



## Baryon B-410 Datasheet

Baryon B-410 is a single photon counting module capable of detecting single photons over the wavelength range of 400 to 1100nm.

Baryon B-410 uses a thermoelectrically cooled avalanche photodiode with integrated temperature stabilization, with photon detection efficiency of 60% @ 780nm wavelength.

Baryon B-410 is equipped with an improved circuit to offer a pulse height correction module to ensure high count rate with increased optical load on the active region.

Qubitrium offers custom design options in terms of dark count, peak photon detection efficiency and afterpulsing probability to accommodate your needs.



### Key Features

- Peak photon detection efficiency at 780 nm: 60% typical
- TTL Output
- Temperature stabilized
- Self-contained APD module with integrated electronics

### Applications

- Single molecule detection
- High throughput single photon experiments
- LIDAR
- Photon correlation spectroscopy
- Astronomical observation
- Optical range finding
- Adaptive optics
- Ultra-sensitive fluorescence
- Particle sizing



**Qubitrium Teknoloji LTD. ŞTi.**  
Sanayi Mahallesi Teknopark Blv. Teknopark  
4A apt.No: 1/4A/101 Pendik / İstanbul  
Phone: +90(505)039 4360  
Email: info@qubitrium.com



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Specifications	Minimum	Typical	Maximum	Units
Wavelength Range	400		1100	nm
Active Area		500		um
Peak Photon Detection Efficiency		60 @ 780nm		%
Output Pulse Width	18	20	22	ns
Output Pulse Amplitude	3	3.2	3.5	V
Deadtime		0.9		μs
Maximum Count Rate		400		kCounts/s
Supply Voltage	5.8	6	6.8	V
Supply Current		700		mA
Storage Temperature	-30		70	C
Startup Time			60	s
Timing Jitter		300		ps
Dark Count			2	kCounts/s



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