HEX-108A

Halogen Free

HALL ELEMENT

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1.Application

This specification Sheet is applied to Hall sensor that HEX.TEC supplies.

2. Electrical Characteristics

2.1 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	℃

2.2 Electrical Characteristics (Measured at 25℃)

Parameter	Symbol	Measurement Conditions	Min	Max	Unit
Output Hall Voltage	V_H	Vin=1V, B=500G	196	320	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	Vin=1V, B=0G	−7	+7	mV
Temp. Coeff. of V_H	α	Ta=0 ~ +40℃	—	−1.8	% /℃
Temp. Coeff. of R_{in}, R_{out}	β	Ta=0 ~ +40℃	—	−1.8	% /℃

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

2.3 Rank Classification and Mark on Output Hall Voltage

Output Hall Voltage, V_H (mV)	Rank	Mark	Measurement Conditions
196 ~ 236	D	▪SD	Vin=1V, B=500G (Constant Voltage)
228 ~ 274	E	▪SE	
266 ~ 320	F	▪SF	

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3. Method for Mounting

3.1 Lead Frame

1) The material of lead frame is phosphor bronze alloy and the die bonded surface is plated by silver. The minimum thickness of plating is 3.0㎛.

2) Lead Frame is plated by pure Sn and the thickness is controlled by 4~12㎛.

3.2 Soldering Conditions on PCB

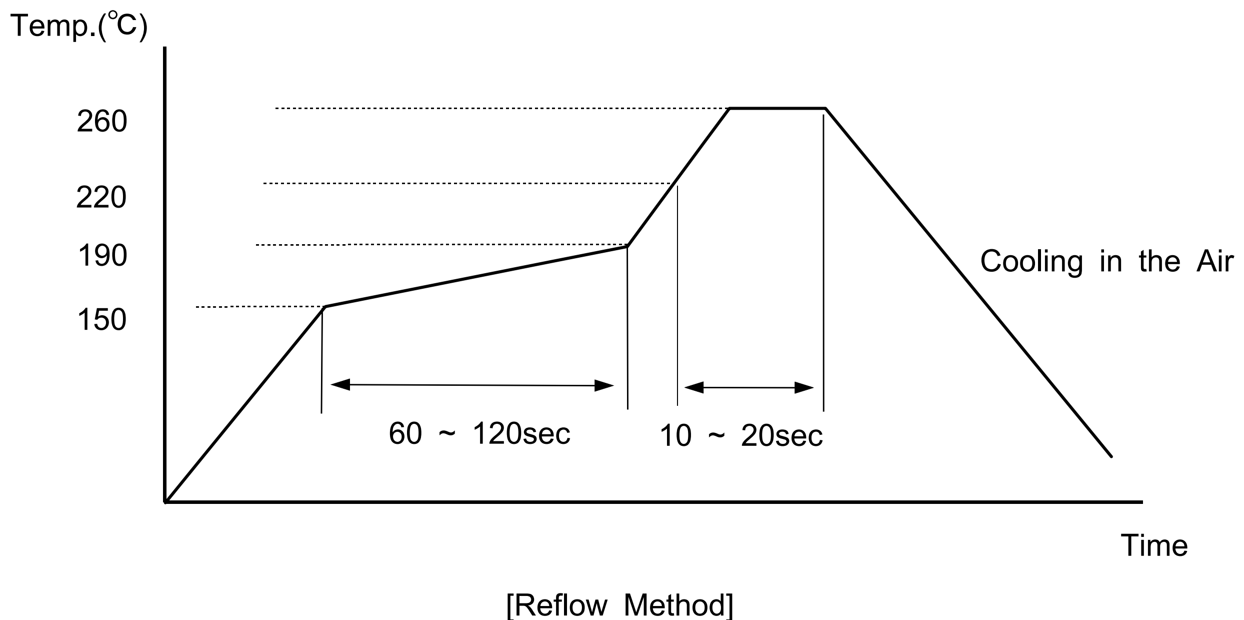
1) No rapid heating and cooling is desired.

2) Preheating is recommended for 1～2minutes at 150～190℃.

3) Reflowing is recommended for 10～20seconds at 220～260℃.

3.3 Soldering Method and Temperature

Items	Methods	Temperature
Reflow	Soldering by passing the heated zone	Max 260℃ in 10sec
Solder Iron	Soldering by solder-iron	Max 350℃ in 3sec



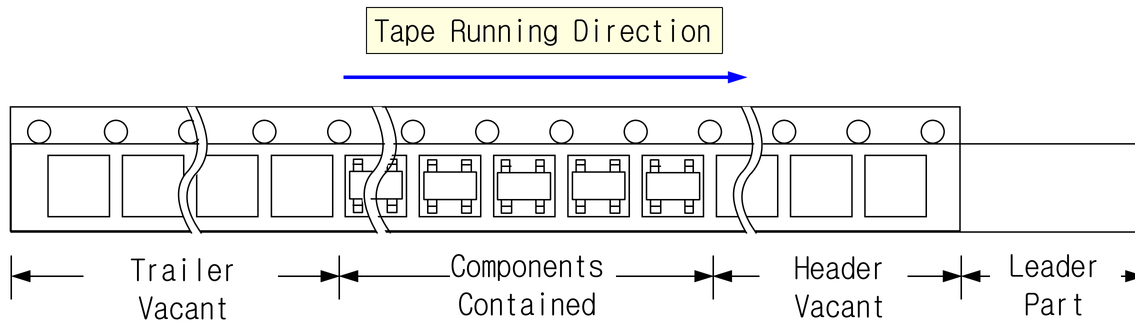
[Reflow Method]

4. Packaging

4.1 Taping

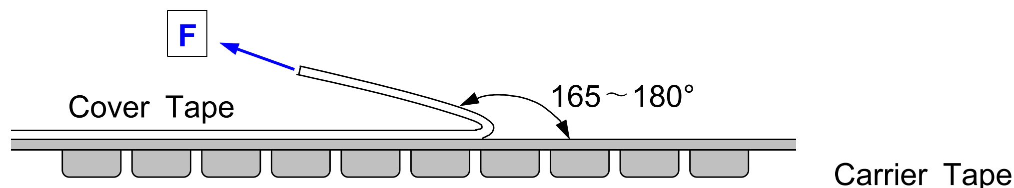
1) HEX-108A should be packed marking side to cover tape side and put long side to tape running direction. 180° rotation has no effect on the application.

2) At least, 40mm vacant parts are made both front and rear side of tape.



4.2 Handling Methods of Tape

1) Pull Strength(F) = 20～70g



2) Devices should not run out of a pocket when tape is bent down 15mm curvature.

3) Devices should not stick to cover tape.

4) Devices should be kept below 40℃ and below RH80% in the shade.

5) Tape has no joint.

4.3 Packing Unit

1) 4,000pcs of devices are packed in one reel.

2) Five reels are packed in one inner box.

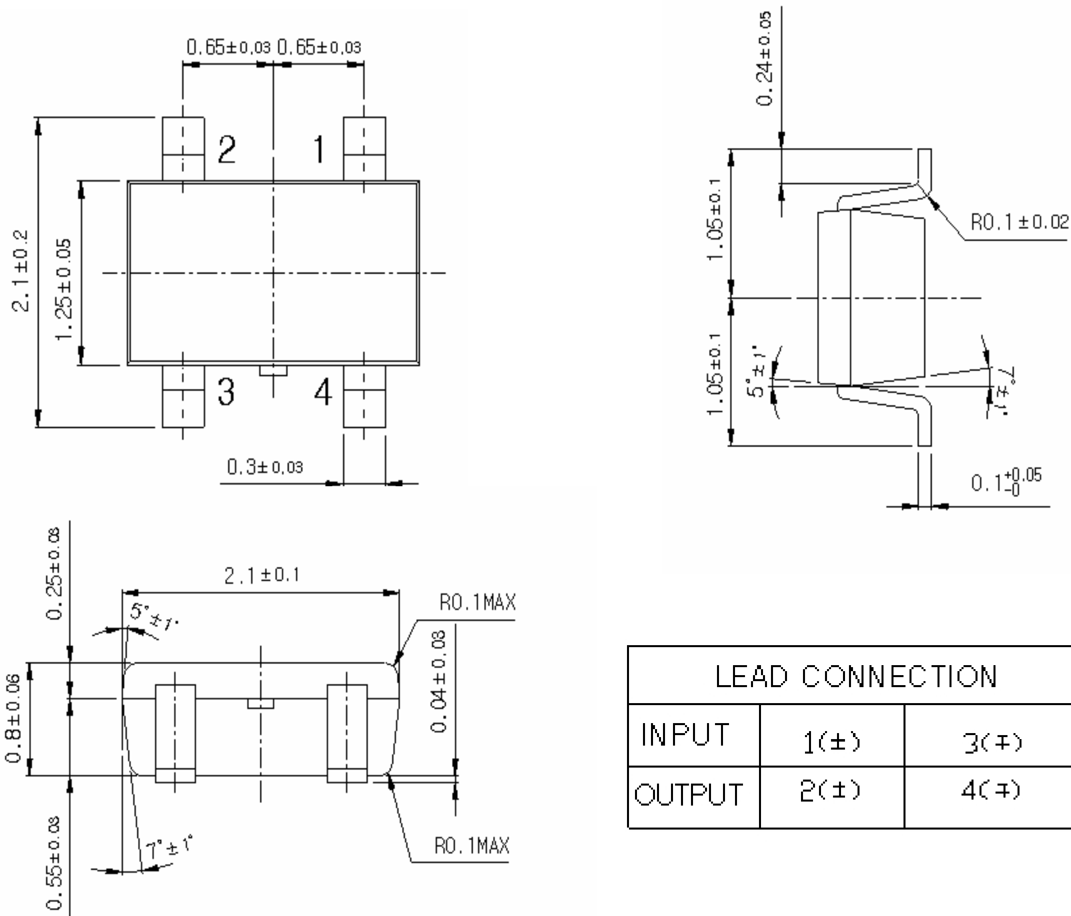
3) Four inner boxes, 80,000pcs of devices, are packed in one outer box.

4) Dummy could be packed for safe dealing.

5. External Dimensions and Appearance

5.1 External Dimensions (Unit : mm)

Four leads of input·output terminals are designed in the diagonally symmetric mode and are equal in dimensions. HEX-108A could be used without considering on the rotation of 180°.



LEAD CONNECTION		
INPUT	1(±)	3(∓)
OUTPUT	2(±)	4(∓)

[Package Dimensions]

5.2 Marking Method

Devices should be marked by LASER beam in the form of 「Rank」.