

## Applications:

- Colorimetry
- Raman spectroscopy
- Fluorescence
- Photoluminescence
- Transmission
- Reflectance
- Absorption
- Medical Diagnostics
- Thin films
- Beverage & Brewery
- Cosmetics
- Explosives detection
- Counterfeit detection
- Water quality
- Food safety
- Biomedical Research

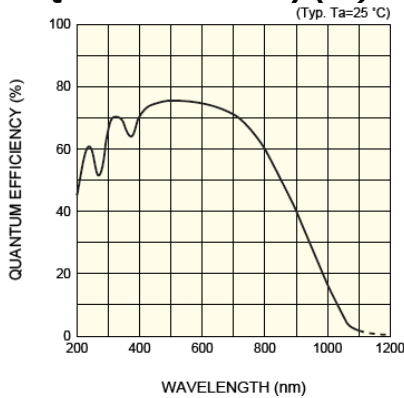
BaySpec's scientific-grade **SuperGamut™** series Silicon CCD spectrometers are designed to meet real-world challenges for best-in-class performance, long-term reliability, and compact size. Benefiting from experience manufacturing high-volume spectral monitoring devices for the telecommunications industry, BaySpec's spectral devices utilize low-cost field proven components.

The **SuperGamut™** Series employs a highly efficient *Volume Phase Grating* (VPG®) as the spectral dispersion element and an ultra-sensitive CCD array detector as the detection element, thereby providing high-speed parallel processing and continuous spectral measurements. As an input, the device uses a fiber optic input or slit optics arrangement based on customer preferences. The signal is spectrally dispersed with the VPG® and the diffracted field is focused onto a CCD array detector. The control electronics read out the processed digital signal to extract required information. Both the raw data and the processed data are available to the host.

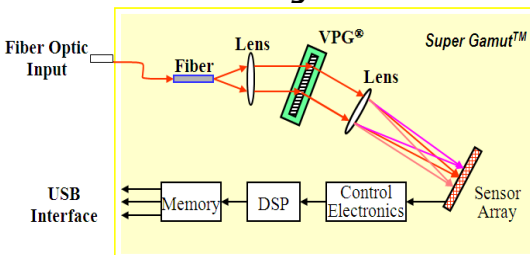
## Key Features:

- No moving parts reliability
- Optimally cooled for low light detection
- User settable spectral data acquisition response time
- Outstanding optical throughput is achieved with f/3 design
- Compact size and high efficiency through transmission VPG® grating
- Factory calibrated for long-life and low-maintenance
- Flexibility to integrate numerous types of fiber optic accessories

## Quantum Efficiency (%)



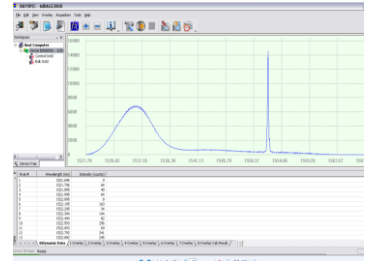
## Schematic Diagram:



Parameter	Specification
<b>PERFORMANCE</b>	
Wavelength Range	400-1100nm or any fraction of range customer specified
Resolution	~1-20 nm, slit dependent
Signal / Noise	6000:1
Stray Light	0.05%
Wavelength Calibration	Factory Calibrated
Integration Time	10 ms to 60 seconds
Dimensions	162 (L) x 105 (W) x 60 (H) mm <sup>3</sup>
Weight	800 g
<b>OPTICS</b>	
f/ Number	f/3
Grating	Custom <i>Volume Phase Grating (VPG)®</i>
Entrance Aperture Slit / Fiber Optic	Slit: 25µm, 50µm, 100µm, or none Fiber optic: SMA, or custom design
<b>DETECTOR SPECS</b>	
Detector Array	2048 X 64 Active Pixels
Quantum Efficiency @λpk Min.	75%
Response Non-uniformity	±3% typical, ±10% max
Readout Noise	6 electrons/scan RMS typical
A/D Converter	16bit
Power	Powered through USB
<b>COMPUTER</b>	
Data Ports	USB 2.0
Trigger Modes	Software Controlled
Software	Windows 2000/XP or later

\*specifications subject to change

### "Spec 2020" Software



BaySpec's "Spec 2020" software included, a Windows-based package with flexible data acquisition, processing and output functionality

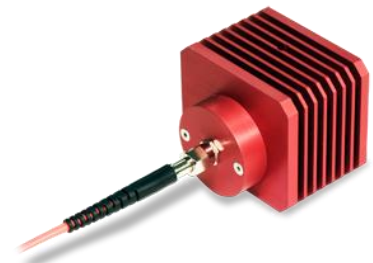
BaySpec SDK, a software development kit for new applications development and integration into to your host software systems.



OEM Integration

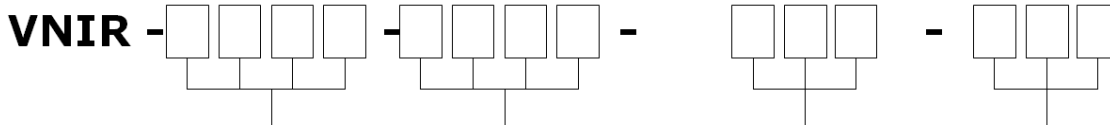


Fiber Bundle Option



Optional Light Source

### Part Number Selection:



Code	Starting λ
0400	400 nm
0850	850 nm
xxxx	customer specify

Code	Ending λ
0800	800 nm
1100	1100 nm
yyyy	customer specify

Code	Slit Size
025	25 µm
050	50 µm
100	100 µm
200	200 µm

Code	Interface Type
SMA905	SMA
FC	FC

Note: fiber sold separately

