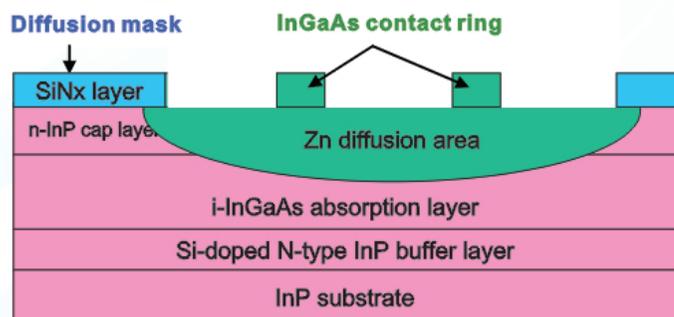


VPEC's Zn-diffusion Ready InGaAs Pin Wafer

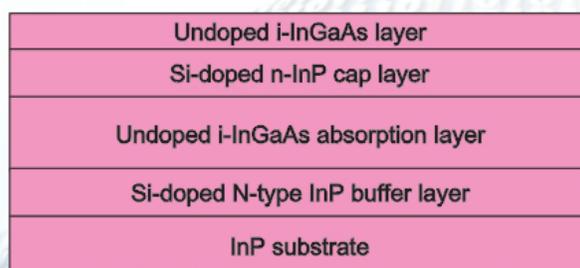
Up to 4-inch Wafer

- ★ Very low defect and particle densities on wafer surface for high device yield.
- ★ Very low background of i-InGaAs absorption layer ($<5E14/cm^3$) for high speed application.
- ★ In-process device verification of dark current, capacitance and their uniformities using our own front side process and diffusion capabilities for high quality control.
- ★ Very low dark current in device performance (<100 pA for $300\mu m$ in-diameter InGaAs PIN device) for high device responsivity.
- ★ Precisely controlled diffused depth and uniformity of all wafer sizes up to 4 inch using MOCVD.
- ★ Guaranteed dark current and capacitance on the Zn diffusion ready InGaAs PIN wafer.
- ★ Excellent on-wafer, wafer-to-wafer uniformities and batch-to-batch consistency up to 4-inch wafer for high cost-effectiveness.
- ★ Grown on n-type or semi-Insulator substrates are all available.
- ★ Low cost with very high performance and high probe yield ($>90\%$).
- ★ Cost-Effective total solution for InGaAs PIN wafers.

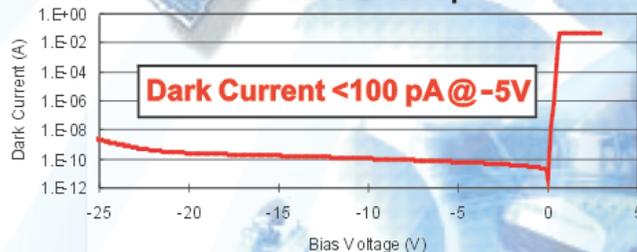
VPEC's Zn-diffusion ready InGaAs PIN wafer



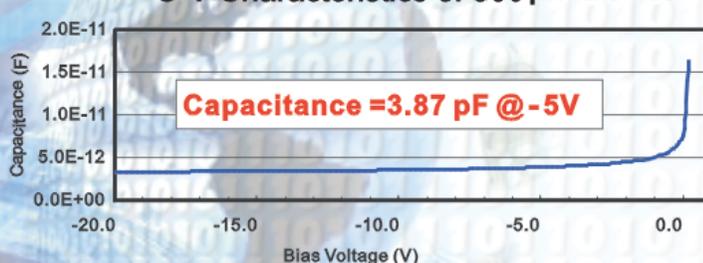
Planar type InGaAs PIN epi-wafer



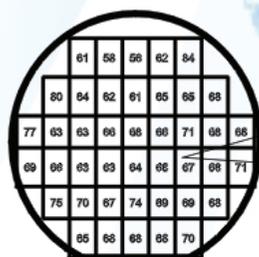
I-V Characteristics of $300\mu m$ Device



C-V Characteristics of $300\mu m$ Device

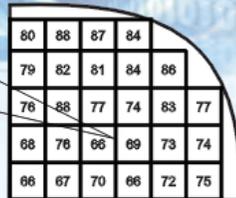


Dark Current Mapping ($300\mu m$ device @ -5V)

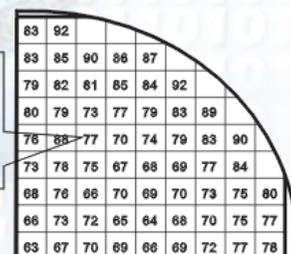


2 inch PIN wafer
Ave: 67 pA
Min: 56 pA
Max: 80 pA

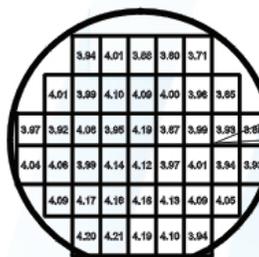
3 inch PIN wafer
Ave: 77 pA
Min: 66 pA
Max: 88 pA



4-inch PIN wafer
Ave: 74 pA
Min: 63 pA
Max: 92 pA



Capacitance Mapping ($300\mu m$ device @ -5V)

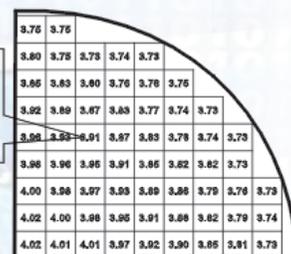


2 inch PIN wafer
Ave: 4.02 pF
Stdev: 3.0%

3 inch PIN wafer
Ave: 3.87 pF
Stdev: 1.2%



4-inch PIN wafer
Ave: 3.85 pF
Stdev: 2.47%



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