

[54] HUMIDITY SENSING APPARATUS

[75] Inventors: Ikuo Nishimoto, Fujisawa; Shoji Kamiunten, Kamakura; Takaaki Kuroiwa, Yokohama, all of Japan

[73] Assignee: Yamatake-Honeywell, Tokyo, Japan

[21] Appl. No.: 801,173

[22] Filed: Nov. 22, 1985

[30] Foreign Application Priority Data

Nov. 22, 1984 [JP] Japan 59-246119

[51] Int. Cl.⁴ H01L 7/00

[52] U.S. Cl. 338/35; 73/336.5; 136/203

[58] Field of Search 338/35, 34; 136/203, 136/204; 73/335, 336, 336.5; 324/441; 374/20

[56] References Cited

U.S. PATENT DOCUMENTS

2,975,638	3/1961	Morrison	.....	136/203	X
4,203,087	5/1980	Kovac et al.	.....	338/35	
4,307,373	12/1981	Johnston	.....	338/34	
4,370,615	1/1983	Whistler et al.	.....	324/441	X
4,435,091	3/1984	Nedreski	.....	374/20	

OTHER PUBLICATIONS

Ohta, et al., "Balanced Adsorption Hygrometer," Proceedings of the 3rd Sensor Symposium, (1983), pp. 225-228.

P. P. L. Regtien, "Solid-State Humidity Sensors," Sensors and Actuators, 2 (1981/1982) pp. 85-95.

Primary Examiner—E. A. Goldberg

Assistant Examiner—M. M. Leteef

Attorney, Agent, or Firm—Charles L. Rubow

[57] ABSTRACT

An integrated circuit cooling device and a dew point hygrometer employing such a cooling device having a substrate with a peripheral region surrounding a central aperture, the substrate being overlaid by an insulating layer with a Peltier cooling device formed thereon. The Peltier device includes a plurality of alternate metallic segments of dissimilar metals arranged and joined to form first and second groups of corresponding junctions of which the first group is located over the peripheral region of the substrate and the second group is located over the central aperture.

13 Claims, 9 Drawing Figures

