

Discrete & Position Sensitive Avalanche Photodiodes

APD

High Gain

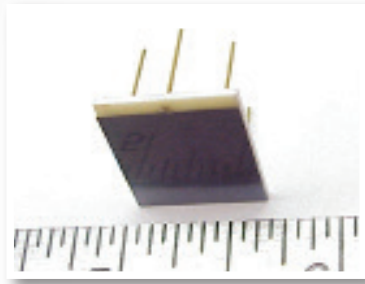
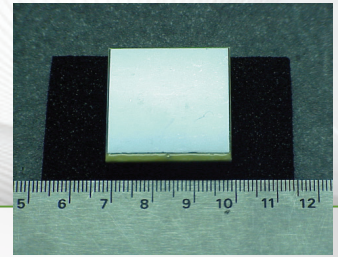
High Speed

High Quantum Efficiency

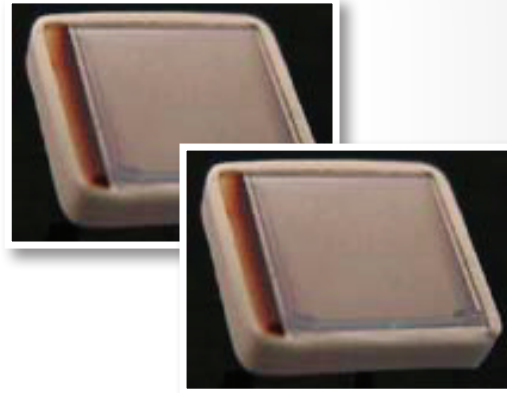
The Science Behind the Technology

 **RMD**
A Dynasil Company

Discrete & Position Sensitive Avalanche Photodiodes



Lateral-Effect Silicon Avalanche Diode



Silicon Avalanche Diodes

APD

For a wide range of nuclear and optical detection applications, including:

- Gamma ray detection via scintillation crystal readout for medical and high energy physics applications.
- Direct detection of low energy X-rays with low noise, fast signals and high count rates.
- Direct detection of nuclear particles, with high efficiency even for low energy tritium betas and timing resolution capabilities down to the ten

picosecond level for minimum ionizing particles (MIPs).

- High speed optical detection across the visible spectrum and beyond, including good efficiency down to wavelengths below 200 nm (liquid Xenon scintillation) and up to neodymium YAG laser wavelength of 1064 nm.

Specifications (typical value at 22 °C)

Gain	300-2000
Capacitance	0.7 pf/mm ²
Bias Voltage	1650-1750 volts
QE at 400 nm	50%
QE at 532 nm	65%
QE 830 to 905 nm.....	75%
QE at 1064 nm	20%

Applications

- LIDAR, LADAR
- Bio-Sensors
- Medical Imaging
- Telecommunications
- High-Energy Physics