

Mobileye EyeQ™ 6H – Discrete Power Tree



This document is an Abstract of the test report of our discrete power tree for the Mobileye EyeQ™ 6H SoC. Automotive applications such as Autonomous Driving Assist Systems (ADAS) use ADAS Domain Controller processors such as the Mobileye EyeQ™ 6H. These are sophisticated processors which require a very high amount of current at very low voltages. These processors also require very fast transient response of the output voltage for step changes in processor load current. This Texas Instruments design meets the strict requirements on fast transient response in an efficient, cost-effective manner.

This discrete approach enables optimal placement of point of load converters while still offering a small design size with minimal output capacitance.

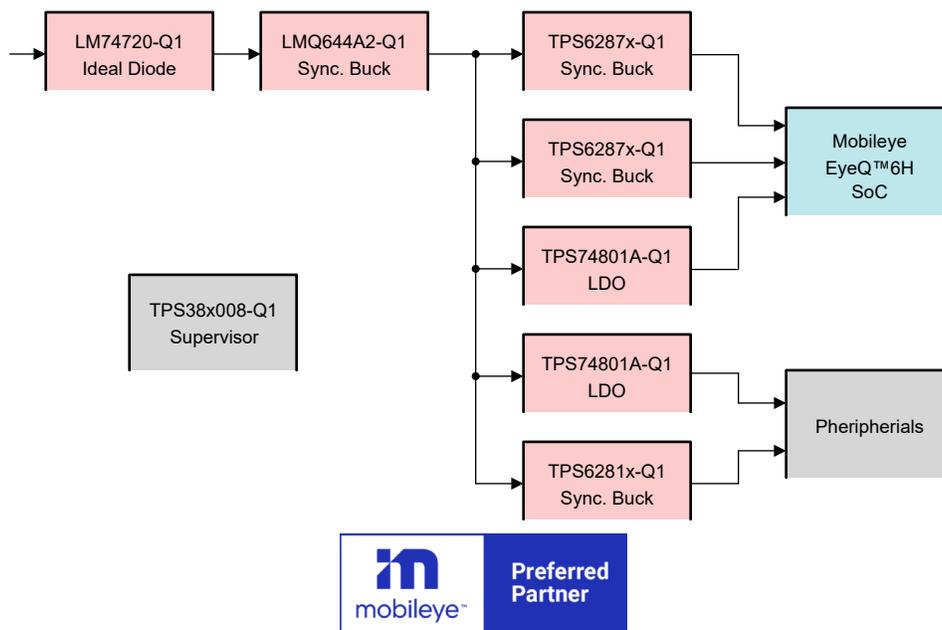
A multi-channel voltage supervisor is used for monitoring all SoC related power rails. Power sequencing can be implemented with any external safety MCU.

The PCB layout of this power design was kept as close as possible to a real-world application, including recommended layer count, stack up and component footprints to provide reliable performance data measured under realistic conditions. In addition, the core supply is implemented with two different layouts for direct comparison between two different layout styles.

This showcases how critical even smaller layout details become when high current slew rates with low-voltage deviation are required and what is possible, even with physical layout constraints which prevent an optimal layout.

All supply voltages in this design are tested by TI to meet the requirements of the Mobileye EyeQ™ 6H SoC.

Please contact our local Texas Instruments representative to access the complete test report.



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