

Design for Reliability

Derating

- ◆ Introduction
- ◆ Industry approaches
- ◆ Limitations
- ◆ Best practices
- ◆ Case studies

FMEA

- ◆ Introduction
- ◆ Industry approaches
- ◆ Component vs. block
- ◆ Limitations and alternatives
- ◆ Best practices
- ◆ Case studies

HALT

- ◆ Introduction
- ◆ Industry approaches (six steps)
- ◆ Interpretation of HALT results
- ◆ Limitations (how HALT is not HALT)
- ◆ How to predict HALT performance
- ◆ Best practices
- ◆ Case studies

Physics of Failure

- ◆ Introduction
- ◆ Passive components
- ◆ Capacitors
- ◆ Resistors
- ◆ Inductors
- ◆ Fuses
- ◆ Active components
- ◆ Discretes (transistors, diodes, etc.)
- ◆ Integrated (memory, microprocessors)
- ◆ Interconnects (solder joints, plated through holes)
- ◆ Increases in risk due to industry response
- ◆ Temperature cycling
- ◆ Vibration
- ◆ Shock
- ◆ Separable connectors