

# Sparrow

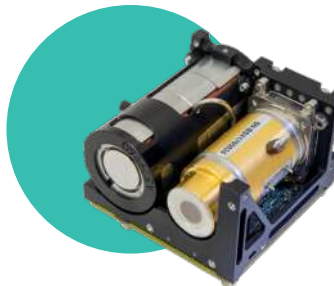
The Sparrow is a low SWaP 10 $\mu$ m MWIR camera core designed for the demanding requirements of a broad distribution market. The Sparrow incorporates a state-of-the-art HOT Blackbird FPA, integrated into a compact and innovative Dewar and cooler architecture. The combination of these components results in exceptional image quality. A significant advantage of the Sparrow is its extended lifetime, derived from linear engine technology coupled with HOT FPA technology. With the SPARROW, SCD's customers consistently benefit.

## Main Features

- Time to image (typical) < 4 minutes
- All in one electronics: FPA drive & control, cooler drive & control, image processing
- Simple electrical interface - industry standard camera link
- Fully digital Readout Integrated Circuit (ROIC) based on CMOS process

## Applications

- Hand held thermal imager cameras
- Drone & tactical UAV IR cameras
- Perimeter security systems
- Armored vehicle weapon stations
- Mini and micro tactical payloads
- Sniper's long-range thermal weapon sights



Technology	XBn			HFM
DDC	Sparrow	See spot	Extended SWIR	Sparrow HFM
Detector format	640 x 512, 10µm pixel			
Cooler	Split linear cooler			
Spectral band	3.6-4.2 µm	3.6-4.2 µm with narrow notch at 1.064 µm	1.6-2.4 µm	3.6-4.9 µm
Operating temperature	150K	150K	150K	120K
Mission profile	High reliability (>18,000 hrs), low SWaP-C			
F-number	F/3.6	F/3.6	F/2	F/3.6
Size	58 x 62 x 42 mm (2.28" x 2.44" x 1.65")			
Weight	300g (0.66 lb.)			
Module total power consumption @ 23°C in proxy mode	4W	4.3W	5.7W	7.8W
Maximal frame rate (FR) raw image at full frame	180Hz			
NETD (2Me- Cap.) at 70% well fill	28mK	28mK	NA	30mK
Advanced ROIC functionality	Binning, windowing			
Integrated video processing key features	<ul style="list-style-type: none"> <li>• Non Uniformity Correction (NUC)</li> <li>• Bad-Pixel Replacement (BPR)</li> <li>• Image Enhancement and Dynamic Range Compression (DRC)</li> <li>• Noise Reduction</li> <li>• Digital Zoom x2, x4</li> <li>• Embedded User Interface and Overlay Graphics</li> </ul>			

