

Get Cooled Performance in a Small, Low Power Package

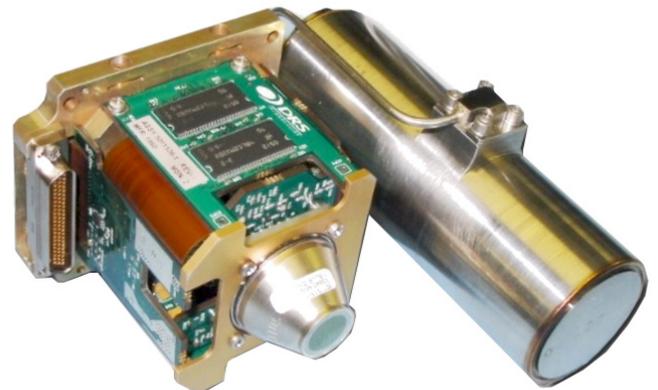


## DRS ULTRA LOW POWER, COMPACT MWIR 640 X 480 SENSOR MODULE

DRS Technologies' CD640-12-MW is an ultra-low power, compact MWIR 640 x 480 sensor for military imaging applications. Utilizing a 12  $\mu\text{m}$  pitch FPA and operating at elevated temperatures, the CD640-12-MW enables high image quality with a small system.

DRS' Integrated Dewar Cooler Assembly (IDCA) provides all the performance of a long-range capable cooled MWIR in a small, low power package. This IDCA utilizes DRS' HgCdTe detector material to deliver high sensitivity. Operating at high temperatures enables the CD640-12-MW to perform at an industry low 6 watts of power dissipation at room temperature and provide an industry leading 25,000-hour MTTF. Its micro-miniature 12  $\mu\text{m}$  pixel spacing allows DRS to offer this large format (640 x 480) product in an affordable, compact package!

- HgCdTe Technology
- 640 x 480 pixel resolution
- 12  $\mu\text{m}$  pixel pitch
- Low power operation
- 14 bit corrected digital video
- Full tactical military package



## SYSTEM FEATURES

### FOCAL PLANE ARRAY

Pixel pitch	12 $\mu\text{m}$
Spectral response	3.7 - 5.1 $\mu\text{m}$ (standard)

### ROIC FEATURES

Modes	Snapshot operation Direct inject input circuit Integrate then read Programmable integration time Blooming control Programmable gain (0.7 - 2.0 in 8 steps) Mode control through serial interface
Window modes	Programmable down to 128 x 1
Well capacity	7.5E6 carriers
Output dynamic range	72 dB
Readout noise	150 $\mu\text{V}$ rms
Maximum pixel output rate	20 MHz
Frame rate	30 Hz / 60 Hz nominal/120 Hz max

### PERFORMANCE

Noise equivalent temperature difference	<30 mK @ 340 K max scene temperature & f/3.25
Operability	99.5%

### COOLER

MTTF	25,000 hours
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### SYSTEM ELECTRICAL INTERFACE

Sensor warm electronics input power	3.3, 8 volts; 4 watts maximum
Cooler input power @ 23° C	3.0 watts AC typical
Cooler input power @ max ambient	5.0 watts AC typical
Max cooler input power during cool down	15 watts AC
Input timing signals	Frame sync Pixel clock Serial command data
Output video format	Parallel LVDS

### ENVIRONMENTAL PERFORMANCE

Operating temperature	-40° C to 71° C (-40° F to 160° F)
Cool down time	4.5 minutes typical

### MECHANICAL CONFIGURATION

Package type	Tactical Dewar with integrated cooler and interface electronics Cooler drive electronics available
Size	4.54 x 3.0 x 2.0 inches
Weight	1.8 lbs. (depending on configuration)
f/no.	f/3.25 standard

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