REQUEST FOR APPROVAL

ITEM	
MODEL NO.	
DESCRIPTION	
CODE NO.	
APPLIED TO	
REFERENCE	

DRAWING	CHECK	APPROVAL

TO :

HUMIDITY MODULE

P/N : GB-21C

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SPECIFICATIONS

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1. Scope of application

These specifications are applicable to the humidity sensor GB21-C

2. Type

GB21-C : humidity sensor unit

3. Configuration

The configuration of the humidity sensor unit is shown on the attached Fig.-1.

4. Electrical characteristics

4 - 1.	Rated voltage	: 5VAC (max.)
4 - 2.	Rated power	: 0.3mW
4 - 3.	Operating temperature range	: 0 ~ 60℃
4 - 4.	Operating humidity range	: 20 ~ 95%RH
4 - 5.	Humidity response time	: < 1min. (30 ~ 90%RH)
4 - 6.	Hysteresis	: ±2%RH (30 ~ 90%RH)
4 - 7.	Standard humidity resistance	: 24kΩ (25℃, 60%RH)
4 - 8.	Humidity measurement accuracy	: ±3%RH, ±5%RH
4 - 9.	Temperature dependence	: 0.6 %RH/℃

5. Mechanical characteristics

5 - 1. Shock resistance

Not to be abnormal in the appearance and electrical characteristics after having been naturally let to drop down 3 times at random onto a hard wooden plate from the height of 75㎝.

5 - 2. Vibration resistance

Not to be abnormal in the appearance and electrical characteristics after having been vibration-tested for 2 hours each in the directions of X-Y-Z, at the frequency of 10~55㎐, and amplitude of 1.5mm (10-55-10).

5 - 3. Resistance to soldering heat

Not to be abnormal in the appearance and electrical characteristics after lead terminal shall be immersed down by 3mm from the substrate for 3 seconds in a solder bath of 260±5℃.

5 - 4. Strength of terminations(tensile)

Lead terminal shall be secured by the body after it shall be pulled with the specified force of 500g for 10 seconds in the axial direction of lead terminal.

6. Reliability

6 - 1. Heat resistance

Leave for 1000 hours in the environment of 85℃ and 30%RH or less.
Then, further leave for 60 minutes under the normal temperature and humidity.
Thereafter, to be within ±5%RH of change in the initial value.

6 - 2. Cool resistance

Leave for 1000 hours in the environment of -30℃ and 70%RH or less.
Then, further leave for 60 minutes under the normal temperature and humidity.
Thereafter, to be within ±5%RH of change in the initial value.

6 - 3. Humidity resistance

Leave for 1000 hours in the environment of 40℃ and 95%RH or less.
Then, further leave for 60 minutes under the normal temperature and humidity.
Thereafter, to be within ±5%RH of change in the initial value.

6 - 4. Humidity cycle

Here, one cycle shall be to leave for 30 minutes under 25℃, 30%RH continue to leave for 30 minutes while raising to 90%RH, leave for 30 minutes under 90%RH and further leave for 30 minutes while lowering to 30%RH.
Repeat such 500 cycles.
Then, leave for 60 minutes under the normal temperature and humidity.
Thereafter, to be within ±5%RH of change in the initial value.

6 - 5. Temperature cycle

Here, one cycle shall be to leave for 30 minutes under -30℃.
Continue to leave for 30 minutes while raising the temperature to 85℃, leave for 30 minutes under 85℃ and further leave for 30 minutes while lowering the temperature to -30℃. Repeat such 100 cycles.
Then, leave for 60 minutes under the normal temperature and humidity.
Thereafter, to be within ±5%RH of change in the initial value.

6 - 6. Organic solvent resistance

Leave for 300 hours in the environment of 25℃,
Benzene 30Wt.% + Xylene 40Wt.% + Toluene 30Wt.%.
Then, leave for 2 hours under the normal temperature and humidity.

Thereafter, to be within ±5%RH of change in the initial value.

6 - 7. Voltage resistance

Impress for 3000 hours the frequency of 1㎑, and voltage of $1V_{rms}$ under the normal temperature and humidity.

Then, leave for 60 minutes under the normal temperature and humidity.

Thereafter, to be within ±5%RH of change in the initial value.

7. Remarks on using

(1) Positively don't impress DC to the humidity sensor.

(2) Avoid condensation and drenching as much as possible.

(3) Using in relatively clean air.

Take full care of using in the atmosphere of the below gas.

(a) Salty air and/or nearby anionic ionizer

(b) Inorganic gases ... SOx, NOx, Ammonia

(c) Organic gases .... Alcohols, Glycols, etc. (Solvent)

8. Other characteristics to be added and/or changed

Whenever there are any necessities for changing and/or adding the characteristics to this specification, it can be changed and/or added by customer's requirement.

Fig.-1. Sensor unit dimensions

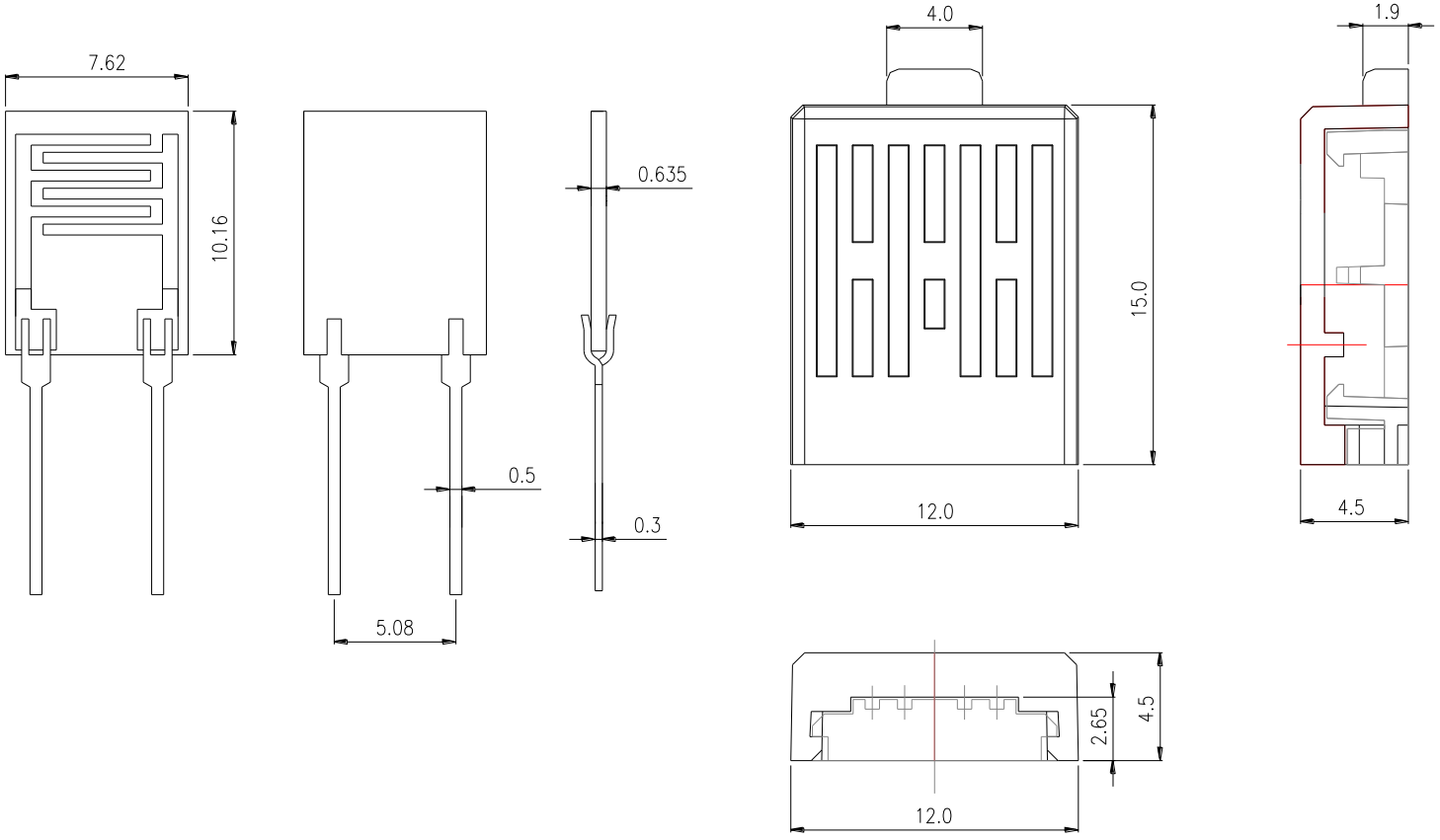

Fig 2. Basic characteristics

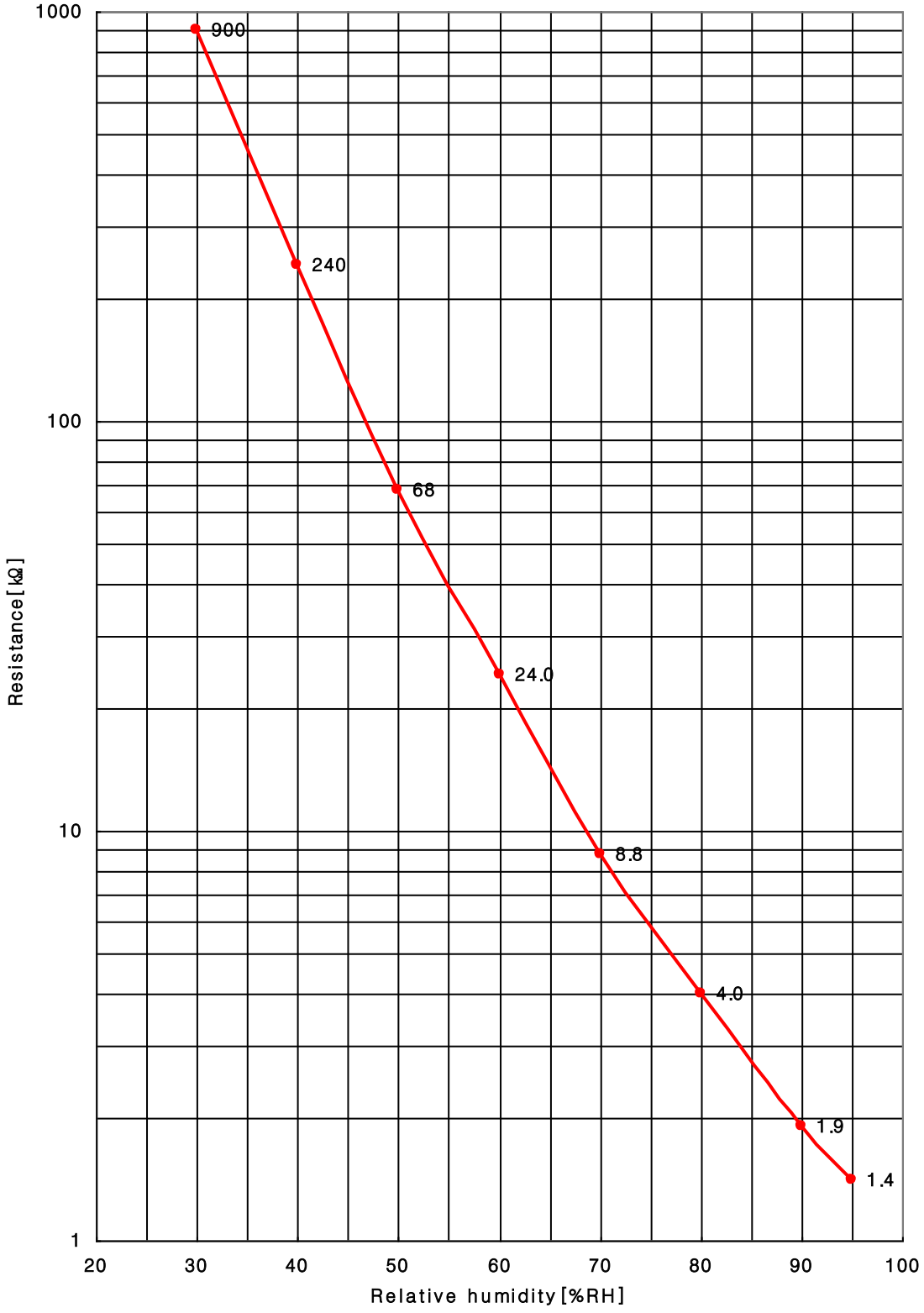

Fig 3. Temperature characteristics

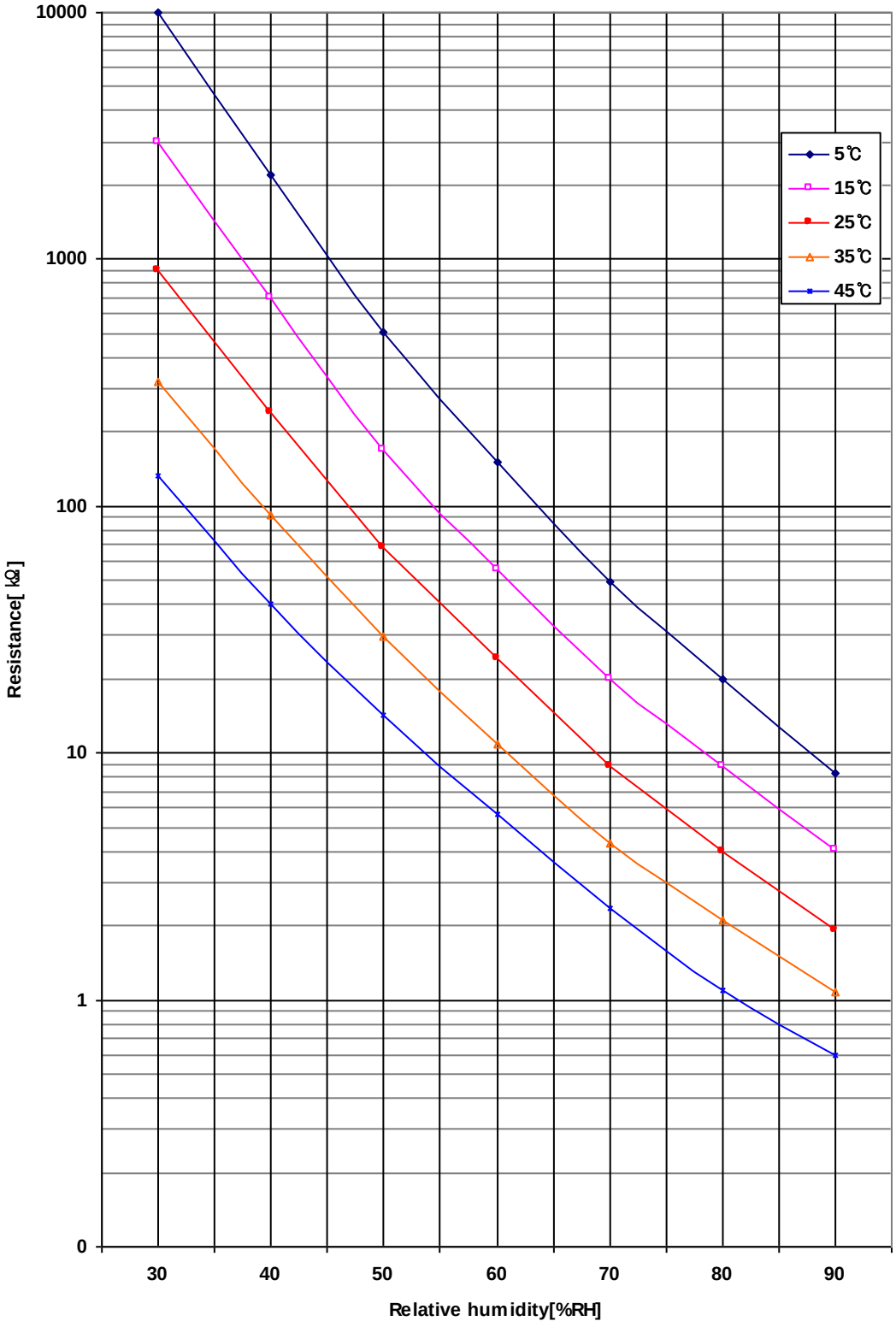

Fig 4. Frequency characteristics

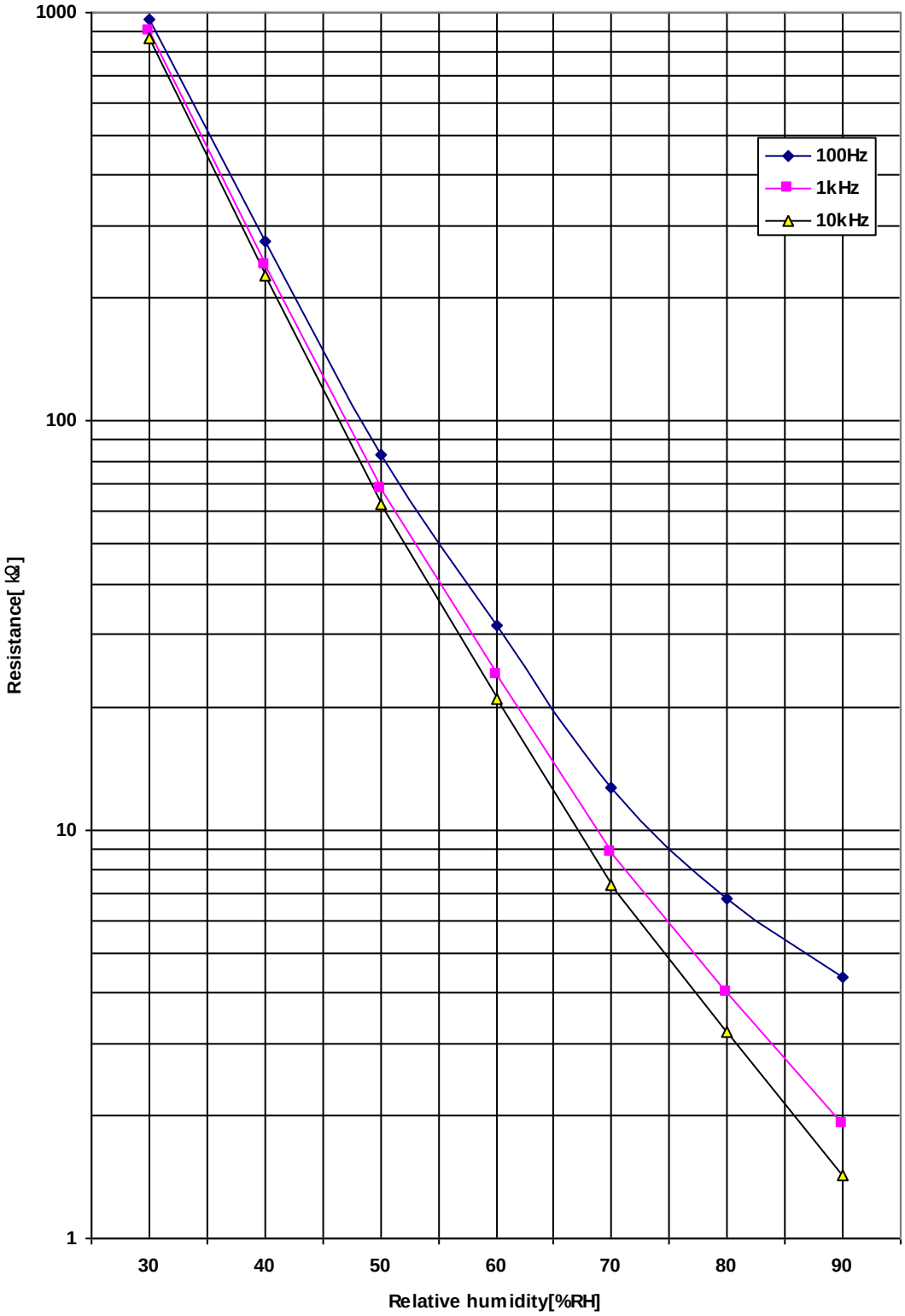

Fig 5. Response time

