Abstract

Functional safety features are an essential part of automotive system-on-chip development. ISO26262 standard dictates ASIC development process in safety applications like airbag control, electronic stability control. This paper focuses on verification requirements and fault injection simulation requirement of ISO26262 standard. Verification of such ASICs requires much more than traditional UVM-SV functional verification. Prior to this effort, safety verification techniques involved injecting faults using tools like Certitude, Yogitech and validating safety mechanisms through functional simulations. In this paper, formal tool's ability to perform exhaustive breadth-first search to verify the functional safety features and thereby reducing time to market.

References

6. Devapranindra Kumar, Ranganayakulu Sri SNUG 2012, Bangalore, Certitude for functional safety
7. ADXRS810 High Performance, SPI Digital Output, Angular rate sensor datasheet

Index Terms

Computer Science
Information Sciences

Keywords

Formal verification, automotive, functional safety, ASIL.