

PR5001 – Dual Photo Diode

The PR5001 is a dual-element Si photo diode molded into a very small plastic leadless optical package. The photo diodes offer a very good symmetry, low dark current and high sensitivity.

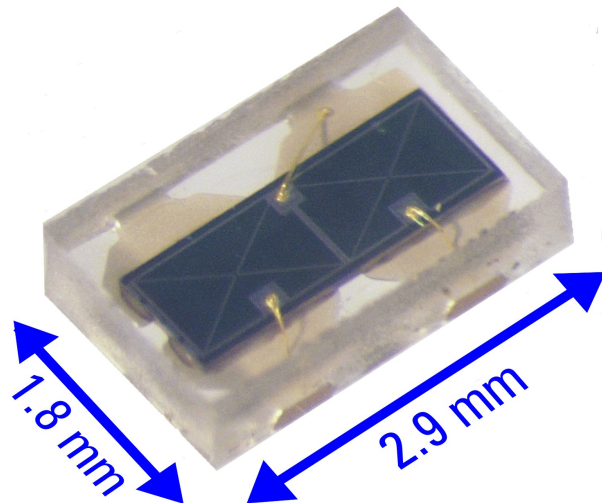
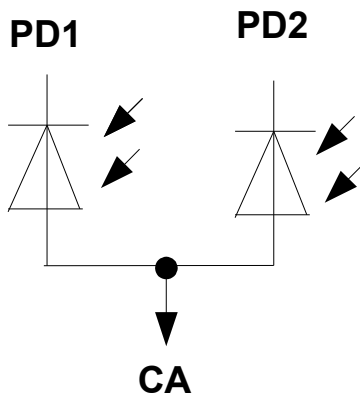
Features

- Low dark current
- Low capacity
- High sensitivity

Typical Application

- Laser beam alignment
- Opto encoders
- Position detection

Circuit



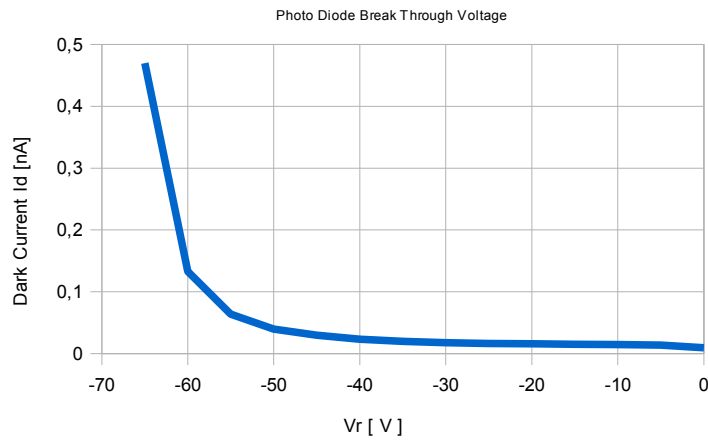
Absolute Maximum Ratings

Parameter	Min	Typ	Max	Units
Operating Temperature Range	-20		85	°C
Storage Temperature Range	-55		100	°C

Electrical Characteristics

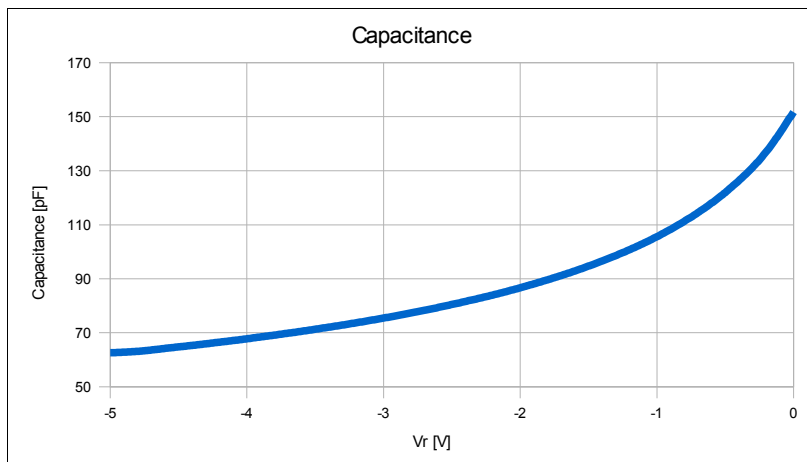
Parameter	Conditions	Min	Typ	Max	Units
Spectral response range λ		500		1000	nm
Dark current I_D	$T = 25^\circ\text{C}$		10		pA
Temperature coefficient of I_D	$V_r = 10\text{V}$		1.10		Times /°C
Terminal capacitance C_t	$V_r = 10\text{V}, f = 1\text{ MHz}$		60		pF

Dark current vs. reverse voltage

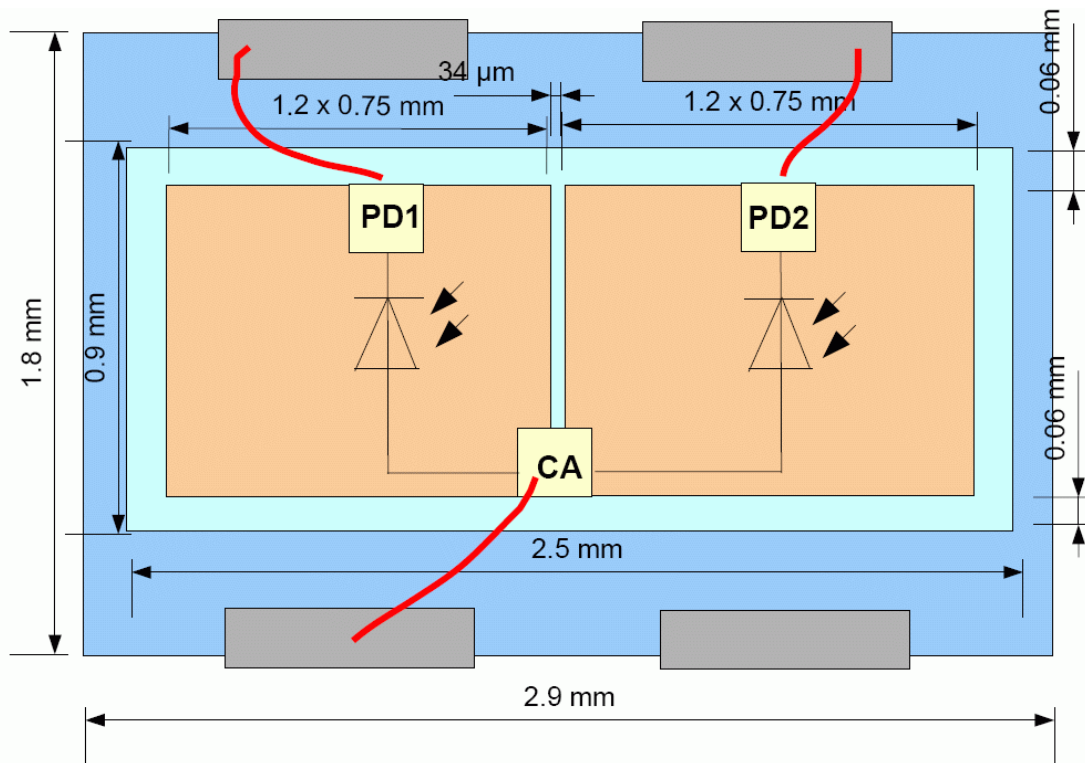


Capacitance

f = 1 MHz





Dimensional Outlines and Layout



 = pad area (178x192 μm)

 = active area (0.75x1.2 mm)

 = die (0.9x2.5mm)

 = clear package (leadless)

PD1= Photodiode 1
 PD2= Photodiode 2
 CA= Common Anode
 red lines = bond wires

Pin Description

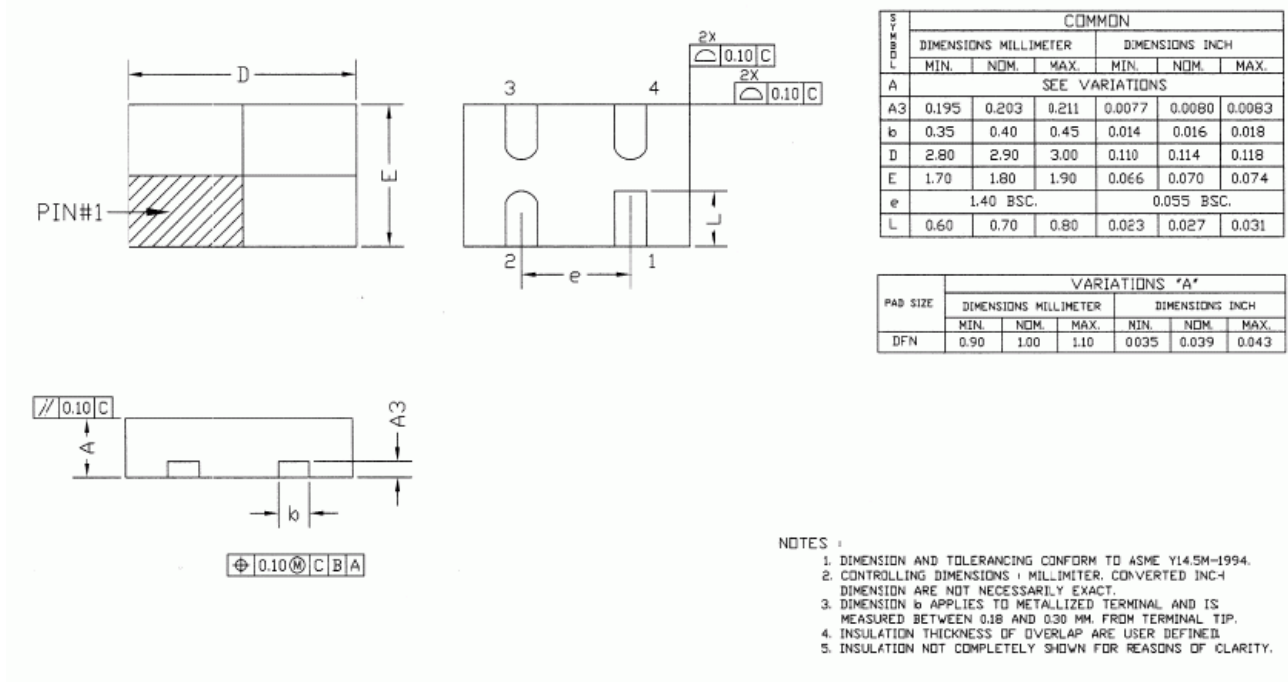
Pin No.	Pin Name	PIN Function Description
1	CA	Common Anode
2		Not connected
3	PD2	Cathode photo diode 2
4	PD1	Cathode photo diode 1

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Preliminary



Package



- NOTES :
1. DIMENSION AND TOLERANCING CONFORM TO ASME Y14.5M-1994.
 2. CONTROLLING DIMENSIONS IN MILLIMETER. CONVERTED INCH DIMENSION ARE NOT NECESSARILY EXACT.
 3. DIMENSION b APPLIES TO METALLIZED TERMINAL AND IS MEASURED BETWEEN 0.18 AND 0.30 MM FROM TERMINAL TIP.
 4. INSULATION THICKNESS OF OVERLAP ARE USER DEFINED.
 5. INSULATION NOT COMPLETELY SHOWN FOR REASONS OF CLARITY.

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2. A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.

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