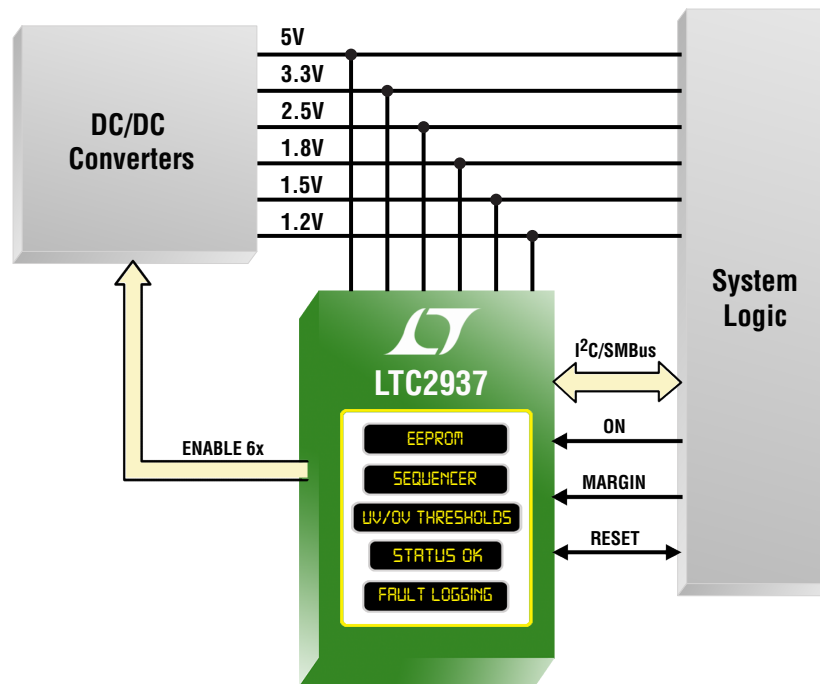


# Programmable Six Supply Sequencer and Supervisor



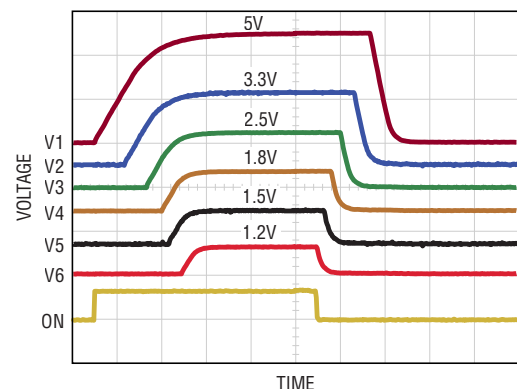
## Eases Sequencing and Voltage Supervision of FPGA/ASIC/ $\mu$ Processor Supplies

Many FPGAs, ASICs and microprocessors require tight accuracy and complex sequencing of their power supplies for high reliability and to prevent processor damage. The LTC<sup>®</sup>2937 is designed to carefully control and supervise these point-of-load supplies, while providing flexibility to reconfigure on the fly—effectively future proofing the design. A unique and flexible sequencing technique turns supplies on and off in any one of 1023 possible sequence positions, separated either with adjustable time delays or by qualifying events. Digitally adjustable  $\pm 0.75\%$  accurate undervoltage (UV) and overvoltage (OV) thresholds reduce development time, improve system reliability, and ease resulting power supply tolerances. A simple single wire connection synchronizes up to fifty LTC2937s for sequencing expansion to 300 supplies, simplifying board routing. The LTC2937, along with the LTC2933 and LTC2936 programmable 6-channel voltage supervisors, is supported by an interactive and intuitive GUI for configuration, system diagnostics and debugging.

### Features

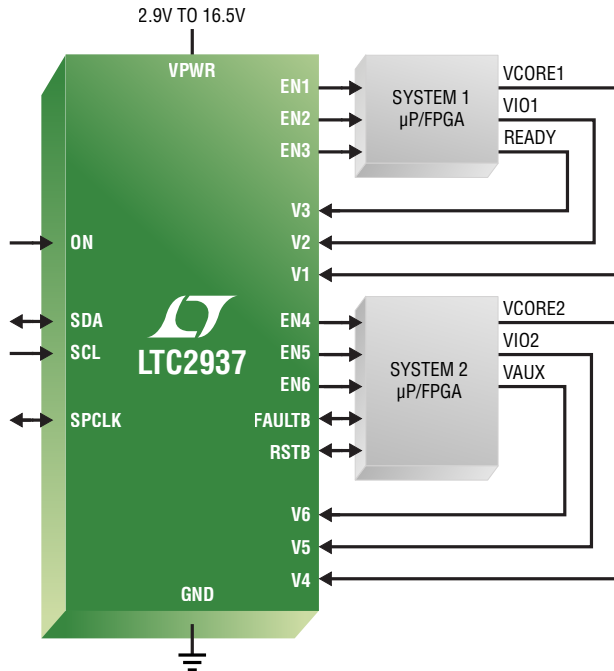
- Time and Event Based Sequencing for 6 Power Supplies
- 12 Programmable UV and OV Comparators with  $\pm 0.75\%$  Guaranteed Accuracy Over Temperature
- I<sup>2</sup>C/SMBus Adjustable 8-Bit UV and OV Thresholds
- EEPROM for Storing Configuration and Fault Log
- Single Wire Synchronizes up to 50 Devices and 300 Supplies
- Supported by LTpowerPlay™ GUI
- No Software Coding Required for Autonomous Operation
- Breakpoints and Sequence Stepping
- Programmable Reset Output Delay
- Wide Supply Range: 2.9V to 16.5V
- 28-Pin 5mm x 6mm QFN Package

### Sequenced Power Supply Waveforms

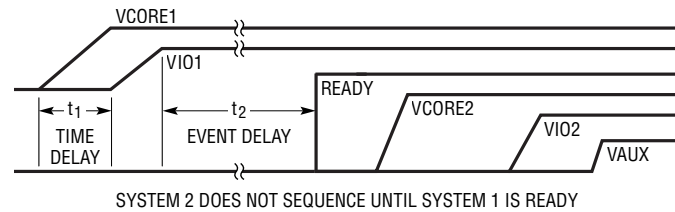


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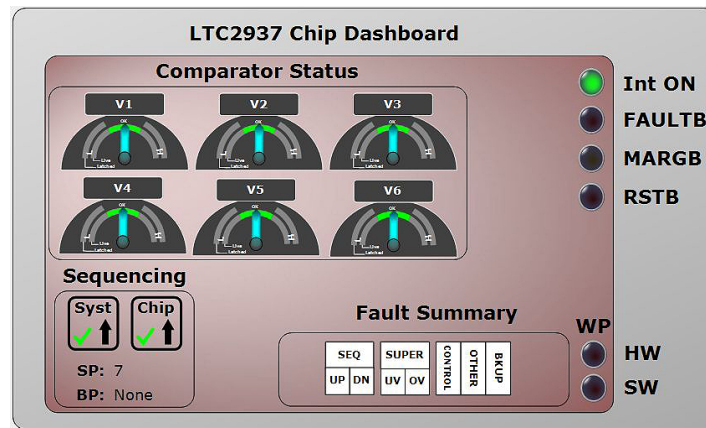
## Programmable Time and Event Based Sequencing Example



- System 1: Core and I/O supplies separated with time delay ( $t_1$ )
- System 2 supplies wait for READY signal from System 1 to cross V3 threshold (event based delay  $t_2$ )
- System 2: Core, I/O and Aux supplies separated with time delays
- Sequence position clock (SPCLK) connects to other LTC2937s for expansion



## LTpowerPlay Development Environment



## Programmable 6-Channel Sequencer and Supervisors with EEPROM

Device	Sequencer	Comparator Outputs	Threshold Range	Threshold Accuracy	Power Supply	Package (mm x mm)	Demo Board*
LTC2933	No	No	1V to 13.9V (1x) 0.2V to 5.8V (5x)	±1%	3.4V to 13.9V	5x4 DFN-16, SSOP-16	DC1633
LTC2936	No	Yes	0.2V to 5.8V (6x)	±1%	3.13V to 13.9V	4x5 QFN-24, SSOP-24	DC1605
LTC2937	Yes	No	0.2V to 6V (6x)	±0.75%	2.9V to 16.5V	5x6 QFN-28	DC2313

\* DC1613 I<sup>2</sup>C-USB adapter connects demo board to computer running LTpowerPlay