



Cooled - Large Area APDs

Electro-Optical Characteristics

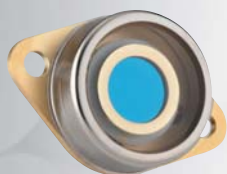
All specifications apply when APD is operated at 0°C and at a gain of 300.



3 mm



5 mm



10 mm



16 mm

Active Diameter (mm)	Bias Voltage Range† (V)	Temperature Coefficient of Breakdown Voltage (%/°C)	Capacitance f = 100kHz	Dark Current		Noise Current Spectral Density f = 100kHz		Rise Time λ = 675nm Load = 50Ω		TEC Quiescent Current *Th = 35°C (A)
			Typ (pF)	Typ (nA)	Max (nA)	Typ (pA/√Hz)	Max (pA/√Hz)	Typ (ns)	Max (ns)	
3	1700 to 2000	+0.1	15	4	12	0.6	1.0	8	12	0.85
5			25	6	18	0.8	1.5	10	15	0.95
10			65	15	35	1.5	2.5	12	18	0.68
16			140	45	100	3.0	4.5	15	22	0.86

Absolute Maximum Ratings

Part Number	Active Area Dia. (mm)	Spectral Enhancement	Responsivity Typical (A/W)
118-70-73-591	3	UV	55 @ 350nm
118-70-74-591		Blue	95 @ 500nm
118-70-72-591		Red/IR	135 @ 750nm
197-70-73-591	5	UV	55 @ 350nm
197-70-74-591		Blue	95 @ 500nm
197-70-72-591		Red/IR	135 @ 750nm
394-70-73-591	10	UV	55 @ 350nm
394-70-74-591		Blue	95 @ 500nm
394-70-72-591		Red/IR	135 @ 750nm
630-70-73-571	16	UV	55 @ 350nm
630-70-74-571		Blue	95 @ 500nm
630-70-72-571		Red/IR	135 @ 750nm

Gain, M @ λ=675nm	350
Operating Temp Range (°C)	+1 to +40
Storage Temp Range (°C)	-55 to +70
TEC Voltage (V) @23°C (W)	3 & 5 mm - 1.5 10 & 16 mm - 4.3
TEC Current (A)	2.0
APD Die Power Dissipation (W)	3 & 5 mm - 0.2 10 & 16 mm - 0.5

† Positive high voltage (HV) is applied to the cathode contact. The maximum value for the operating HV is specified with each device.

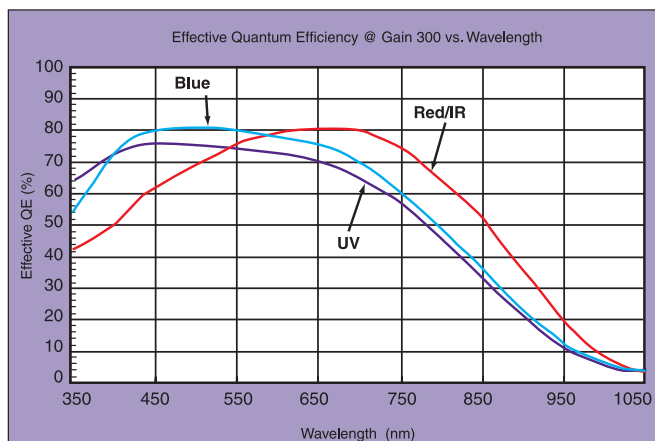
* This is the temperature at the backside of the Cooled APD package.

◇ Operating beyond these limits may cause permanent damage to the device.

571 has a thermistor with a resistance of 7650 ohms ±12% at 0°C and a negative temperature coefficient.

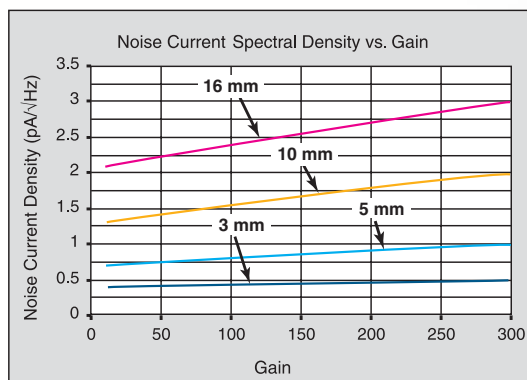
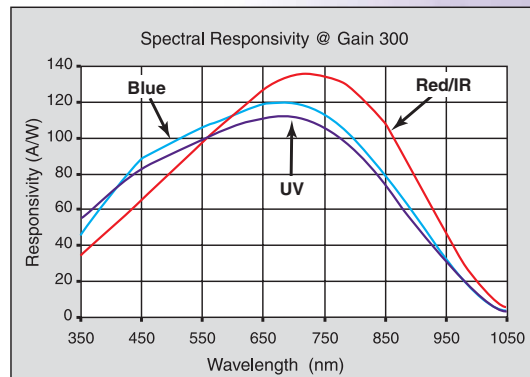
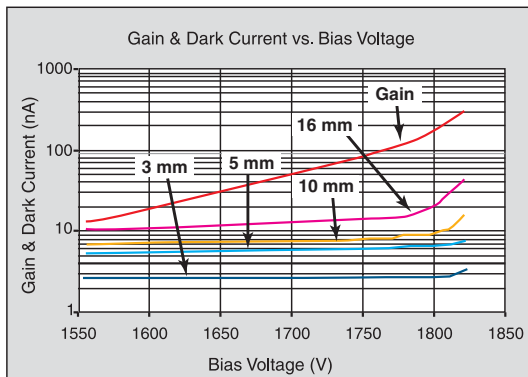
591 has a LM335 temperature sensing IC. Devices must be operated with a sufficient heat sink.

Consult the factory for UV enhanced operation at wavelengths shorter than 350nm.





Typical Performance Graphs



Mechanical Dimensions

