

# Avalanche Photodiodes

## For Industrial & Analytical Applications



## Avalanche Photodiodes – InGaAs APDs

### Applications

- LiDAR
- Laser range finder
- Scanning video imager
- Confocal microscope
- Free space communication
- Spectrophotometers
- Fluorescence detection
- Luminometer
- DNA sequencer
- Particle sizing

### Features and Benefits

- Low noise
- High gain
- High quantum efficiency
- Built-in TE-cooler option
- Various optical input options
- Customization available upon request

### Product Description

The C30644, C30645 and C30662 Series APDs are high speed, large area InGaAs/InP avalanche photodiodes. These devices provide large quantum efficiency, (QE), high responsivity and low noise in the spectral range between 1100 nm and 1700 nm, with standard active areas up to 200  $\mu\text{m}$  in diameter. They are optimized for use at a wavelength of 1550 nm, ideally suitable for use in eye-safe laser range finding systems.

These APDs are supplied in a hermetically-sealed TO-18 package, with the chip mounted close to the window to allow easy interfacing with the optical system, or on a ceramic carrier. The C30645 and C30662 series APD are offered in the C30659 series of APD receivers with low noise transimpedance amplifier, as well as built-in thermo-electric cooler (the LLAM series). For these modules, refer to page 13 of this catalogue. Other custom package are also available on request.

Product Table

### InGaAs APD

Unit	Active Diameter $\mu\text{m}$	Capacitance pF	Bw MHz	Dark Current nA	Breakdown Voltage min V	Breakdown Voltage max V	Temperature Coefficient V/ $^{\circ}\text{C}$	Typical Gain	Responsivity 1550 nm A/W	NEP fW/sqrt(Hz)	Package
<b>C30662EH</b>	200	2.5	800	70	40	90	0.14	10	9.3	100	TO-18
<b>C30662EH-1</b>	200	2.5	800	70	40	90	0.14	10	9.3	100	TO-18
<b>C30662ECERH</b>	200	2.5	800	70	40	90	0.14	10	9.3	100	Ceramic carrier
<b>C30662ECERH-1</b>	200	2.5	800	70	40	90	0.14	10	9.3	100	Ceramic carrier
<b>C30645EH</b>	80	1.25	1000	35	40	90	0.14	10	9.3	25	TO-18
<b>C30645ECERH</b>	80	1.25	1000	35	40	90	0.14	10	9.3	25	Ceramic carrier
<b>C30644EH</b>	50	0.6	2000	25	40	90	0.14	10	9.3	15	TO-18
<b>C30644ECERH</b>	50	0.6	2000	25	40	90	0.14	10	9.3	15	Ceramic carrier

NOTE: The "-1" version of the C30662 series have a Vbr-Vop of >4V.