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(54) Title: SPLIT THIN FILM CAPACITOR FOR MULTIPLE VOLTAGES

(57) Abstract: An apparatus, and a method for forming, a split thin film capacitor for providing multiple power and reference supply voltage levels to electrical devices such as integrated circuits, may be useful in space restricted applications, and in applications that require very close electrical connections between the power consumer and the power supply. An example of both a space restricted application and a close coupling application may be an integrated circuit (IC) such as a microprocessor. The capacitor supplying and moderating power to the microprocessor needs to be closely coupled in order to respond to instantaneous power demands that may be found in high clock rate microprocessors, and the space inside a microprocessor package is very restricted. The microprocessor may use a lower voltage power supply level for minimum sized fast transistors in the fast core logic portions of the microprocessor, and a more normal voltage power supply voltage level for the cache memory and I/O transistor portions of the microprocessor. Thus a compact capacitor with multiple power and reference supply levels may be needed to provide the required power for a high frequency IC.



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