P1-09 Fabrication method of SPAD sensor for automotive LiDAR to compensate the process fluctuation by feedforward system

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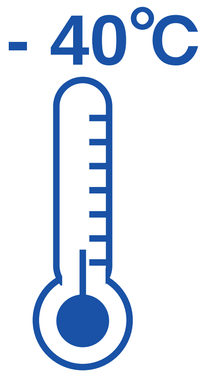
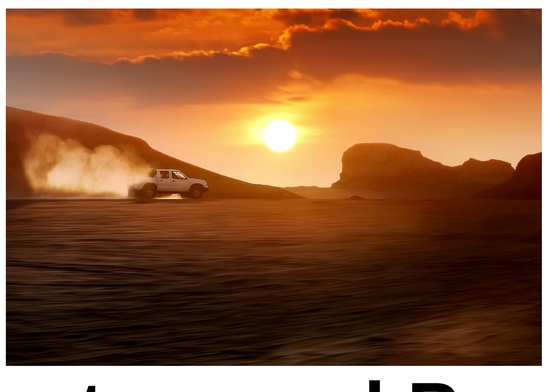
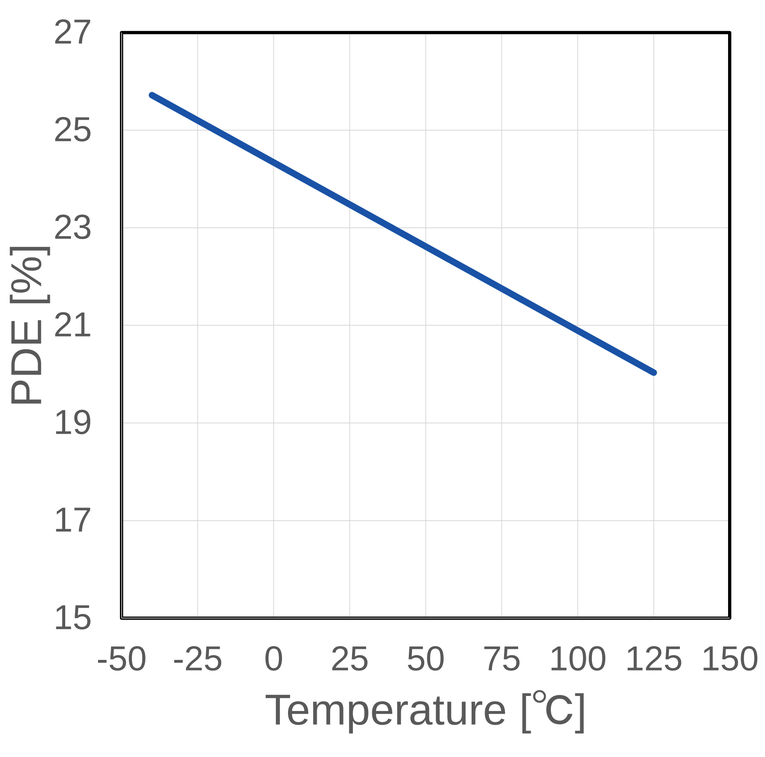
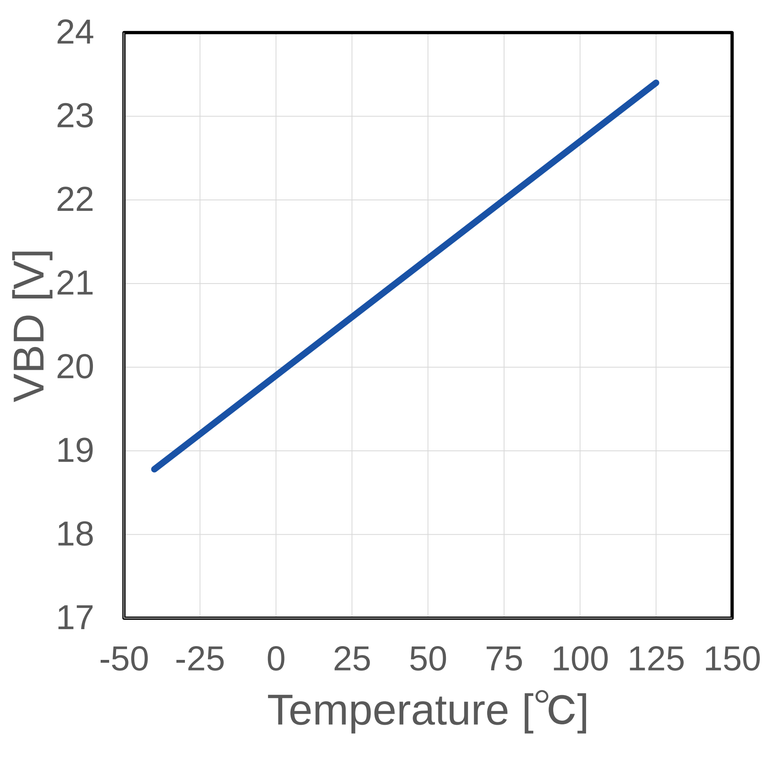
Requirement from Automotive Electronics Council(AEC)

For the automotive, temperature range is required from -40℃ to 125℃

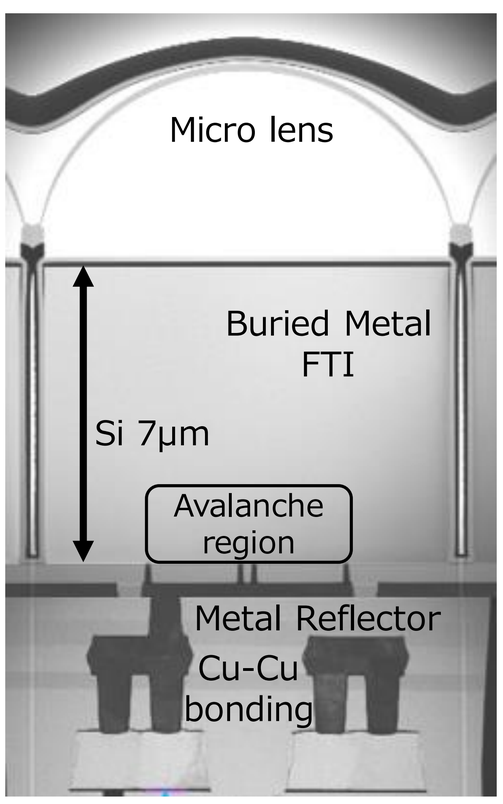


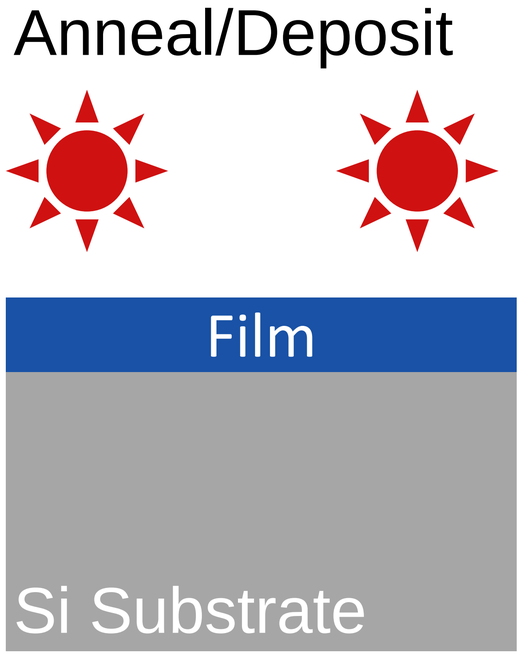




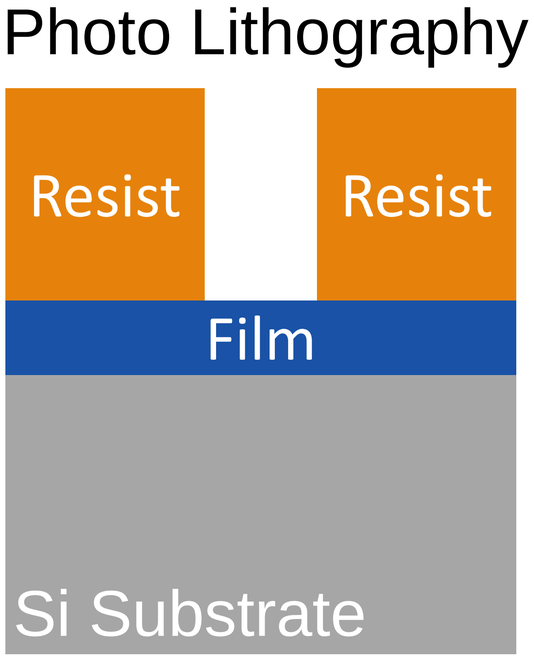


SPAD Structure and Process Fluctuation

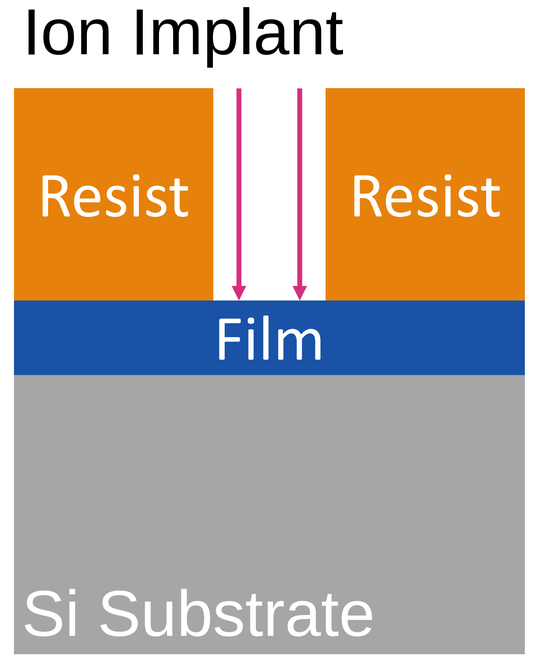




Anneal Temperature
Film Thickness



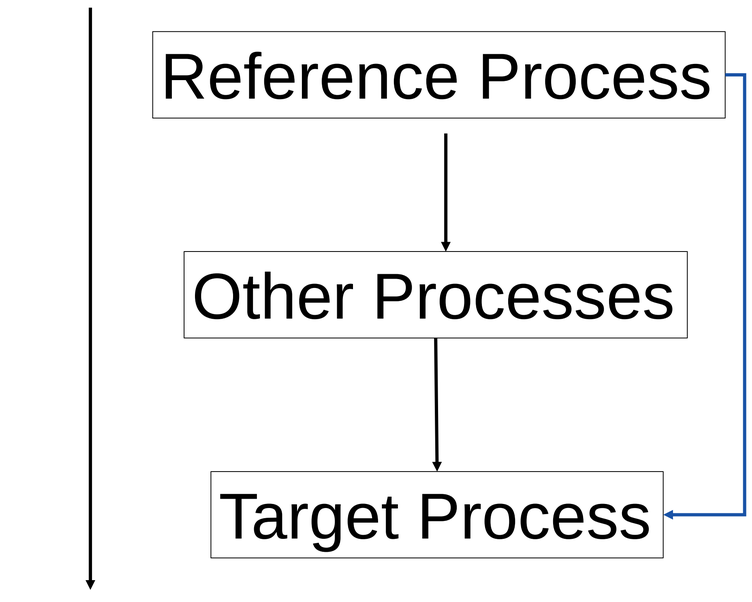
Aperture Width
Resist Taper



Peak Concentration
Tail Profile

Process Feedforward System

Reduce the PDE and VBD variation by process feedforward system



Monitor the Ref. Process Performance
Tune the Target Process Condition