

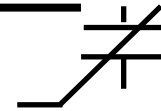
Type AD Packaged Ferroelectric Capacitor

Joe T. Evans, Jr.

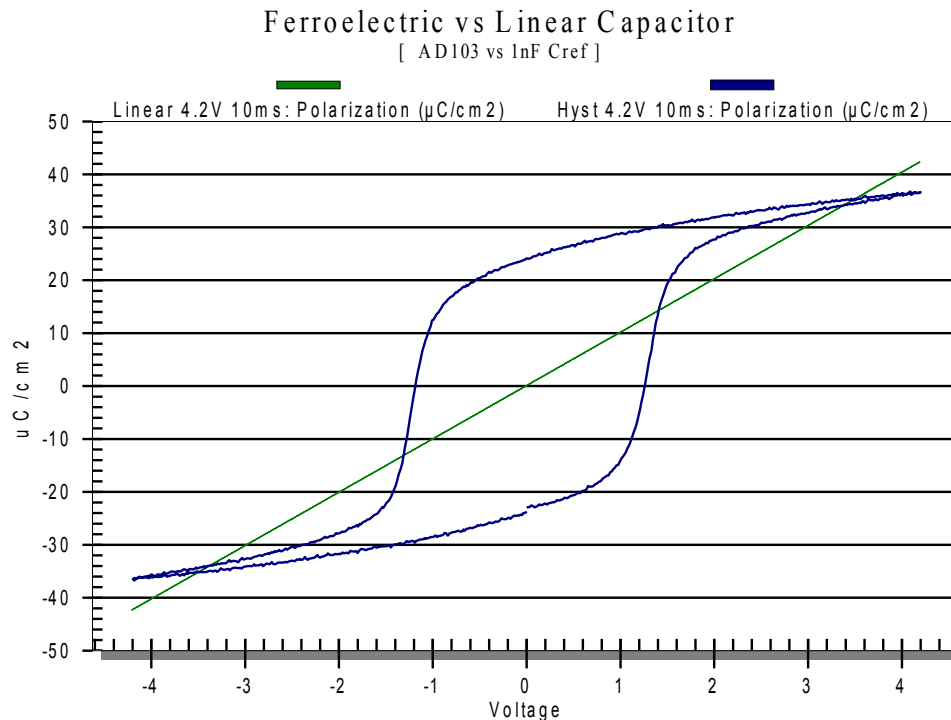
Radiant Technologies, Inc.

April 3, 2013

Ferroelectric Capacitor

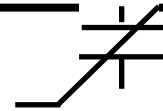


A ferroelectric capacitor has a hysteresis loop with memory, unlike a linear capacitor which is...well...linear!

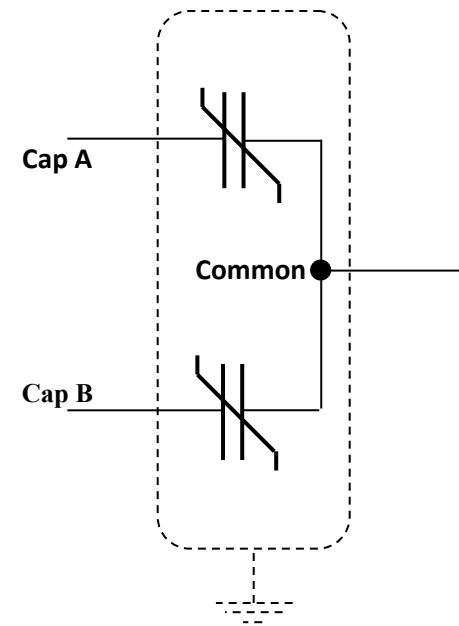
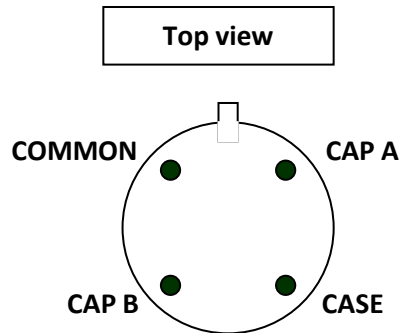


The Type AD packaged ferroelectric capacitor from Radiant consists of niobium-doped 20/80 PZT with platinum electrodes. It saturates at just above 2 volts and will withstand up to 1,000,000 switching cycles.

Ferroelectric Capacitor

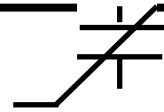


Each TO-18 package contains two identical ferroelectric capacitors sharing a common bottom electrode.

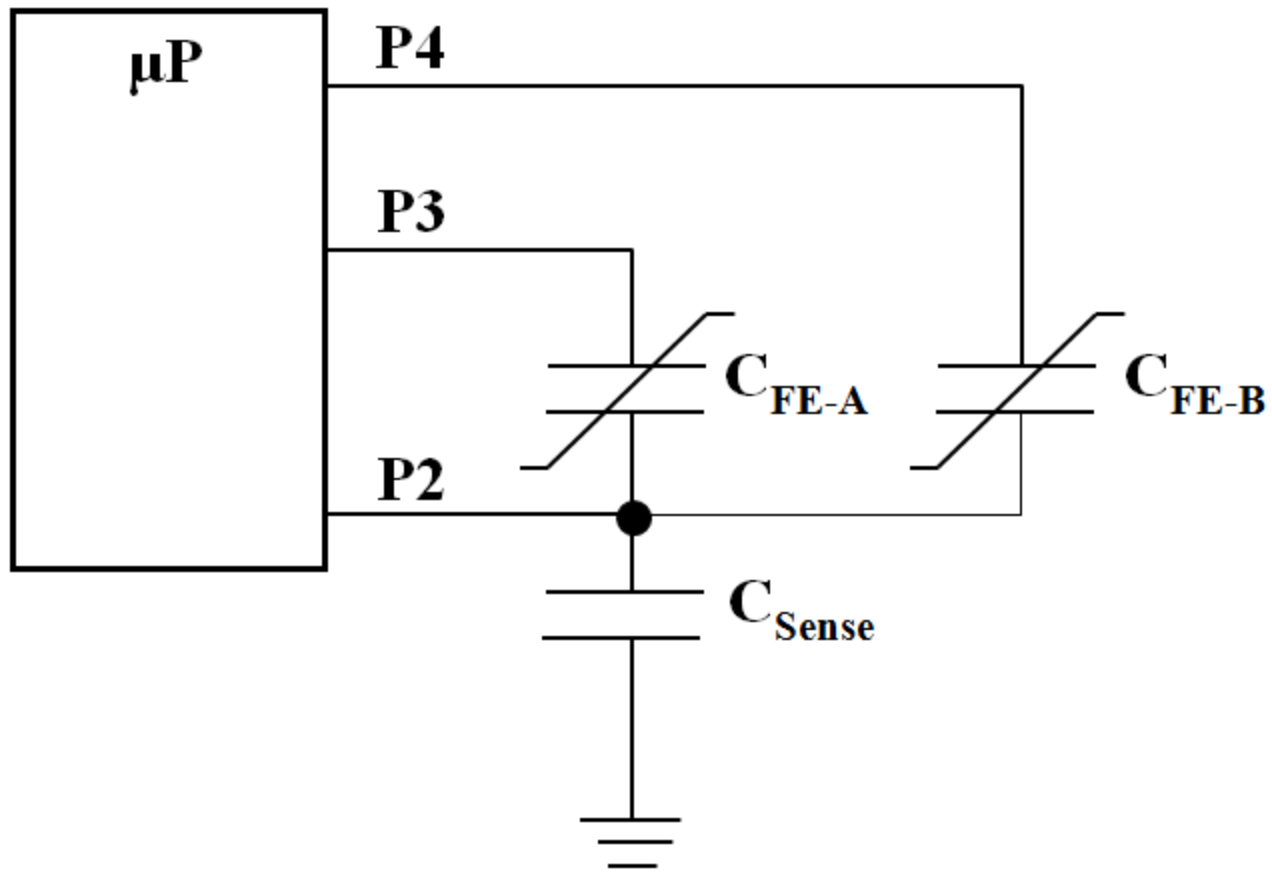


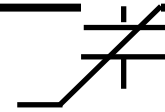
Area (cm ²)	Product Designation
1×10^{-3}	RTAD104
4×10^{-4}	RTAD403
1×10^{-4}	RTAD103
4×10^{-5}	RTAD402
1×10^{-5}	RTAD102
4×10^{-6}	RTAD401
1×10^{-6}	RTAD101

Ferroelectric Memory



The capacitors may be connected along with a sense capacitor to a microprocessor to produce two-bit nonvolatile ferroelectric memory.





Ferroelectrics in the Future

The ferroelectric properties of these unique devices have more uses than just as bits of memory. The Type AD capacitors provide an excellent starting point for understanding the electrical properties of non-linear devices!