

Low Cost Miniaturized Short-Wave Infrared (SWIR) Imagers

OBJECTIVE/SOLUTION:

SWIR imagers provide the Warfighter with day/night imaging capability through obscurants and offers situational awareness at extended ranges. This effort will reduce the manufacturing costs as well as size, weight, power, and cost (SWaP+C) of high sensitivity uncooled Shortwave Infrared (SWIR) imagers for Soldier systems ensuring that Soldiers are afforded this technology advantage. Improvements to the Focal Plane Array (FPA) quality of Indium Gallium Arsenide (InGaAs) and reduction of the packaging requirements will significantly improve SWIR manufacturability.



SWIR Imager



Visible vs. SWIR

Achievements:

- Developed improved material processing techniques for manufacturing
- Demonstrated improved performance through reduction in dark current

Benefits:

- Significant reduction in costs associated with high volume production and reduced size, weight, and power high resolution InGaAs SWIR imagers for Soldier systems
- Added capability to see battlefield lasers day and night, provide situational awareness in poor weather conditions and through obscurants, identify and recognize day/night and through thermal crossover
- Introduce wafer level packaging and new hybridization processes

Transition and Weapon Systems/Secondary Items Impacted:

- PEO Soldier PM SPTD Joint Effects Targeting System, signed Technology Transition Agreement (TTA) in FY16, and Family of Weapon Sights
- Benefits Unmanned Aerial System (UAS) sensor payload programs

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