

Specification



Name of products
High Sensitivity type Hall Element

Model
NHE520FR-HF6/7

Acceptance of Customer(s) Please return 1 set of this specification
with your signature for acceptance

Date
30 Nov. 2016

NIPPON CERAMIC CO.,LTD

APPROVED	CHECKED	PREPARED
		

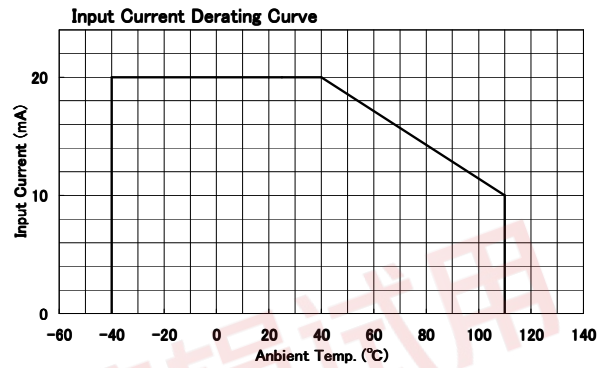
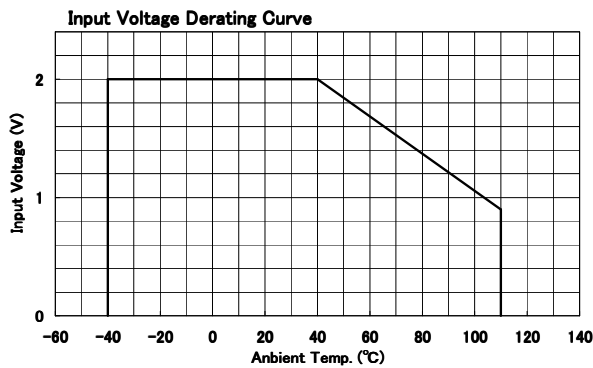
Specification of NHE520FR-HF6/7

1. Absolute Maximum Ratings

(Ta=25°C)

Item	Symbol	Rating	Unit
Max.Control current	Ic max	40°C current driven	20 mA
Operating temp.	Topr	-40~+110	°C
Storage temp.	Tstg	-40~+125	°C

Note: without restriction resistance, stay within input voltage derating curve envelope



2. Electrical Characteristics

Item	Symbol	Condition	Min	Standard	Max	Unit
Hall voltage	*VH	Vc=1V, B=50mT	196		320	mV
Offset voltage	Vo	Vc=1V, B=0mT	-7		+7	mV
Input resistance	Rin	Ic=1mA, B=0mT	240		550	Ω
Output resistance	Rout	Ic=1mA, B=0mT	240		550	Ω
Temp.coeff. of VH	αHI	Average on 0~40°C for 20°C base B=50mT Ic=5mA		-1.8		%/°C
Temp.coeff. of resistance	βR	Average on 0~40°C for 20°C base B=0mT Ic=0.1mA		-1.8		%/°C

$$*VH = VHM - Vo$$

VHM : Measured value of Hall voltage at 50mT
 Vo : Offset voltage

3. Classification of rank for Hall voltage and Printed indication

Classification of rank for Hall voltage

*VH(mV)	Name of Rank	Printing
196~236	5	5
228~274	6	6
266~320	7	7

Indication of model(Rank)

NHE520FR-HF- □

(□ is showing name of Rank)

HF: Halogen - Free

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4. Guarantee conditions for mounting mini-mould package

(1) Recommended conditions for soldering the product to the substrate

- 1) Please avoid heating and cooling the main body rapidly.
- 2) Preheating should be done for 2~3 min. at 150~200°C
- 3) Soldering for 5 sec. at 245~260°C is the best condition for soldering (example: reflow).

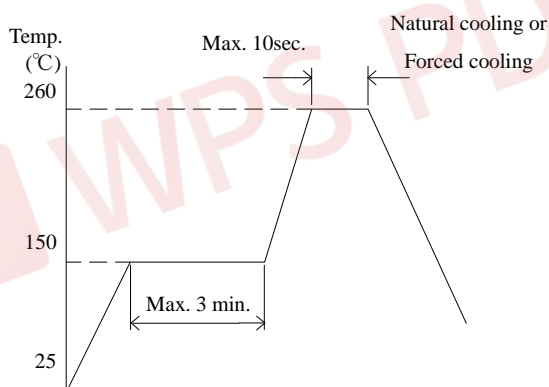
(2) Soldering method and guaranteed temperature.

1) Soldering Method

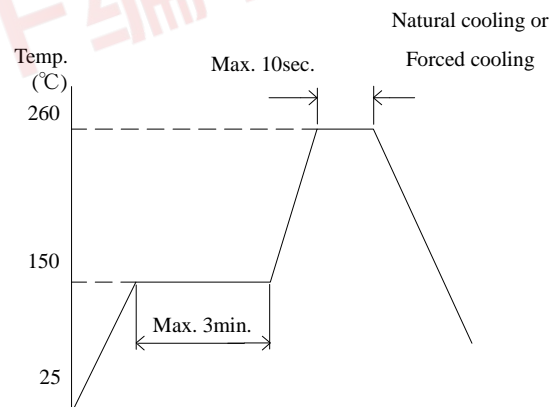
Method	Conditions	Temp.
Reflow	Soldering is done in high temp circumstances	MAX260°C 10sec.
Solder dip	Soldering is done in the dipping sink for solder.	MAX260°C 10sec.
Soldering Iron	Repair soldering parts of the lead wire by using the soldering iron.	350°C within 3sec.

2) Range of guaranteed temp.

Reflow

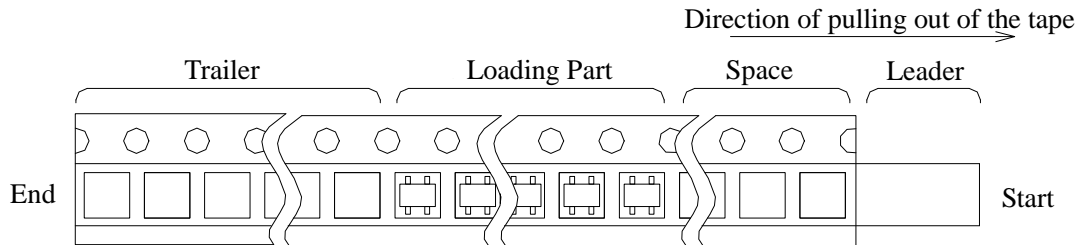


Solder dip



5. Description of pacing

(1) Structure of taping

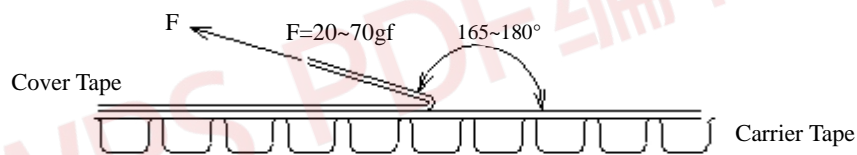


5-1-1. The Hall element is placed on the carrier tape with the marking side facing down. The long side of the elements are along the pulling-out direction of the tape. The direction of Hall element itself does not matter.

5-1-2. It is required to leave 4 cm or more empty carrier tape at the trailer and the space part. It is also required to leave 16 cm or more cover tape at the leader part.

(2) Mechanical strength and handling.

(2)-1 The exfoliating strength of cover tape is 20~70 gf.



(2)-2 Even though tape is curved by radius 15mm, the product doesn't jump out.

(2)-3 The product doesn't stick to the cover tape.

(2)-4 It shall be stored in the place where the temperature is below 40°C, and humidity below 80%.

It must not be stored where it may be exposed to the direct rays of the sun.

(2)-5 There should not be a missing product in the tape.

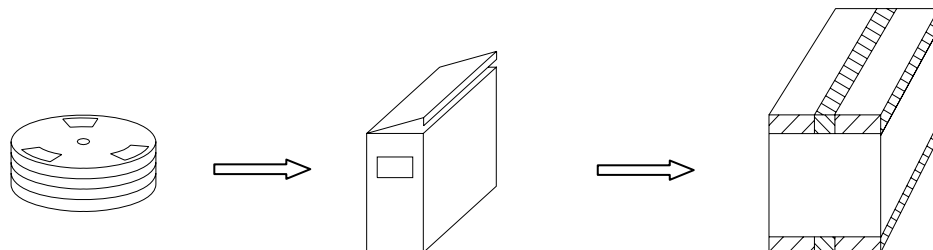
(2)-6 There should not be any joint on the tape.

(3) Packing

(3)-1 There are 3,000 pcs of Hall element in 1 reel.

(3)-2 There are 5 reels of reels (15,000pcs) in a case

(3)-3 There are 6 cases (90,000pcs) in a carton



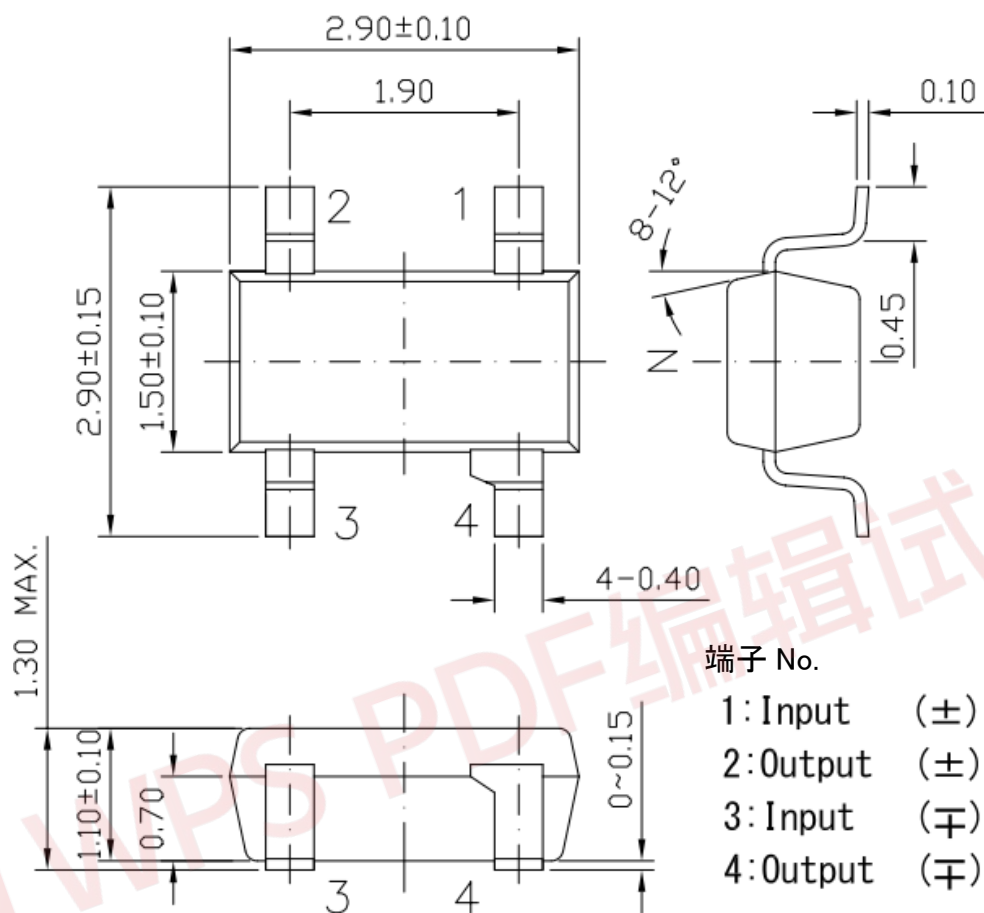
Notes: 5 reels are put in a case vertically.

A case has 5 reels.

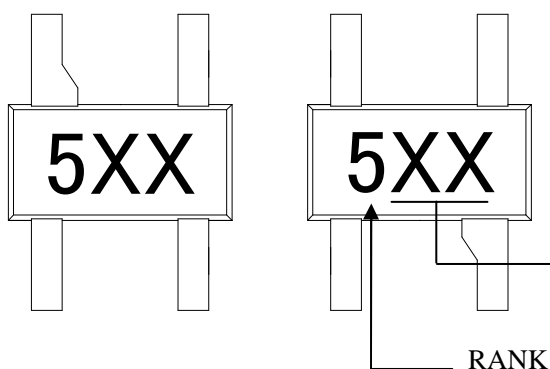
A carton has 6 cases.

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6. Outline drawing of Hall Element [Unit: mm]



7. Marking

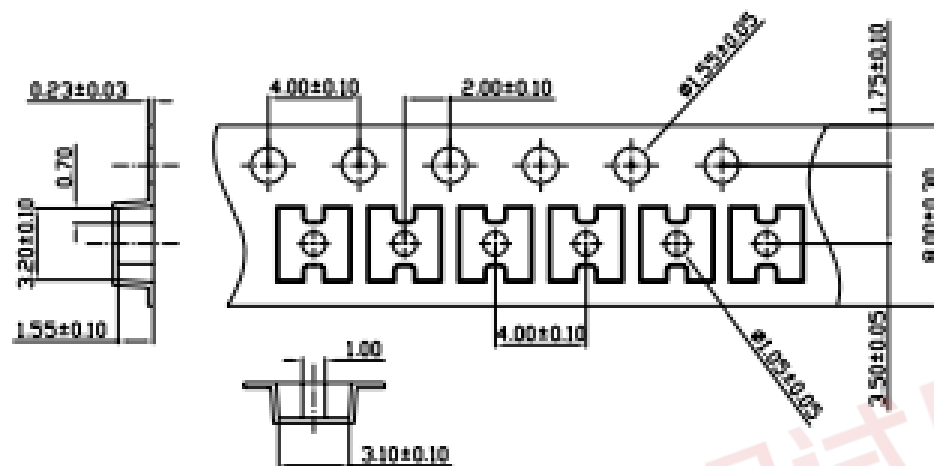


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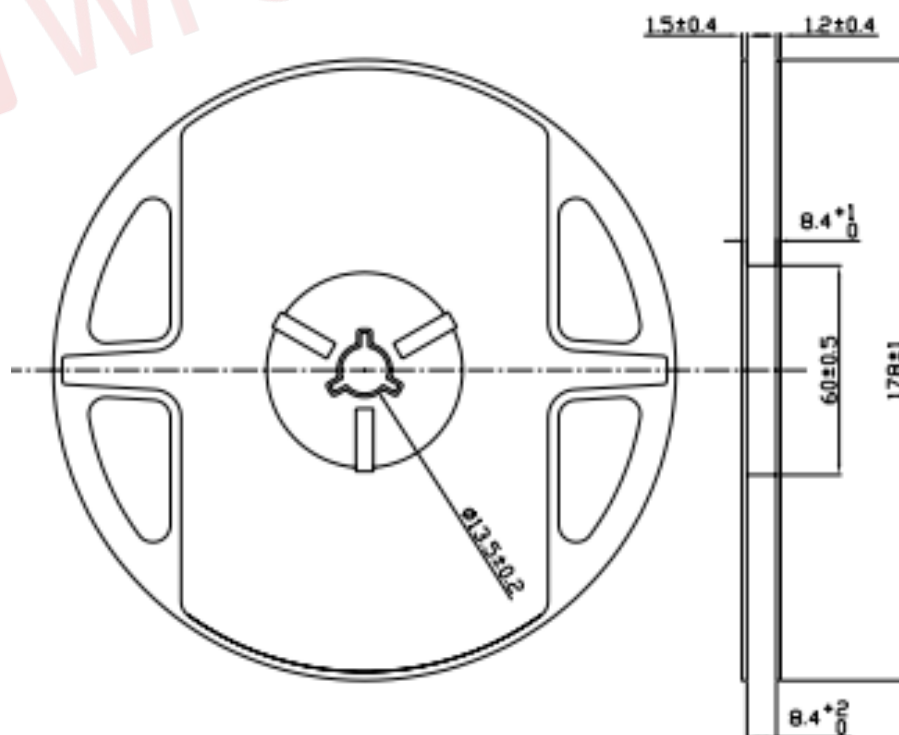
- First digit = Last number of A. D.
- Second digit = Production month that was labeled with a English character. Refer to the following table.

Production month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
English character	O	P	Q	R	S	T	U	V	W	X	Y	Z

8. Outline drawing of carrier tape [Unit: mm]

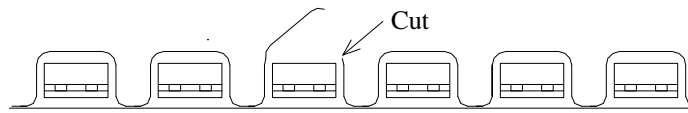


9. Outline drawing of reel [Unit: mm]

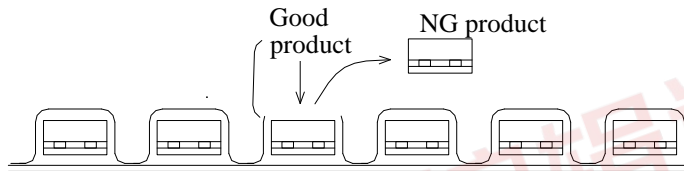


10. Restoring method of reel

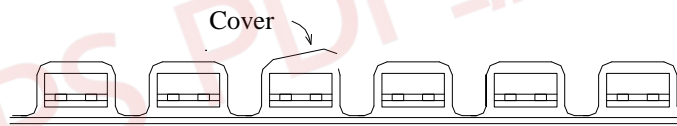
- (1) When we discovered a defective product by the appearance inspection, we replace it with a qualified product.
- (2) Replacement procedure
 - (2)-1 Cut the carry tape (three corners) with a knife.



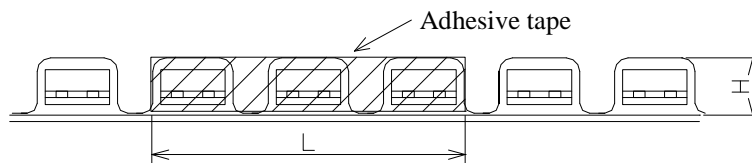
- (2)-2 Replace the product.



- (2)-3 Cover the hall, and seal it with adhesive.



(3) Repairing Area



Repairing tape length $L=10.0\sim 12.0\text{mm}$ Repairing tape height $H=1.2\sim 1.5\text{mm}$

11. Cautions

(1) Attention for storage

Because the products are packed in tapes when shipped, it is required to pay most attention on the Circumstances for the storage of the products, as we mention in the section 5.

If the products are stored under the following circumstances or equivalent circumstances, damage to appearance, defectiveness of characteristics and assembly deterioration may occur.

Please understand the above and store the products with care.

Recommended Circumstance is to keep them in N2-Box.

- a. Circumstances under high temperature, high humidity for long hours.
- b. Circumstances that has corrosive gas, organic gas, acidity and alkalinity background.
- c. Dusty Circumstances.

(2) Attention for mounting

Please follow the matters as we mention in the section 4

(3) Notice

This specification certifies the quality of Hall element itself. The guarantee does not cover the following situations.

- a. When it is inappropriately handled or used in a wrong way by the user.
- b. When it gets additional treatment by others (except for the supplier).
- c. When it meets a situation that Nicera is not able to control such as natural disasters etc .

The guarantee of this specification limits the guarantee to replacing the Hall element itself.

The expenses for exchange and /or the damage caused by the defective or failed products are not covered.

Your understanding and cooperation is highly appreciated.