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(54) **TEMPERATURE ESTIMATIONS IN A BLOOD
GLUCOSE MEASURING DEVICE**

Publication Classification

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(57) **ABSTRACT**

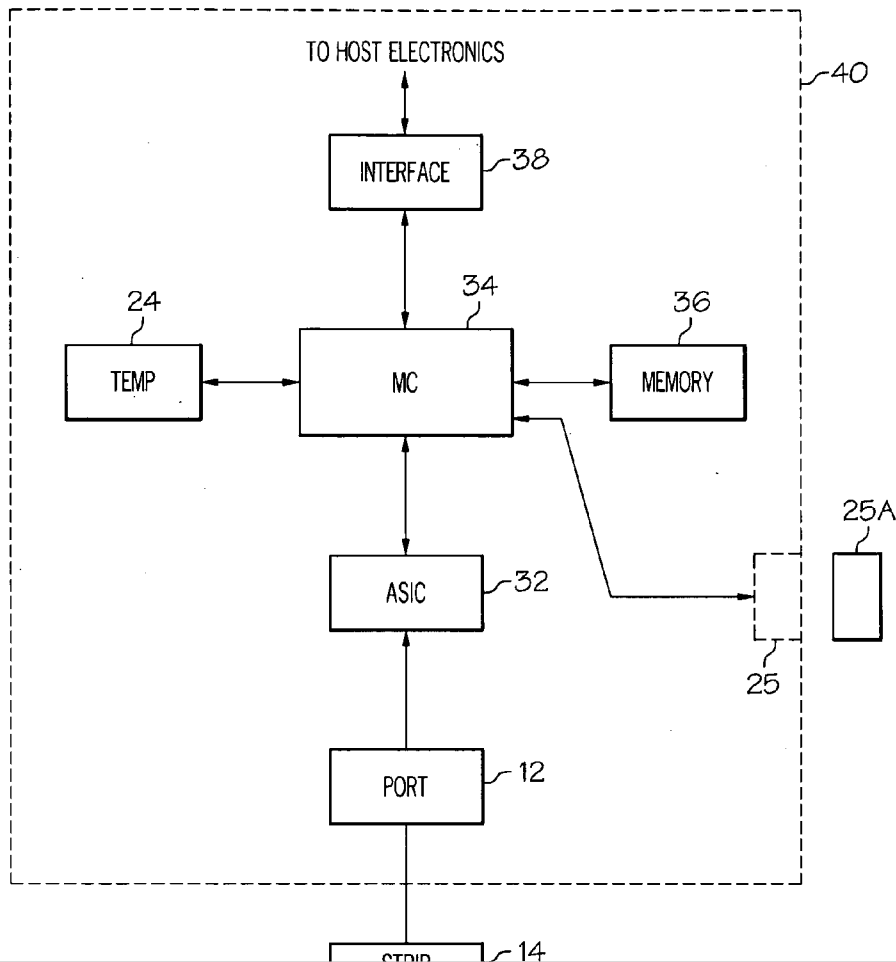
Methods of estimating the temperature of a reaction site on a measurement strip in a blood glucose measuring devices are provided. In one embodiment, a method includes determining an activation initiation time, an activation duration time, a thermal magnitude and a temperature elevation for heat generating components within a device. The temperature elevation for each of the heat generating components is determined at least in part by an impulse response matrix $[X_i]$, the activation initiation time, the activation duration time and the thermal magnitude for each of the heat generating components. The method further includes determining a total temperature elevation of the glucose measuring device by summing the temperature elevation of each of the heat generating components, reading a temperature value provided by the temperature measuring element, and determining a reaction site temperature estimation by subtracting the total temperature elevation from the temperature value provided by the temperature measuring element.

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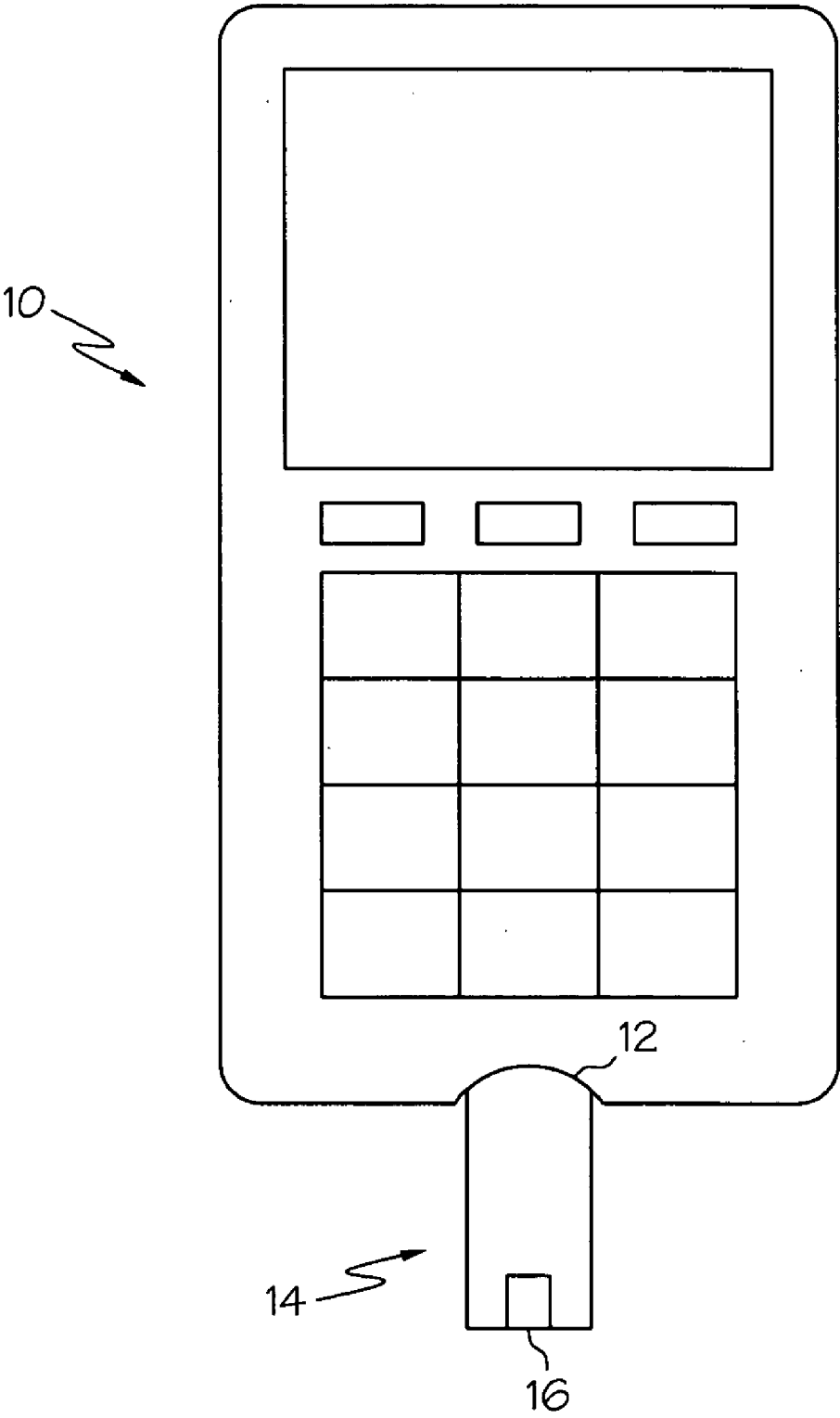


FIG. 1

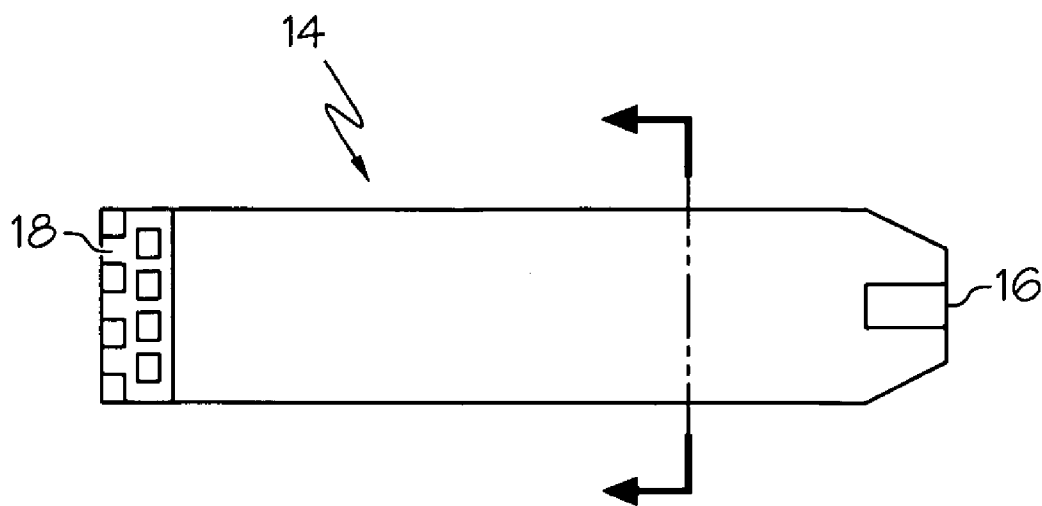


FIG. 2A

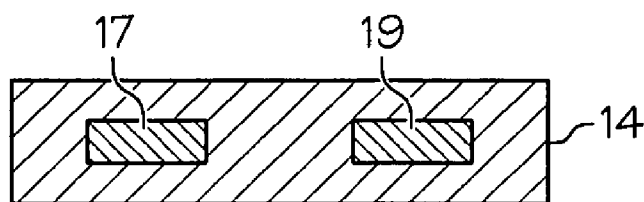


FIG. 2B

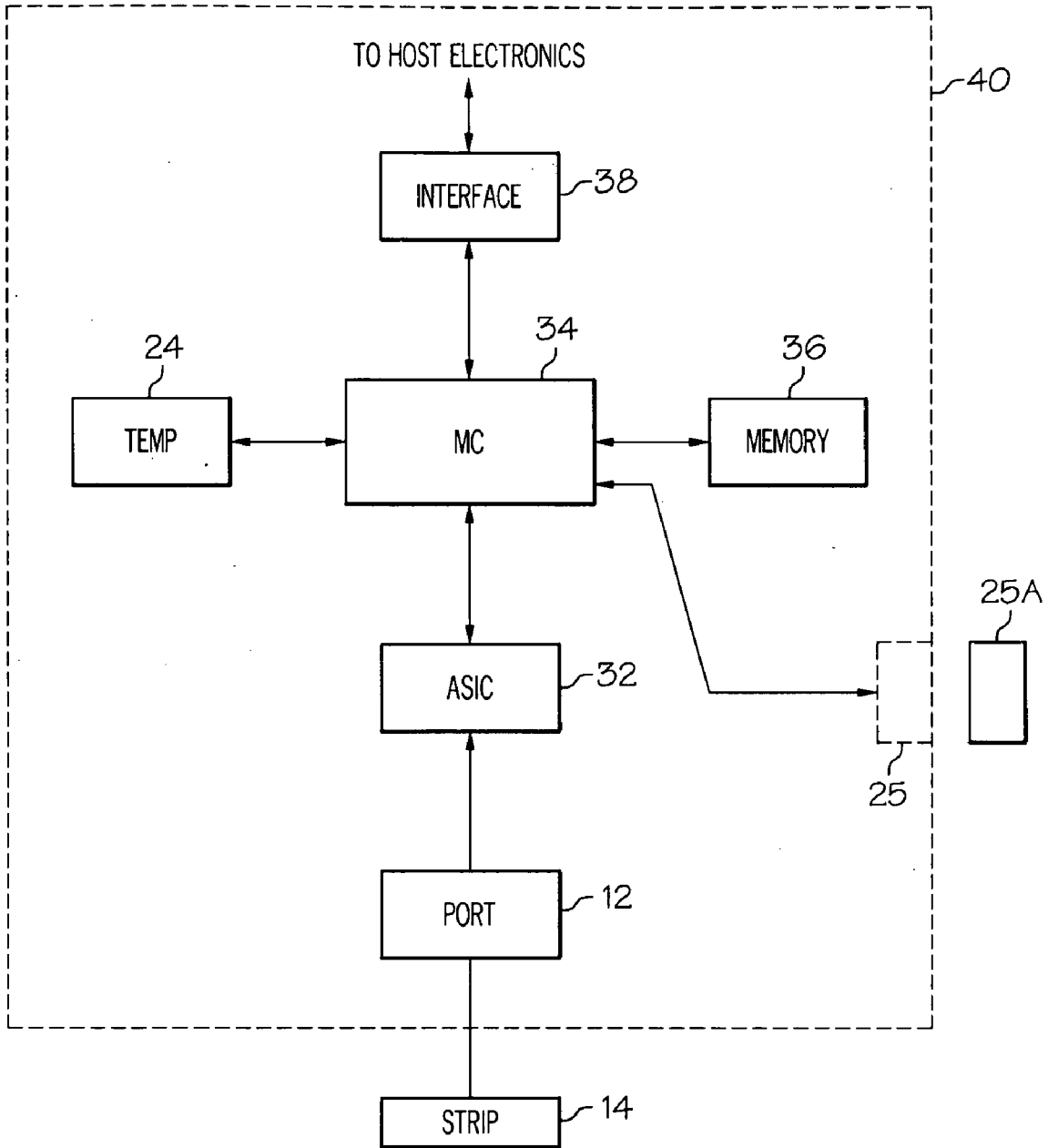


FIG. 3

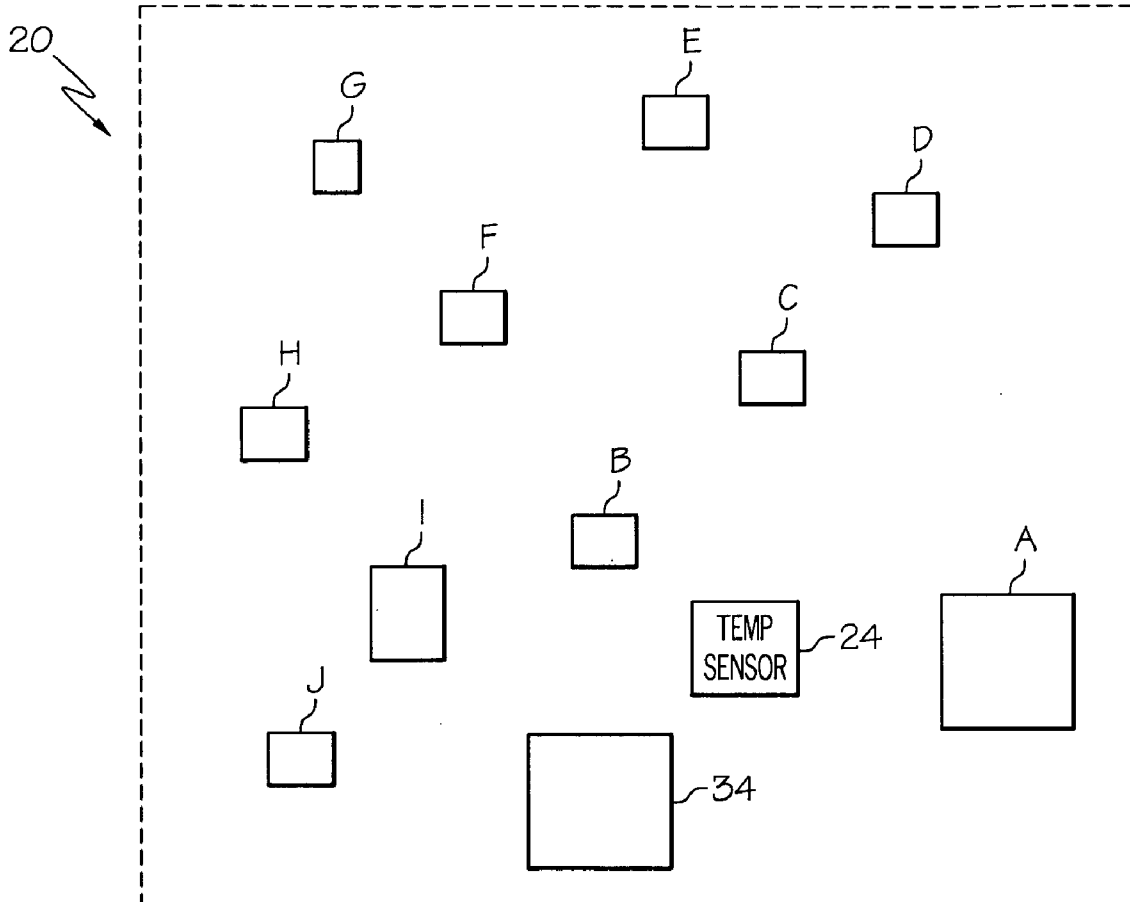


FIG. 4

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