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NON-DESTRUCTIVE READ FERROELECTRIC MEMORY CELL
UTILIZING THE RAMER-DRAB EFFECT

ABSTRACT OF THE DISCLOSURE

A memory cell (70) is constructed using a
5 ferroelectric capacitor (72) having an insulator
formed of a ferroelectric material that has a zero
field capacitance which is controllably dependent
upon the electrical charging path by which the zero
field capacitance is reached. Preferably, the
10 material is characterized by a first zero field
capacitance following saturation of the polarization
by a first applied voltage applied in a first
polarization direction, and a second zero field
capacitance following saturation of the polarization
15 by the first applied voltage applied in the first
polarization direction followed by partial
depolarization by a second voltage applied in a
direction opposite to the first polarization
direction. A second ferroelectric capacitor (74) or
20 a linear capacitor may be placed in parallel with
the ferroelectric capacitor (72) to form a
two-capacitor memory cell. Data may be read to or
from the capacitor cell without impairing the state
of the stored data.

