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Naik

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(54) **REDUCING POWER CONSUMPTION OF A MICROPROCESSOR**

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 384 days.
This patent is subject to a terminal disclaimer.

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See application file for complete search history.

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(57) **ABSTRACT**

Methods and apparatus, including computer program products, implementing and using techniques for reducing the power consumption of a microprocessor. One or more signal transitions in an instruction set of a microprocessor are profiled. A probability of occurrence is assigned to each instruction in the instruction set. A binary operation code is assigned to each instruction, based on the probability of occurrence for the instruction. The instructions having the highest probability of occurrence are assigned operation codes that require fewer signal transitions. As a result, the power consumption of the microprocessor is reduced.

16 Claims, 3 Drawing Sheets

