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.

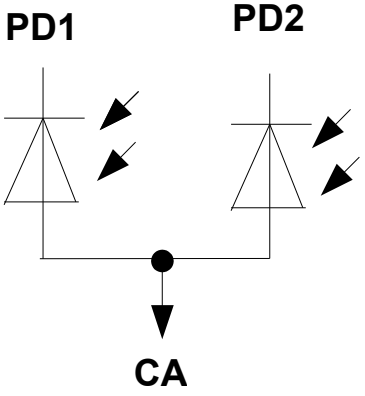
Features

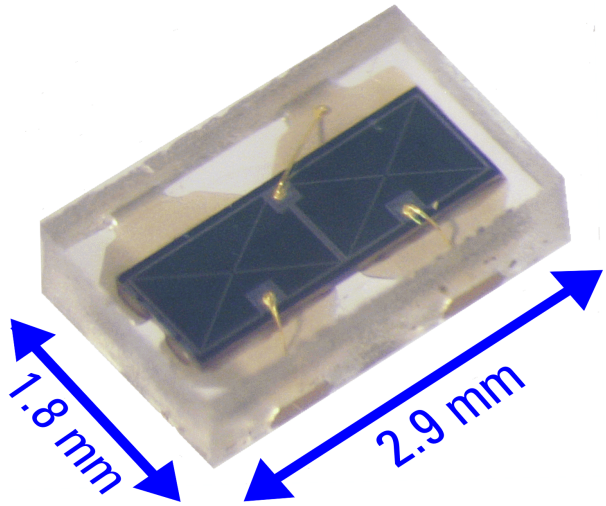
- Low dark current
- Low capacity
- High sensitivity

Typical Application

- Laser beam alignment
- Opto encoders
- Position detection

Circuit





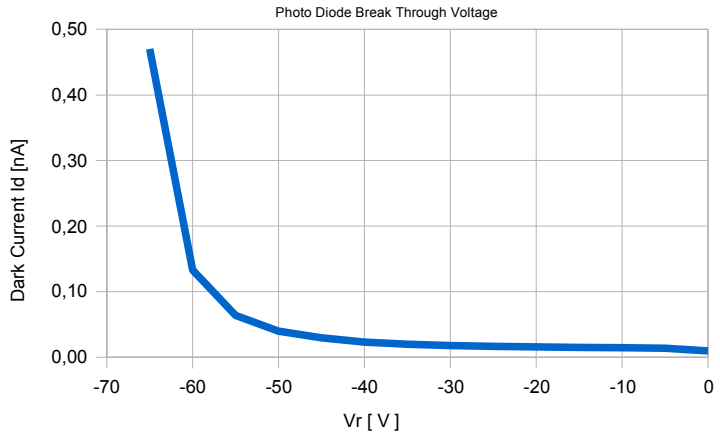
Absolute Maximum Ratings

Parameter	*Min*	*Typ*	*Max*	*Units*
Operating Temperature Range	-20		85	°C
Storage Temperature Range	-55		150	°C

Electrical Characteristics

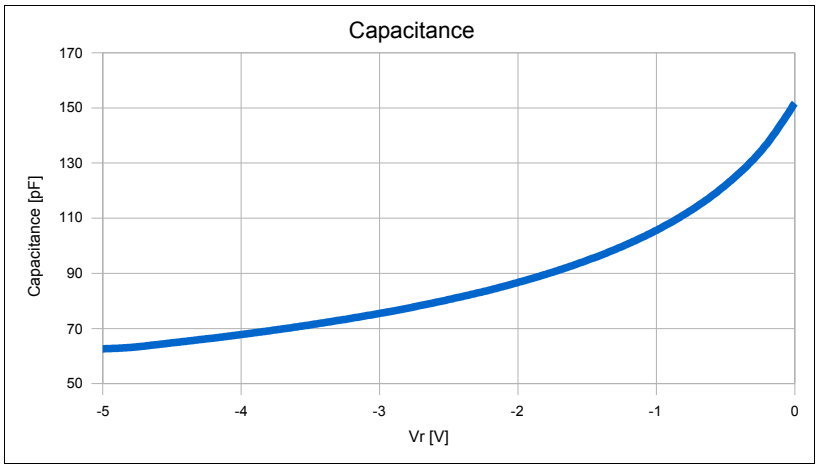
Parameter	*Conditions*	*Min*	*Typ*	*Max*	*Units*
Spectral response range λ		500		1000	nm
Dark current ID	T = 25°C		10		pA
Temperature coefficient of ID	Vr=10V		1.10		Times /°C
Terminal capacitance Ct	Vr = 10V, f = 1 MHz		60		pF

Dark current vs. reverse voltage

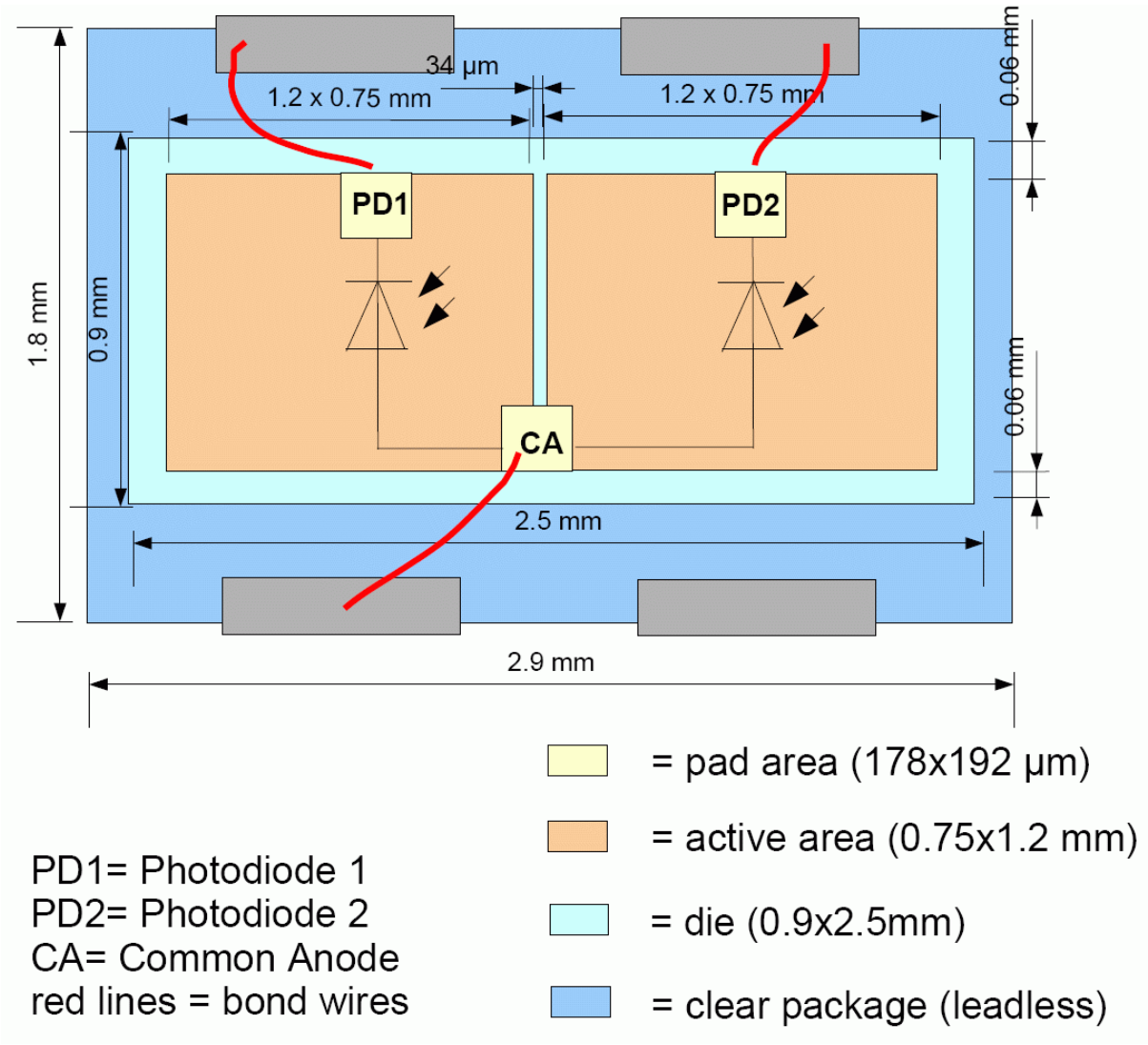


Capacitance

f = 1 MHz



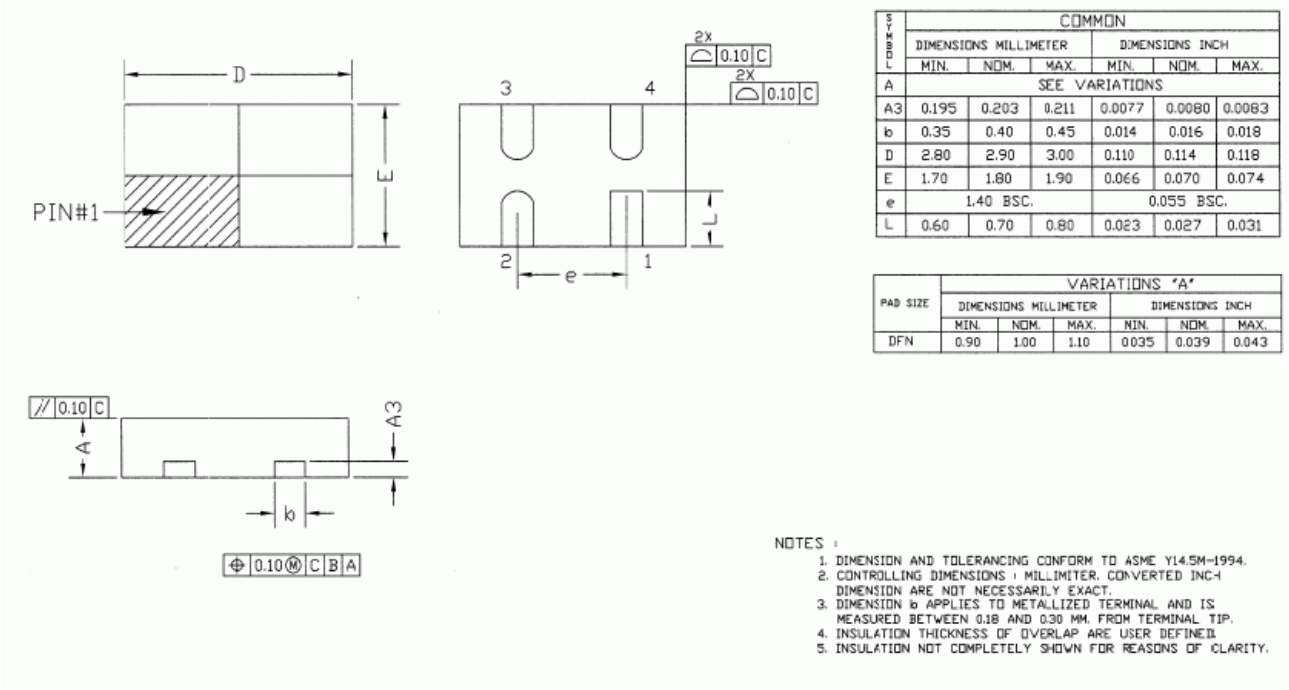
Dimensional Outlines and Layout



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

Package



SYMBOL	COMMON					
	DIMENSIONS MILLIMETER			DIMENSIONS INCH		
	MIN.	NOM.	MAX.	MIN.	NOM.	MAX.
A	SEE VARIATIONS					
A3	0.195	0.203	0.211	0.0077	0.0080	0.0083
b	0.35	0.40	0.45	0.014	0.016	0.018
D	2.80	2.90	3.00	0.110	0.114	0.118
E	1.70	1.80	1.90	0.066	0.070	0.074
e	1.40 BSC.			0.055 BSC.		
L	0.60	0.70	0.80	0.023	0.027	0.031

PAD SIZE	VARIATIONS "A"					
	DIMENSIONS MILLIMETER			DIMENSIONS INCH		
	MIN.	NOM.	MAX.	MIN.	NOM.	MAX.
DFN	0.90	1.00	1.10	0.035	0.039	0.043

NOTES :
1. DIMENSION AND TOLERANCING CONFORM TO ASME Y14.5M-1994.
2. CONTROLLING DIMENSIONS : 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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