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LINEAR
DEVICES, INC.

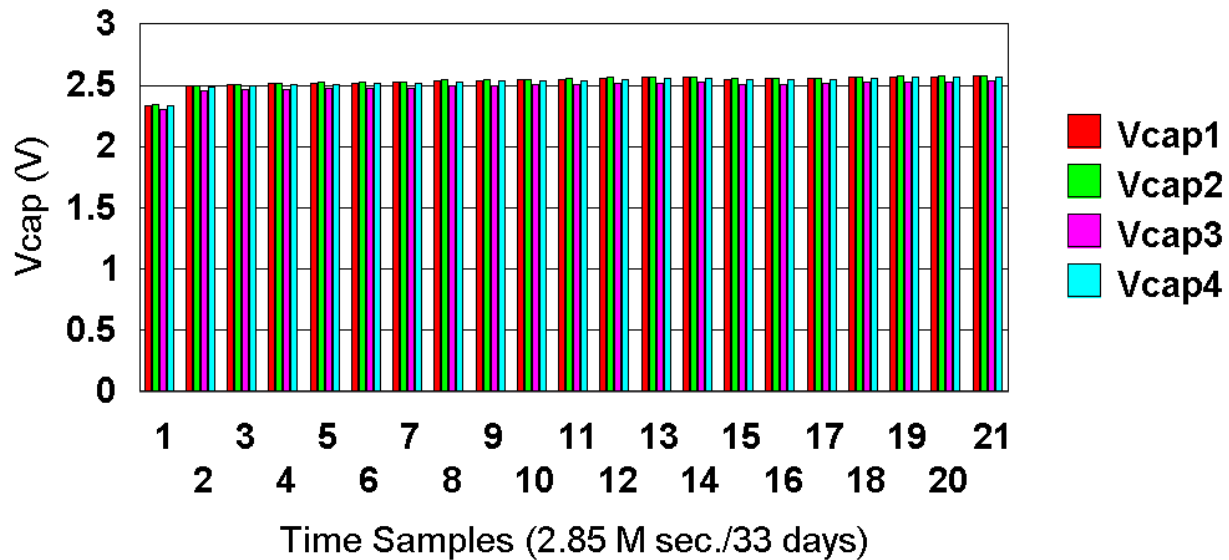
Supercapacitor in Series Cell Balancing with Supercapacitor Auto Balancing SAB™ MOSFETs



www.aldinc.com



4 Supercaps in Series with 4 SAB MOSFETs



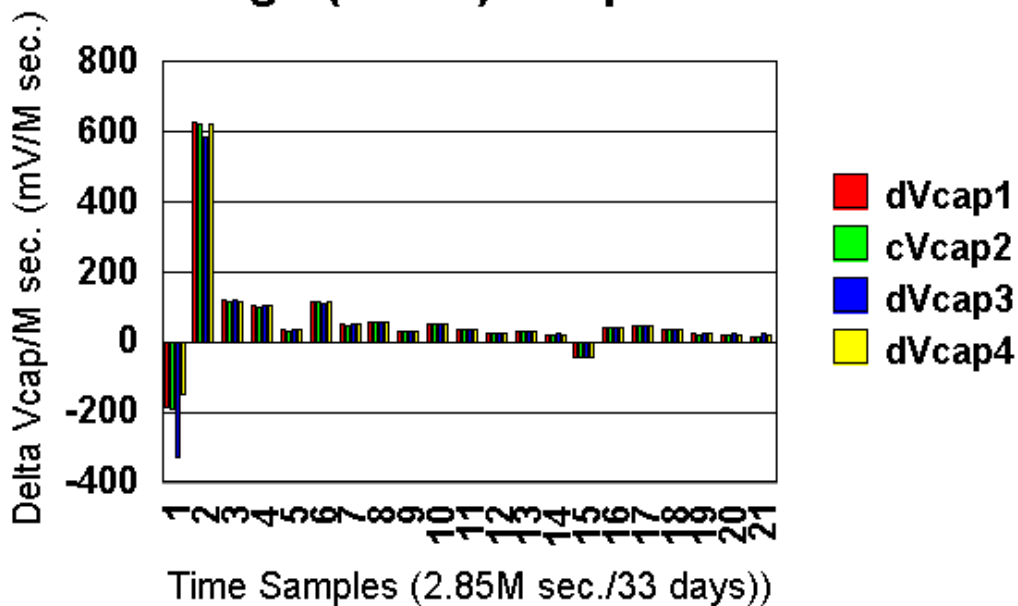
XV SERIES 300F
ALD910025
+10.0V Power Supply





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Change (Delta) Vcap /M sec.

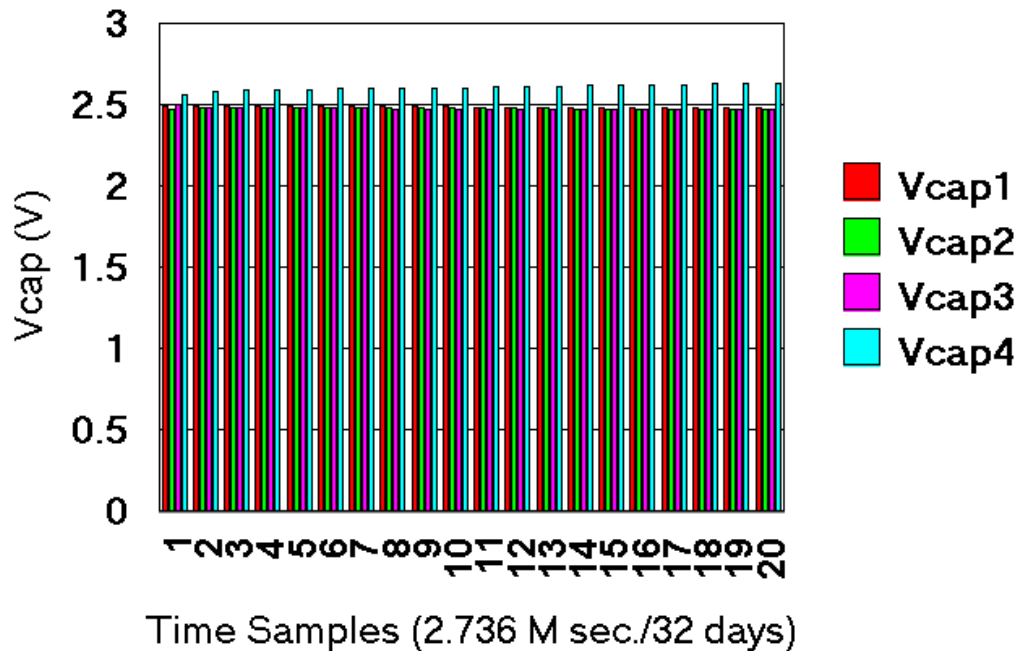


XV SERIES 300F
ALD910025
+10.0V Power Supply





4 Supercaps in Series with 4 SAB MOSFETs in Parallel



HB1030 10F

ALD810026

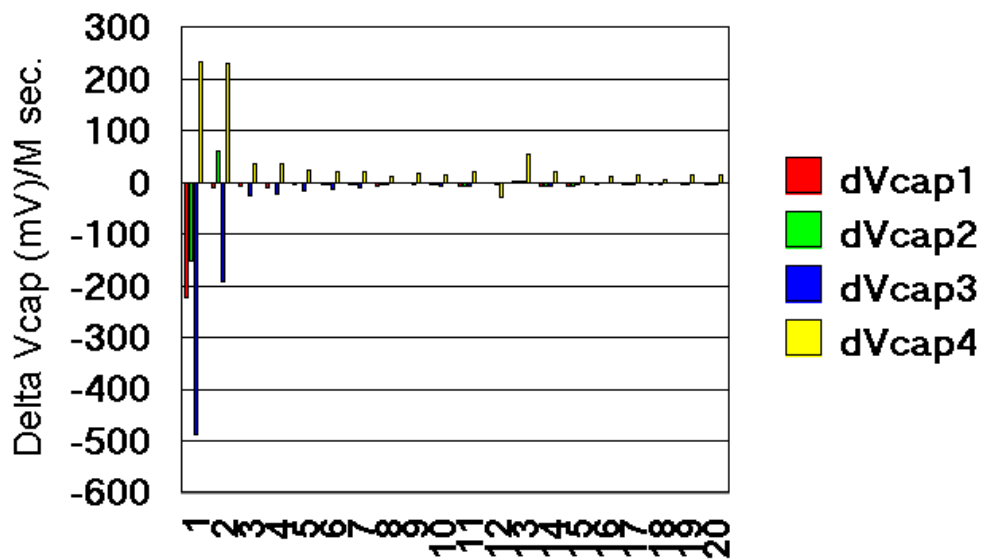
+10.0V Power Supply





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Change (Delta) Vcap/M sec. vs. Time Samples



Time Samples (2.736 M sec./32 days)

HB1030 10F

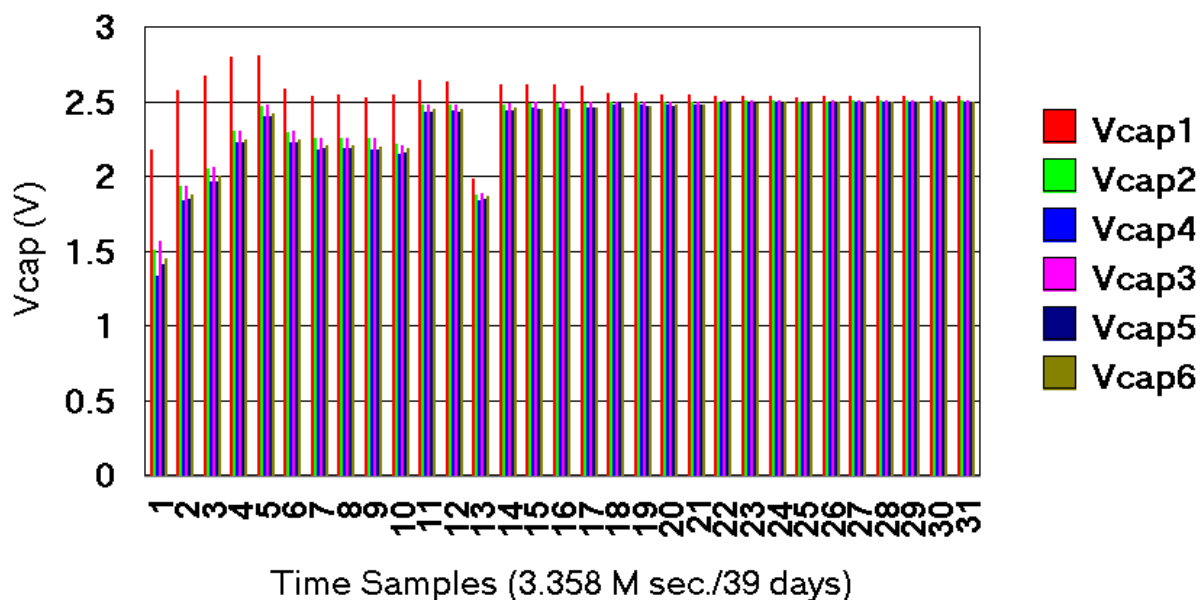
ALD810026

+10.0V Power Supply





6 Supercaps in Series with 6 SAB MOSFETs



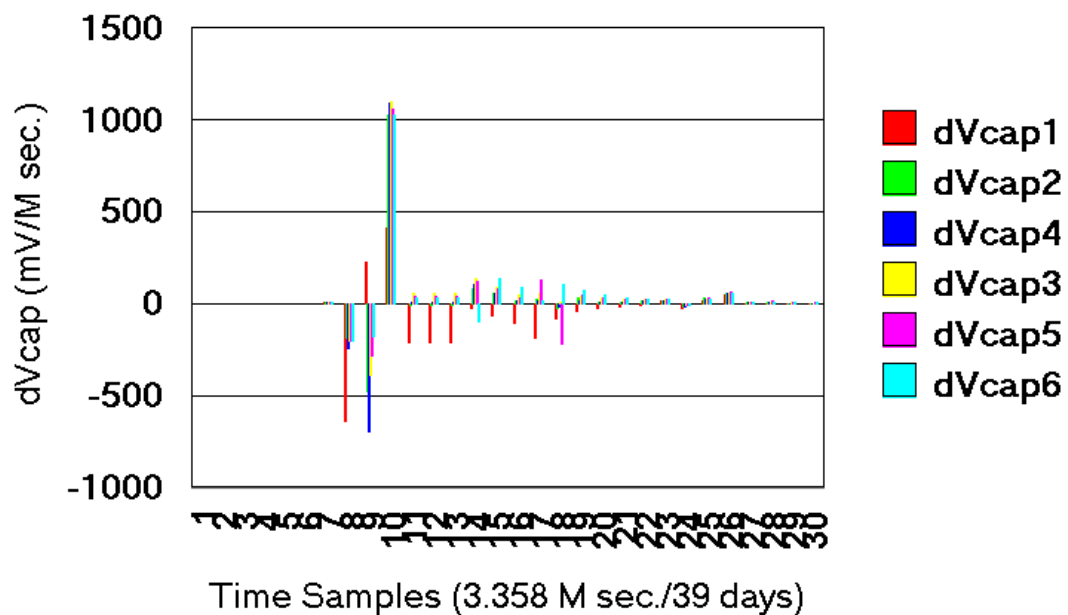
HB1030 10F
ALD910025
+15.0V Power Supply





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Change (Delta) Vcap/M sec. vs. Time Samples



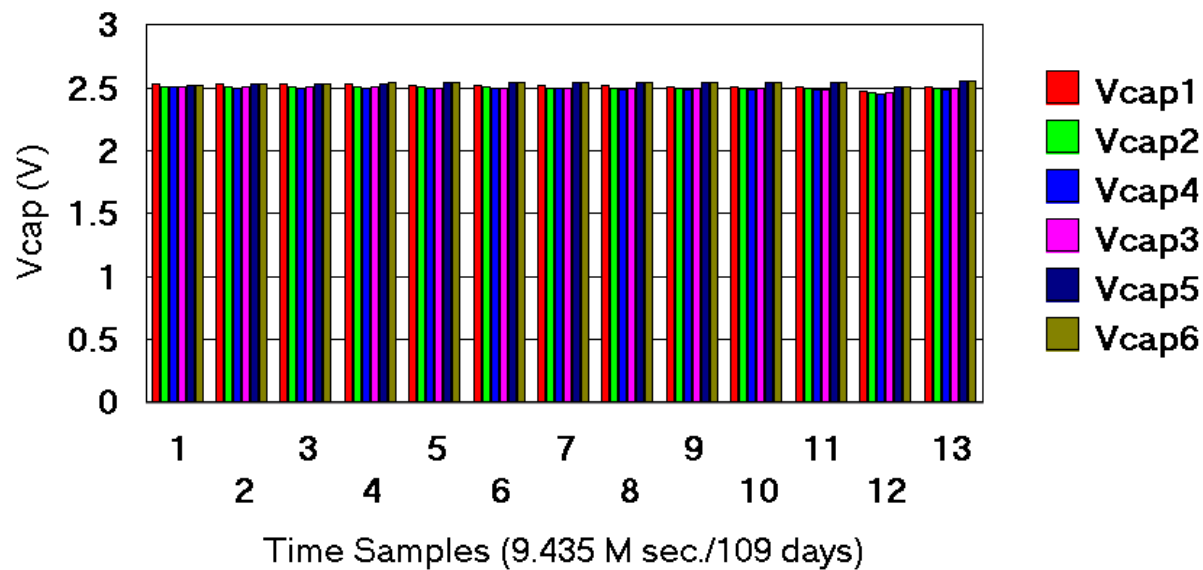
HB1030 10F
ALD910025
+15.0V Power Supply





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6 Supercaps in Series with 6 SAB MOSFETs

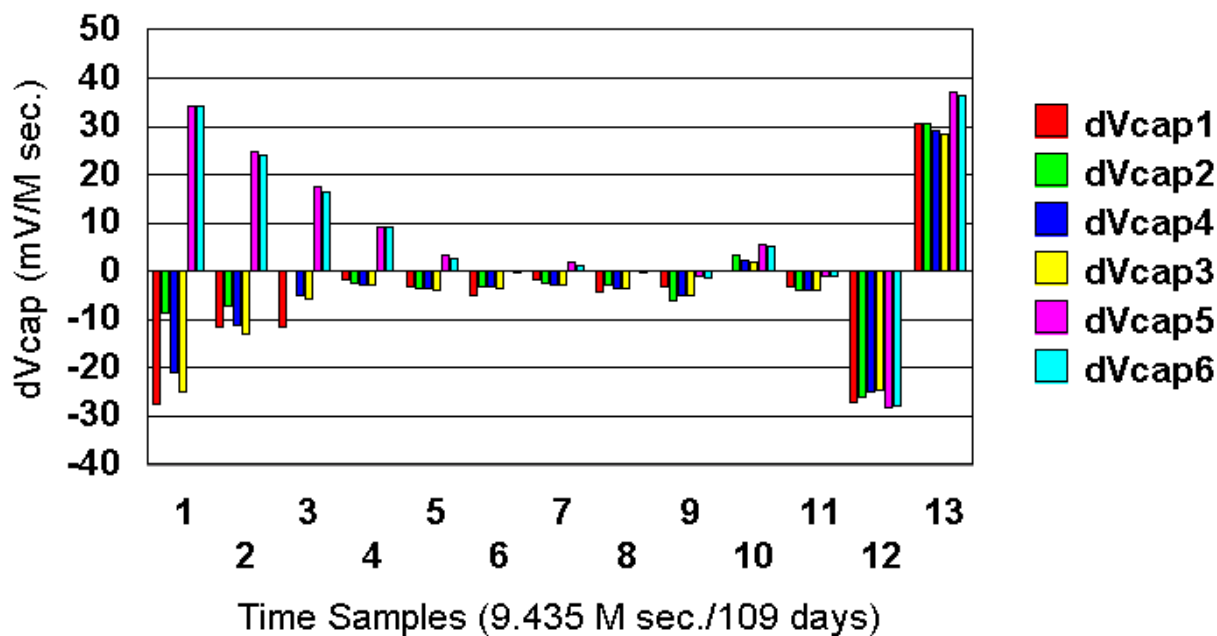


HB1030 10F
ALD910025
+15.0V Power Supply





Change (Delta) Vcap/ M sec. vs. Time Samples



HB1030 10F
ALD910025
+15.0V Power Supply





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SAB™ MOSFETs

- Automatically turns ON and turns OFF
- Near Zero Leakages
- Operating At , Above and Below Threshold Voltage
- Active Always ON
- Fast Dynamic Response



Why SAB™ MOSFETs?

Today's Low Power Design Challenges

- Simple Circuitry
- Low Component Count
- Saves Board Space and Cost
- Fast Dynamic Response
- Reduces Supercapacitor Leakages
- Improves Supercapacitor Reliability





ALD EPAD[®] Technology

- Patented and Trademarked
- Precision on-chip trimming and calibration technology
- Incorporates Floating-gate MOSFET transistors
- Precision and ultra low operating voltages
- Proven EPAD[®] manufacturing technology
- 20 Year evolution in technology and manufacturing
- Millions of EPAD[®] enabled circuits shipped to date



Market Applications

- **Electronic Systems and Devices requiring**
 - Micro/Nano power (nW) analog circuit designs
 - Backup Battery Power Systems
 - Emergency Backup Systems
 - Hybrid power (dual power source) modules
 - Primary Battery Modules
 - Energy harvesting circuits





Contact Information

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