United States Patent [19]

Wright

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[54] **SELF POWERING TEMPERATURE COMPENSATED RECTIFIER FOR MEASURING CURRENT**

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[52] **U.S. Cl.** **324/119;** 324/95

[51] **Int. Cl.²** **G01R 19/22;** G01R 21/10

[58] **Field of Search** 324/119, 95

[56] **References Cited**

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[57] **ABSTRACT**

The current measuring device provides for measuring the power in radio frequency waves without requiring any source of power for the measuring device except the radio waves themselves, and the device includes a rectifier to change alternating current to direct current by a solid state diode, but a solid state diode has an offset voltage of approximately 0.4 volt and to provide compensation for this offset a second diode is used in opposed relation to the first diode and the second diode is powered from the source of alternating current by a third diode so the resulting voltage from the device is linear and the extrapolation of the linearity passes through the origin of the graph thereby providing for measuring currents with extreme accuracy over a large temperature range without requiring an additional source of power and without requiring thermisters or bolometers. The output of the circuit can be directly applied to an analog/digital converter (A/D converter) to obtain a digital reading of the analog of the circuit.

6 Claims, 2 Drawing Figures