, dip
TERMINAL STRENGTH	TENSION 300g/30sec
SURGE	V=500V, C=200pF, R=0Ω

8.2 CRITERION FOR JUDGING

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

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

item	OK SPEC	NG/OK
ΔRin	UNDER ±20%	OK (SPEC SATISFYING)
ΔRout	UNDER ±20%	
ΔVH	UNDER ±20%	
ΔVo/VH	UNDER ± 5%	

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.