Technical Article

Using TPS659037 to Power the Sitara AM57x Processors

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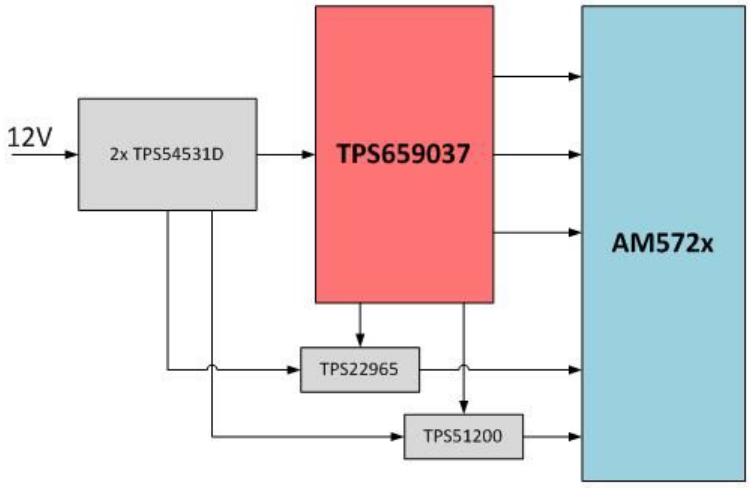
The Sitara™ AM57x family of processors was announced last October, and is being used across many industrial and consumer embedded applications. After the processor is selected, people often turn to look at the power solution. For the Sitara AM57x processors, the integrated power management IC TPS659037 is recommended.



TPS659037 is a low-voltage power management IC, supporting 3.135V to 5.25V input voltage. The device offers 7 DCDC switching converters, 7 LDOs, and other power management features including SmartReflex support, 8x GPIOs, watchdog, interrupt handling, and a 12-bit GPADC.

There are two configurations of TPS659037 supporting different performance levels of AM57x processors. The TPS659037 User's Guide describes how to use the two different configurations to power the AM57x processors. For technical support, we also offer the TPS659037 Design Guide and E2E Wiki to help get started on schematic design as well as offer answers to frequently asked questions.

Another reference tool is the Sitara AM57x processor TI Design, which highlights important power and thermal design considerations and techniques for systems designed with Sitara AM57x processors and TPS659037. It includes reference material and documentation covering power management design, power distribution network (PDN) design considerations, thermal design considerations, estimating power consumption, and a power consumption summary.

Evaluation Modules:

- TPS659037 EVM
- Sitara AM572x EVM
- BeagleBoard-X15 using AM57x and TPS659037

Additional Resources:

- Sitara AM57x processors overview
- PMU Portfolio

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