High Linearity Position Sensing Detector

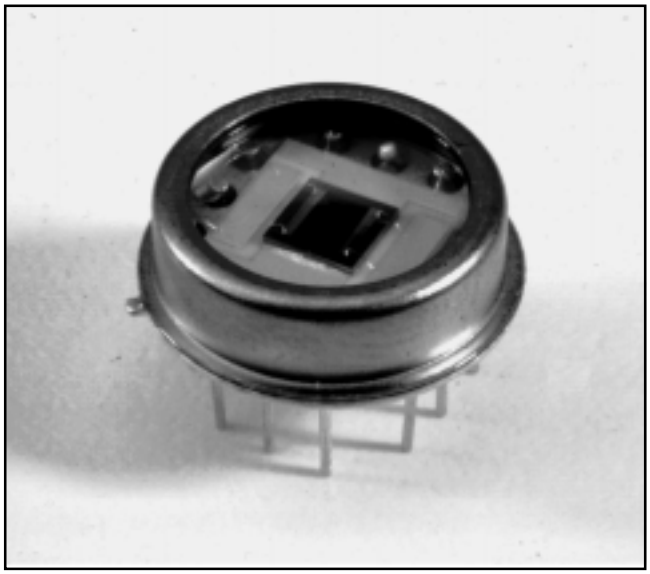
Part Number: S2-0001
Description: 2L2_MP1

The SiTek 2L2 PSD functions according to the Lateral Effect Photodiode principle. It is an analogue device and therefore displays excellent position resolution. The resolution is determined by the system signal-to-noise ratio.

The 2L2 is operated in the biased mode.

Typical applications include: distance and height measurement, alignment, position and motion measurements and vibration studies.

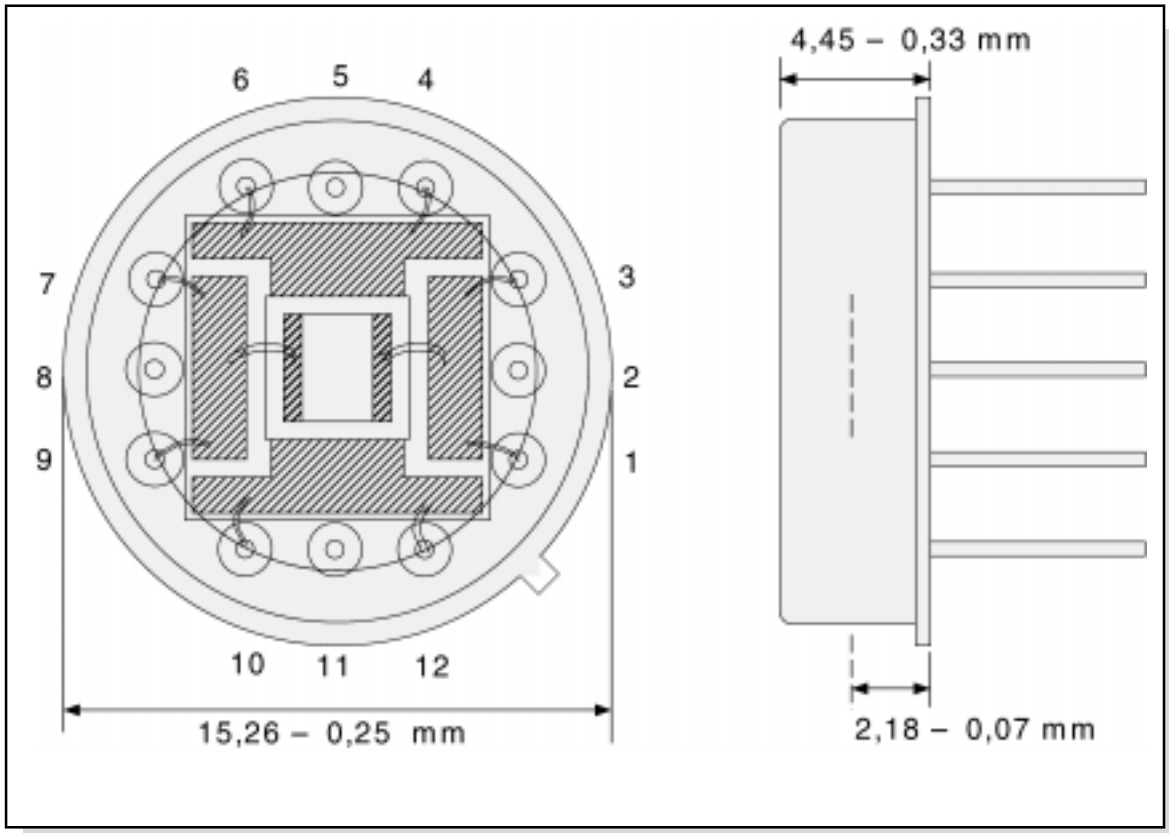
Special UV- or YAG-enhanced and Nuclear versions are available.



Parameter	Symbol	Min.	Typ.	Max.	Unit
Active area			2 x 2		mm^2
Position non-linearity			0,3	1,0	%(±)
Detector resistance	R_{det}	7	10	16	k Ω
Dark current	I_d		50	200	nA
Noise current	I_{noise}		1,3	2,5	pA/√Hz
Responsivity	r		0,58		A/W
Capacitance	C_j		7	8	pF
Rise time (10-90%)	t_r		30	60	ns
Reverse voltage (bias)	V_r	5	15	20	V
Thermal drift			40	200	ppm/°C
Maximum ratings					
Reverse voltage	$V_{R\text{-}max}$			30	V
Operating temperature	T_{oper}			70	°C
Storage temperature	T_{stg}			100	°C

Test conditions: Room temperature 23°C. Reverse voltage 15 V. Light-source wavelength 940 nm. Position non-linearity and thermal drift are valid within 80% of the detector length.

Package: 12-pin TO-8 metal housing, 15,3 mm diameter, with protective sapphire window.



2L2_MP1

Pin configuration:	1,3	Output Y1	Note:	Outputs Y1, Y2 and X1, X2 are respectively interchangeable. The anodes Y1, Y2 must be at negative potential compared to the cathodes X1, X2.
	4,6	Output X1		
	7,9	Output Y2		
	10,12	Output X2		
	2,5,8,11	Case		

Application information:

The inherent resolution of a PSD is very good. It is proven to be better than one part in one million. The performance of a PSD based measurement system is thus limited by its mechanical, optical and electrical components.

To get the best performance you have to consider:
- Modulated light source. Modulation makes it possible to avoid influence of other light sources.
- Stable temperature.
- Mechanical stable system.
- High optical resolution.
- High resolution in division of the sum- and difference signals.

Resolution, optical sensitivity and measurement speed are related to each other in the PSD measurement system and you have to make the proper choices and tradeoffs for your system. Further information as schematics of a recommended hook-up is obtainable from your local distributor or from SiTek Electro Optics AB.

SiTek PSD Position Measurement electronic boards:

For most position measurement applications the SiTek PM-kit offers a complete and easy-to use solution. It is a series of general purpose, high performance, low-noise electronic boards designed for SiTek PSD. You can easily build your own measurement system using our PM-kit. Further information is obtainable from your local distributor or from SiTek Electro Optics AB.

High Linearity Position Sensing Detector

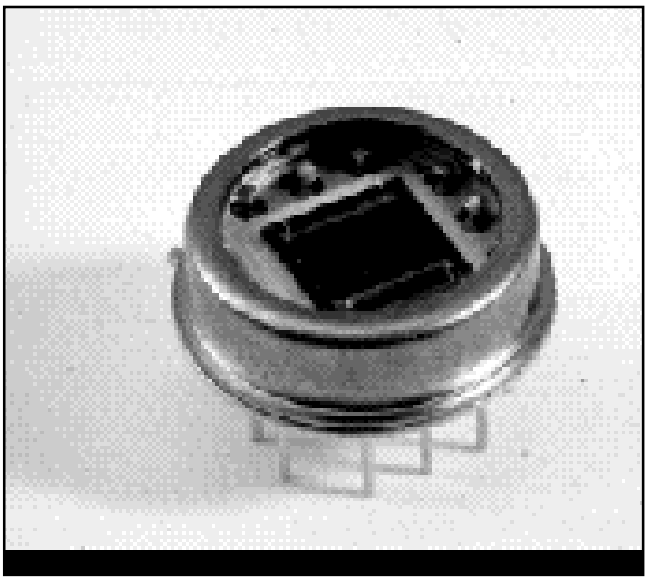
Part Number: S2-0002
Description: 2L4_MP1

The SiTek 2L4 PSD functions according to the Lateral Effect Photodiode principle. It is an analogue device and therefore displays excellent position resolution. The resolution is determined by the system signal-to-noise ratio.

The 2L4 is operated in the biased mode.

Typical applications include: distance and height measurement, alignment, position and motion measurements and vibration studies.

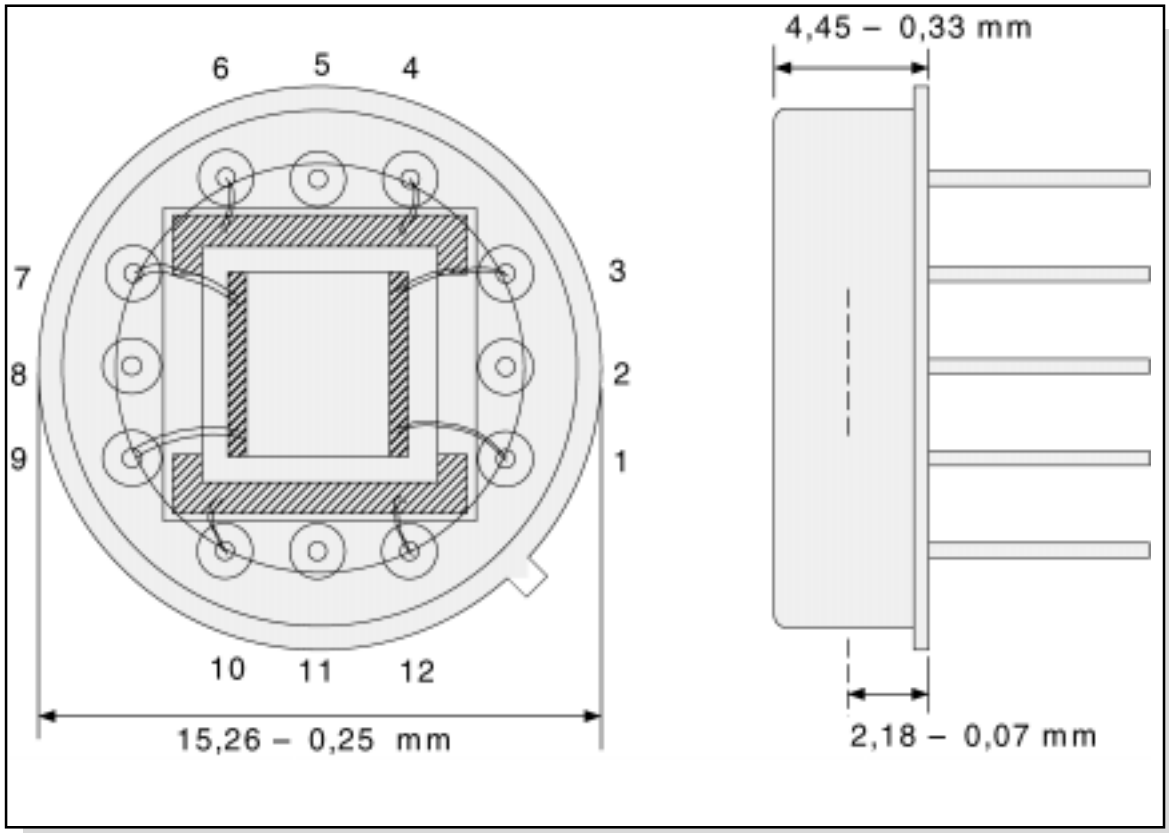
Special UV- or YAG-enhanced and Nuclear versions are available.



Parameter	Symbol	Min.	Typ.	Max.	Unit
Active area			4 x 4		mm^2
Position non-linearity			0,3	0,8	%(±)
Detector resistance	R_{det}	7	10	16	k Ω
Dark current	I_d		50	200	nA
Noise current	I_{noise}		1,3	2,5	pA/√Hz
Responsivity	r		0,58		A/W
Capacitance	C_j		20	25	pF
Rise time (10-90%)	t_r		80	160	ns
Reverse voltage (bias)	V_r	5	15	20	V
Thermal drift			40	200	ppm/°C
Maximum ratings					
Reverse voltage	$V_{R\text{-}max}$			30	V
Operating temperature	T_{oper}			70	°C
Storage temperature	T_{stg}			100	°C

Test conditions: Room temperature 23°C. Reverse voltage 15 V. Light-source wavelength 940 nm. Position non-linearity and thermal drift are valid within 80% of the detector length.

Package: 12-pin TO-8 metal housing, 15,3 mm diameter, with protective sapphire window.



2L4_MP1

Pin configuration:	1,3	Output Y1	Note:	Outputs Y1, Y2 and X1, X2 are respectively interchangeable. The anodes Y1, Y2 must be at negative potential compared to the cathodes X1, X2.
	4,6	Output X1		
	7,9	Output Y2		
	10,12	Output X2		
	2,5,8,11	Case		

Application information:

The inherent resolution of a PSD is very good. It is proven to be better than one part in one million. The performance of a PSD based measurement system is thus limited by its mechanical, optical and electrical components.

To get the best performance you have to consider:
- Modulated light source. Modulation makes it possible to avoid influence of other light sources.
- Stable temperature.
- Mechanical stable system.
- High optical resolution.
- High resolution in division of the sum- and difference signals.

Resolution, optical sensitivity and measurement speed are related to each other in the PSD measurement system and you have to make the proper choices and tradeoffs for your system. Further information as schematics of a recommended hook-up is obtainable from your local distributor or from SiTek Electro Optics AB.

SiTek PSD Position Measurement electronic boards:

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High Linearity Position Sensing Detector

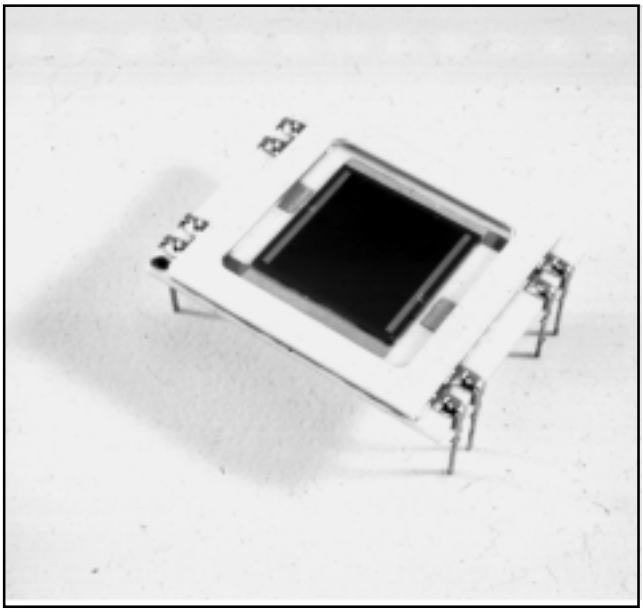
Part Number: S2-0003
Description: 2L10_SU7

The SiTek 2L10 PSD functions according to the Lateral Effect Photodiode principle. It is an analogue device and therefore displays excellent position resolution. The resolution is determined by the system signal-to-noise ratio.

The 2L10 is operated in the biased mode.

Typical applications include: distance and height measurement, alignment, position and motion measurements and vibration studies.

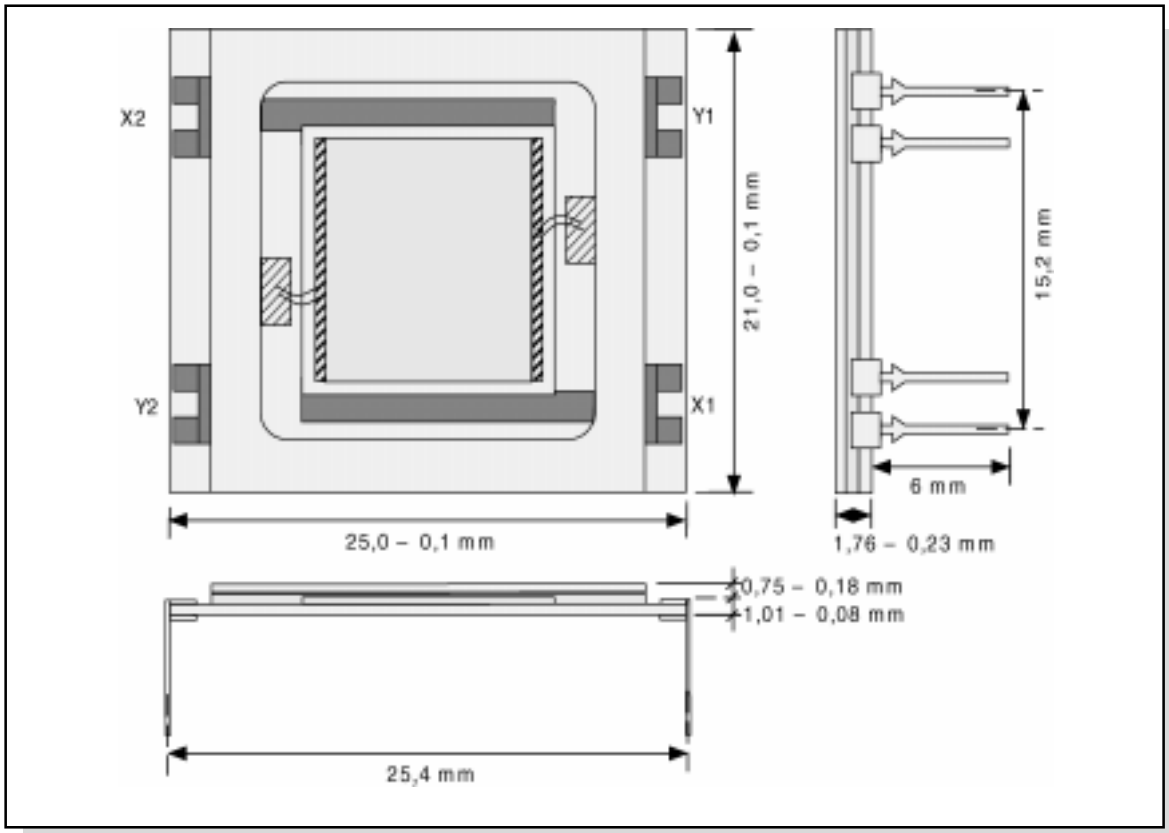
Special UV- or YAG-enhanced and Nuclear versions are available.



Parameter	Symbol	Min.	Typ.	Max.	Unit
Active area			10 x 10		mm^2
Position non-linearity			0,3	0,8	%(±)
Detector resistance	R_{det}	7	10	16	kΩ
Dark current	I_d		100	500	nA
Noise current	I_{noise}		1,3	2,5	pA/√Hz
Responsivity	r		0,63		A/W
Capacitance	C_j		90	110	pF
Rise time (10-90%)	t_r		400	800	ns
Reverse voltage (bias)	V_r	5	15	20	V
Thermal drift			40	200	ppm/°C
Maximum ratings					
Reverse voltage	$V_{R\text{-}max}$			30	V
Operating temperature	T_{oper}			70	°C
Storage temperature	T_{stg}			100	°C

Test conditions: Room temperature 23°C. Reverse voltage 15 V. Light-source wavelength 940 nm. Position non-linearity and thermal drift are valid within 80% of the detector length.

Package: Ceramic substrate, 25,0 x 21,0 mm^2, with solderable pins and protective window.



2L10_SU7

Pin configuration: See drawing

Note: Outputs Y1, Y2 and X1, X2 are respectively interchangeable. The anodes Y1, Y2 must be at negative potential compared to the cathodes X1, X2.

Application information:

The inherent resolution of a PSD is very good. It is proven to be better than one part in one million. The performance of a PSD based measurement system is thus limited by its mechanical, optical and electrical components.

To get the best performance you have to consider:
- Modulated light source. Modulation makes it possible to avoid influence of other light sources.
- Stable temperature.
- Mechanical stable system.
- High optical resolution.
- High resolution in division of the sum- and difference signals.

Resolution, optical sensitivity and measurement speed are related to each other in the PSD measurement system and you have to make the proper choices and tradeoffs for your system. Further information as schematics of a recommended hook-up is obtainable from your local distributor or from SiTek Electro Optics AB.

SiTek PSD Position Measurement electronic boards:

For most position measurement applications the SiTek PM-kit offers a complete and easy-to use solution. It is a series of general purpose, high performance, low-noise electronic boards designed for SiTek PSD. You can easily build your own measurement system using our PM-kit. Further information is obtainable from your local distributor or from SiTek Electro Optics AB.

High Linearity Position Sensing Detector

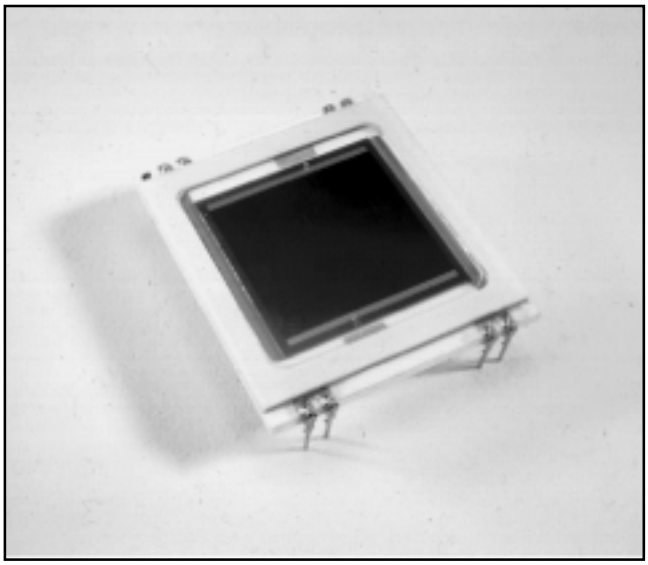
Part Number: S2-0004
Description: 2L20_SU9

The SiTek 2L20 PSD functions according to the Lateral Effect Photodiode principle. It is an analogue device and therefore displays excellent position resolution. The resolution is determined by the system signal-to-noise ratio.

The 2L20 is operated in the biased mode.

Typical applications include: distance and height measurement, alignment, position and motion measurements and vibration studies.

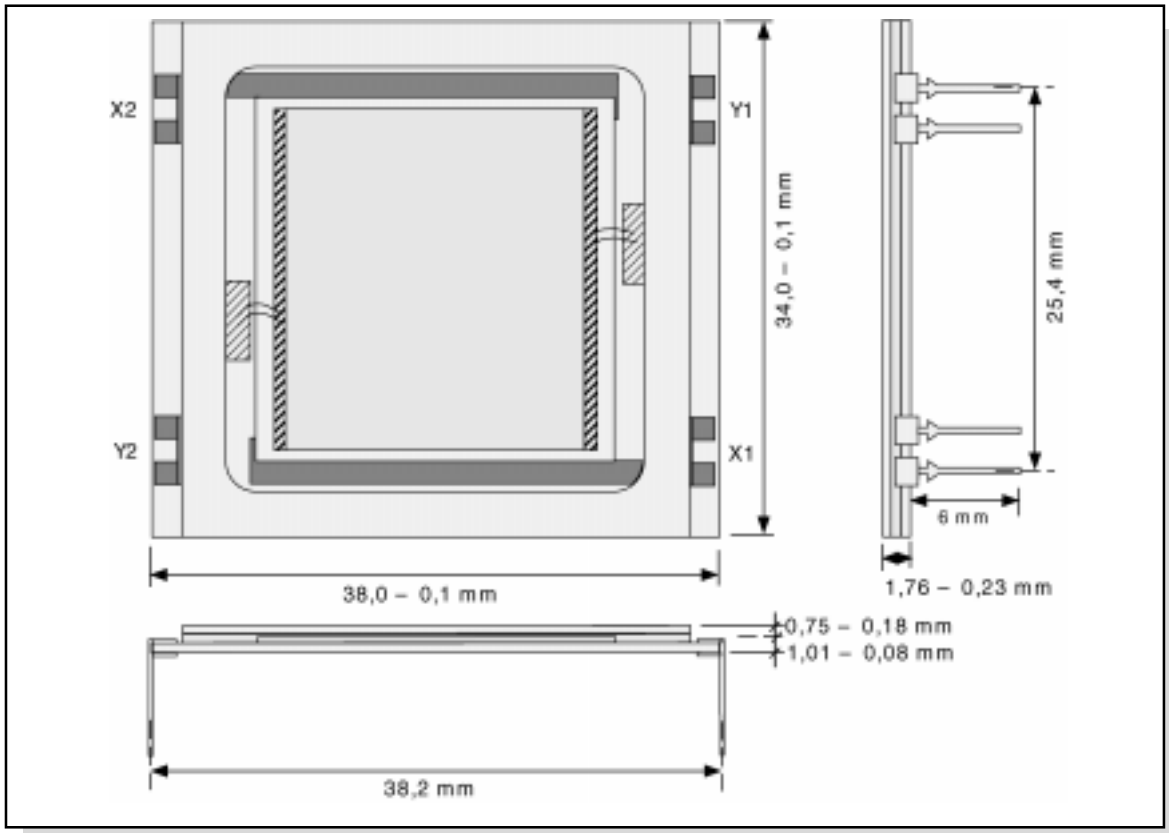
Special UV- or YAG-enhanced and Nuclear versions are available.



Parameter	Symbol	Min.	Typ.	Max.	Unit
Active area			20 x 20		mm^2
Position non-linearity			0,3	0,8	%(±)
Detector resistance	R_{det}	7	10	16	k Ω
Dark current	I_d		200	2000	nA
Noise current	I_{noise}		1,5	3,5	pA/√Hz
Responsivity	r		0,63		A/W
Capacitance	C_j		360	430	pF
Rise time (10-90%)	t_r		1,6	3,0	µs
Reverse voltage (bias)	V_r	5	15	20	V
Thermal drift			40	200	ppm/°C
Maximum ratings					
Reverse voltage	$V_{R\text{-}max}$			30	V
Operating temperature	T_{oper}			70	°C
Storage temperature	T_{stg}			100	°C

Test conditions: Room temperature 23°C. Reverse voltage 15 V. Light-source wavelength 940 nm. Position non-linearity and thermal drift are valid within 80% of the detector length.

Package: Ceramic substrate, 38,0 x 34,0 mm^2, with solderable pins and protective window.



2L20_SU9

Pin configuration: See drawing

Note: Outputs Y1, Y2 and X1, X2 are respectively interchangeable. The anodes Y1, Y2 must be at negative potential compared to the cathodes X1, X2.

Application information:

The inherent resolution of a PSD is very good. It is proven to be better than one part in one million. The performance of a PSD based measurement system is thus limited by its mechanical, optical and electrical components.

To get the best performance you have to consider:
- Modulated light source. Modulation makes it possible to avoid influence of other light sources.
- Stable temperature.
- Mechanical stable system.
- High optical resolution.
- High resolution in division of the sum- and difference signals.

Resolution, optical sensitivity and measurement speed are related to each other in the PSD measurement system and you have to make the proper choices and tradeoffs for your system. Further information as schematics of a recommended hook-up is obtainable from your local distributor or from SiTek Electro Optics AB.

SiTek PSD Position Measurement electronic boards:

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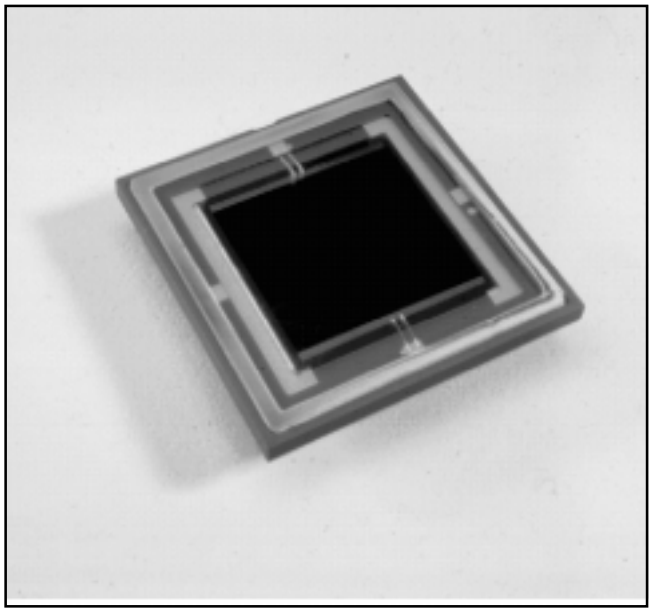
High Linearity Position Sensing Detector

Part Number: S2-0023
Description: 2L20_CP7



The SiTek 2L20 PSD functions according to the Lateral Effect Photodiode principle. It is an analogue device and therefore displays excellent position resolution. The resolution is determined by the system signal-to-noise ratio.

The 2L20 is operated in the biased mode.

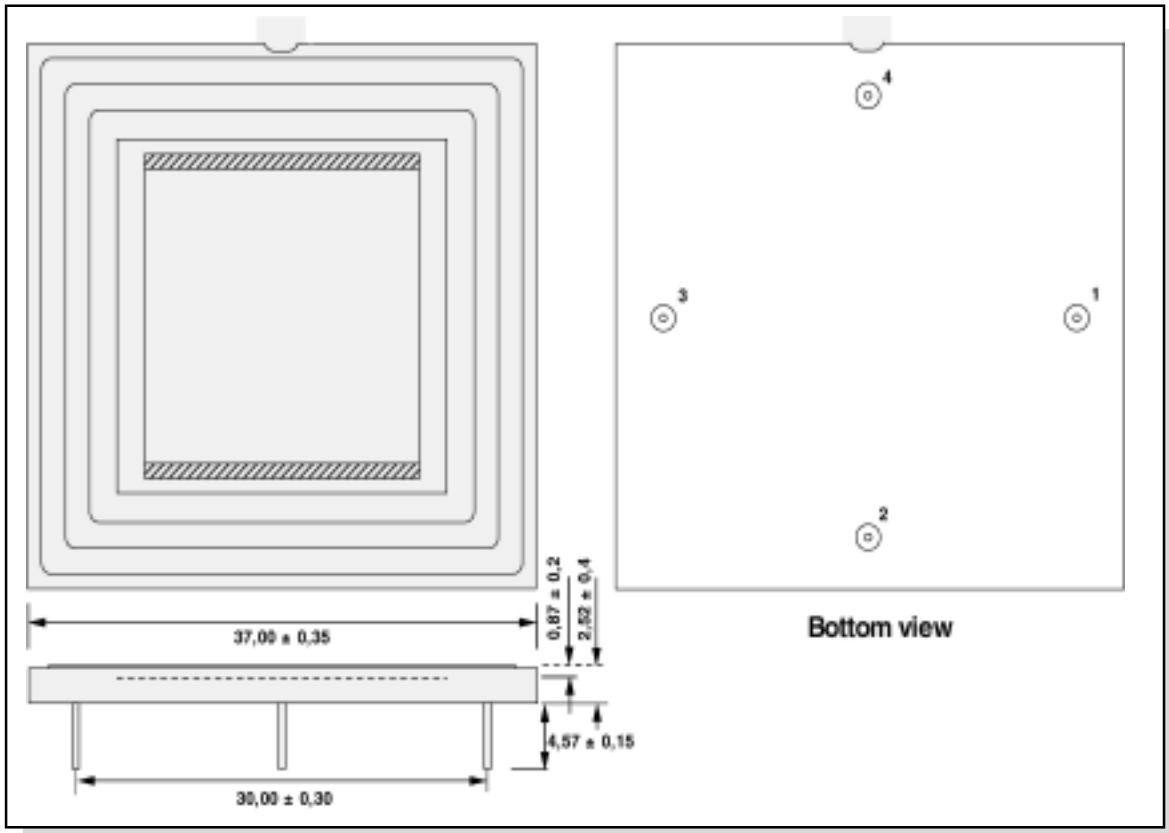
Typical applications include: distance and height measurement, alignment, position and motion measurements and vibration studies.

Special UV- or YAG-enhanced and Nuclear versions are available.

Parameter	Symbol	Min.	Typ.	Max.	Unit
Active area			20 x 20		mm^2
Position non-linearity			0,3	0,8	%(±)
Detector resistance	R_{det}	7	10	16	k Ω
Dark current	I_d		200	2000	nA
Noise current	I_{noise}		1,5	3,5	pA/√Hz
Responsivity	r		0,63		A/W
Capacitance	C_j		360	430	pF
Rise time (10-90%)	t_r		1,6	3,0	µs
Reverse voltage (bias)	V_r	5	15	20	V
Thermal drift			40	200	ppm/°C
Maximum ratings					
Reverse voltage	$V_{R\text{-}max}$			30	V
Operating temperature	T_{oper}			70	°C
Storage temperature	T_{stg}			100	°C

Test conditions: Room temperature 23°C. Reverse voltage 15 V. Light-source wavelength 940 nm. Position non-linearity and thermal drift are valid within 80% of the detector length.

Package: 4-pin ceramic package, 37,0 x 37,0 mm^2, with protective window.



2L20_CP7

Pin configuration:	1	Output X1	Note:	Outputs Y1, Y2 and X1, X2 are respectively
	2	Output Y1		interchangeable. The anodes Y1, Y2 must
	3	Output X2		be at negative potential compared
	4	Output Y2		to the cathodes X1, X2.

Application information:

The inherent resolution of a PSD is very good. It is proven to be better than one part in one million. The performance of a PSD based measurement system is thus limited by its mechanical, optical and electrical components.

To get the best performance you have to consider:
- Modulated light source. Modulation makes it possible to avoid influence of other light sources.
- Stable temperature.
- Mechanical stable system.
- High optical resolution.
- High resolution in division of the sum- and difference signals.

Resolution, optical sensitivity and measurement speed are related to each other in the PSD measurement system and you have to make the proper choices and tradeoffs for your system. Further information as schematics of a recommended hook-up is obtainable from your local distributor or from SiTek Electro Optics AB.

SiTek PSD Position Measurement electronic boards:

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High Linearity Position Sensing Detector

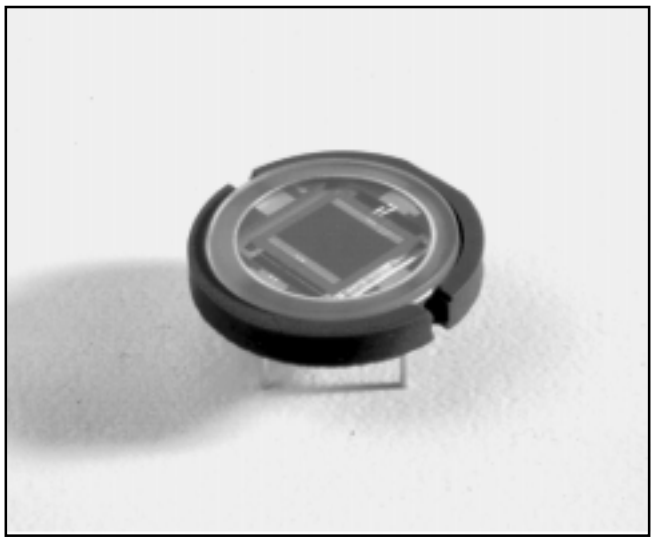
Part Number: S2-0024
Description: 2L4_CP5

The SiTek 2L4 PSD functions according to the Lateral Effect Photodiode principle. It is an analogue device and therefore displays excellent position resolution. The resolution is determined by the system signal-to-noise ratio.

The 2L4 is operated in the biased mode.

Typical applications include: distance and height measurement, alignment, position and motion measurements and vibration studies.

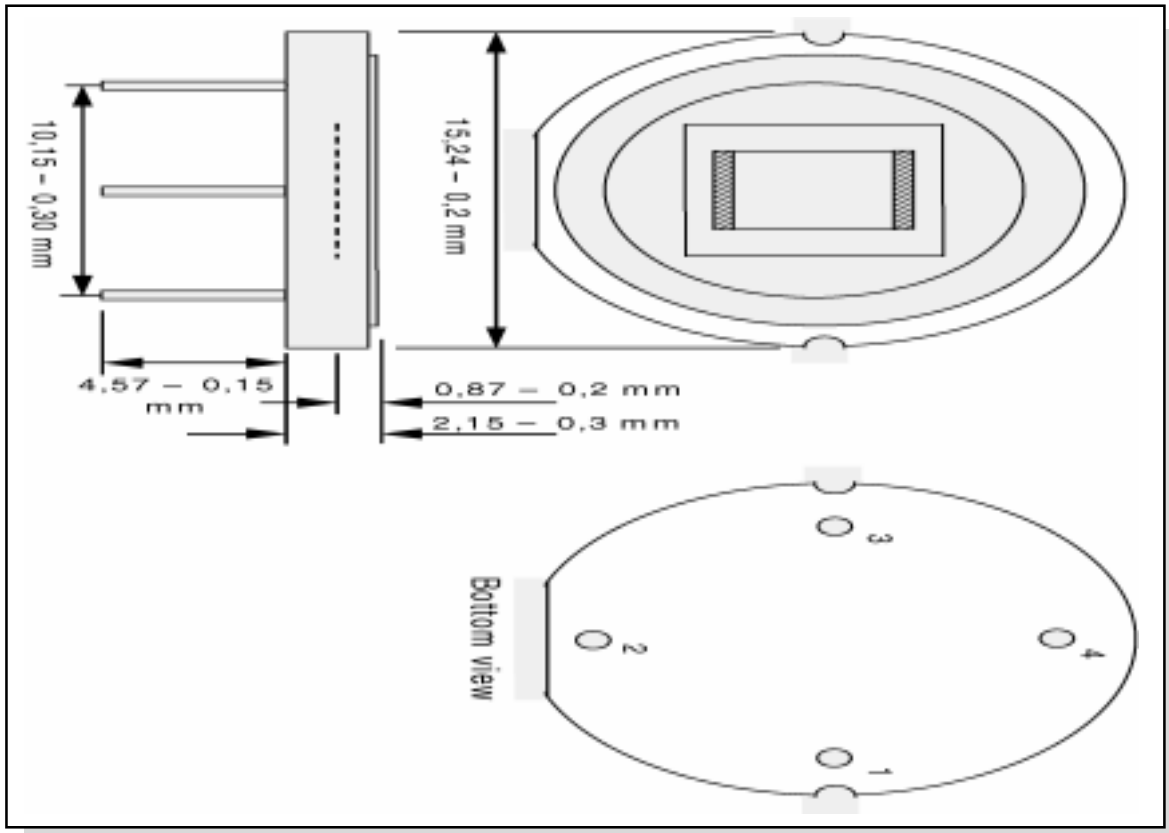
Special UV- or YAG-enhanced and Nuclear versions are available.



Parameter	Symbol	Min.	Typ.	Max.	Unit
Active area			4 x 4		mm^2
Position non-linearity			0,3	0,8	%(±)
Detector resistance	R_{det}	7	10	16	kΩ
Dark current	I_d		50	200	nA
Noise current	I_{noise}		1,3	2,5	pA/√Hz
Responsivity	r		0,63		A/W
Capacitance	C_j		20	25	pF
Rise time (10-90%)	t_r		80	160	ns
Reverse voltage (bias)	V_r	5	15	20	V
Thermal drift			40	200	ppm/°C
Maximum ratings					
Reverse voltage	$V_{R\text{-}max}$			30	V
Operating temperature	T_{oper}			70	°C
Storage temperature	T_{stg}			100	°C

Test conditions: Room temperature 23°C. Reverse voltage 15 V. Light-source wavelength 940 nm. Position non-linearity and thermal drift are valid within 80% of the detector length.

Package: 4-pin ceramic package, 15,2 mm diameter, with protective window.



2L4_CP5

Pin configuration:	1	Output X1	Note:	Outputs Y1, Y2 and X1, X2 are respectively
	2	Output Y1		interchangeable. The anodes Y1, Y2 must
	3	Output X2		be at negative potential compared
	4	Output Y2		to the cathodes X1, X2.

Application information:

The inherent resolution of a PSD is very good. It is proven to be better than one part in one million. The performance of a PSD based measurement system is thus limited by its mechanical, optical and electrical components.

To get the best performance you have to consider:
- Modulated light source. Modulation makes it possible to avoid influence of other light sources.
- Stable temperature.
- Mechanical stable system.
- High optical resolution.
- High resolution in division of the sum- and difference signals.

Resolution, optical sensitivity and measurement speed are related to each other in the PSD measurement system and you have to make the proper choices and tradeoffs for your system. Further information as schematics of a recommended hook-up is obtainable from your local distributor or from SiTek Electro Optics AB.

SiTek PSD Position Measurement electronic boards:

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High Linearity Position Sensing Detector

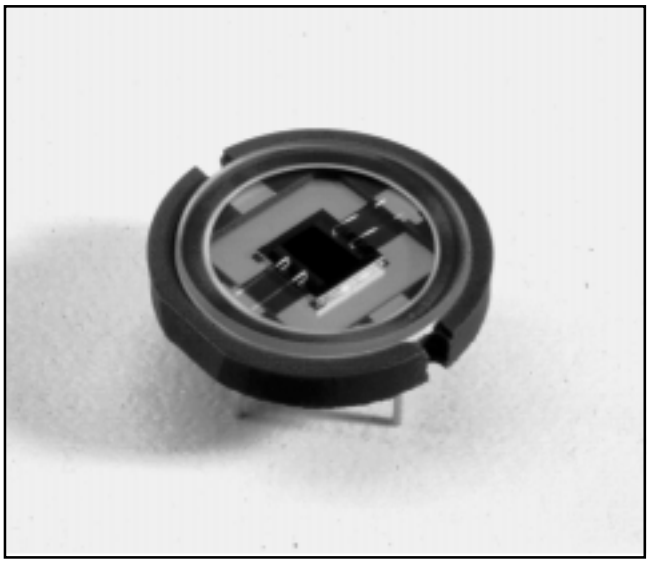
Part Number: S2-0032
Description: 2L2_CP4

The SiTek 2L2 PSD functions according to the Lateral Effect Photodiode principle. It is an analogue device and therefore displays excellent position resolution. The resolution is determined by the system signal-to-noise ratio.

The 2L2 is operated in the biased mode.

Typical applications include: distance and height measurement, alignment, position and motion measurements and vibration studies.

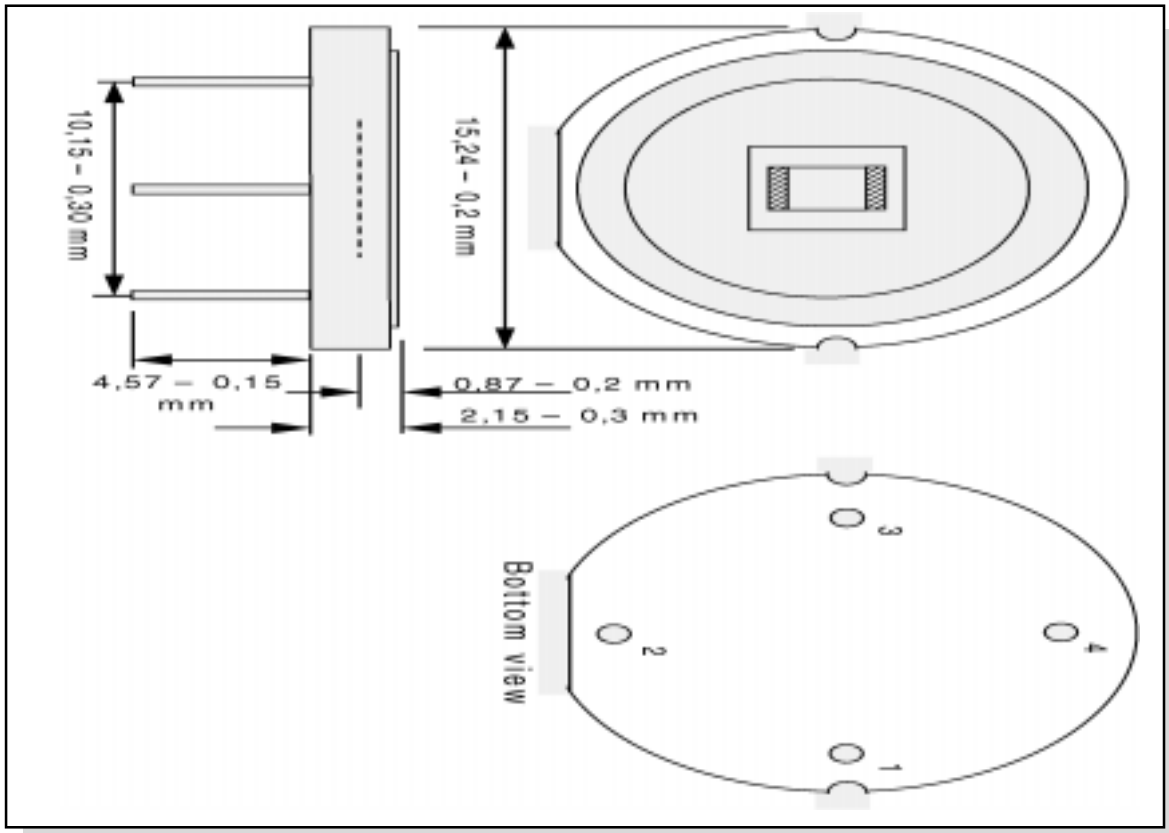
Special UV- or YAG-enhanced and Nuclear versions are available.



Parameter	Symbol	Min.	Typ.	Max.	Unit
Active area			2 x 2		mm^2
Position non-linearity			0,3	1,0	%(±)
Detector resistance	R_{det}	7	1 0	16	kΩ
Dark current	I_d		50	200	nA
Noise current	I_{noise}		1,3	2,5	pA/√Hz
Responsivity	r		0,63		A/W
Capacitance	C_j		7	8	pF
Rise time (10-90%)	tr		30	60	ns
Reverse voltage (bias)	V_r	5	15	20	V
Thermal drift			40	200	ppm/°C
Maximum ratings					
Reverse voltage	$V_{R\text{-}max}$			30	V
Operating temperature	T_{oper}			70	°C
Storage temperature	T_{stg}			100	°C

Test conditions: Room temperature 23°C. Reverse voltage 15 V. Light-source wavelength 940 nm. Position non-linearity and thermal drift are valid within 80% of the detector length.

Package: 4-pin ceramic package, 15,2 mm diameter, with protective window.



2L2_CP4

Pin configuration:	1	Output X1	Note:	Outputs Y1, Y2 and X1, X2 are respectively interchangeable. The anodes Y1, Y2 must be at negative potential compared to the cathodes X1, X2.
	2	Output Y1		
	3	Output X2		
	4	Output Y2		

Application information:

The inherent resolution of a PSD is very good. It is proven to be better than one part in one million. The performance of a PSD based measurement system is thus limited by its mechanical, optical and electrical components.

To get the best performance you have to consider:
- Modulated light source. Modulation makes it possible to avoid influence of other light sources.
- Stable temperature.
- Mechanical stable system.
- High optical resolution.
- High resolution in division of the sum- and difference signals.

Resolution, optical sensitivity and measurement speed are related to each other in the PSD measurement system and you have to make the proper choices and tradeoffs for your system. Further information as schematics of a recommended hook-up is obtainable from your local distributor or from SiTek Electro Optics AB.

SiTek PSD Position Measurement electronic boards:

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High Linearity Position Sensing Detector

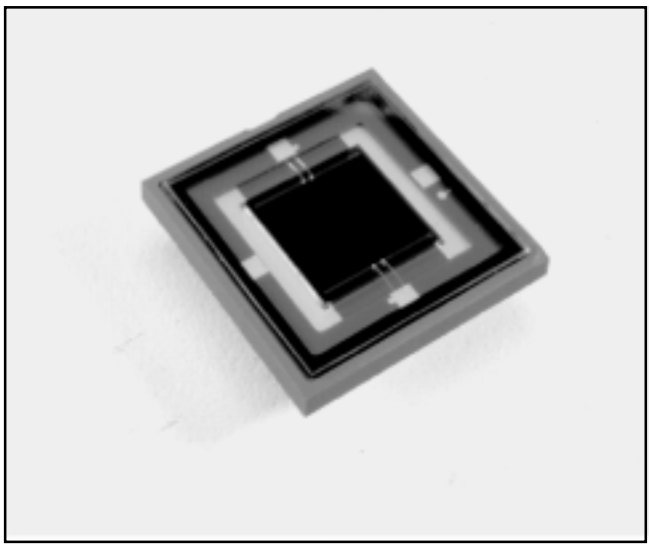
Part Number: S2-0033
Description: 2L10_CP6

The SiTek 2L10 PSD functions according to the Lateral Effect Photodiode principle. It is an analogue device and therefore displays excellent position resolution. The resolution is determined by the system signal-to-noise ratio.

The 2L10 is operated in the biased mode.

Typical applications include: distance and height measurement, alignment, position and motion measurements and vibration studies.

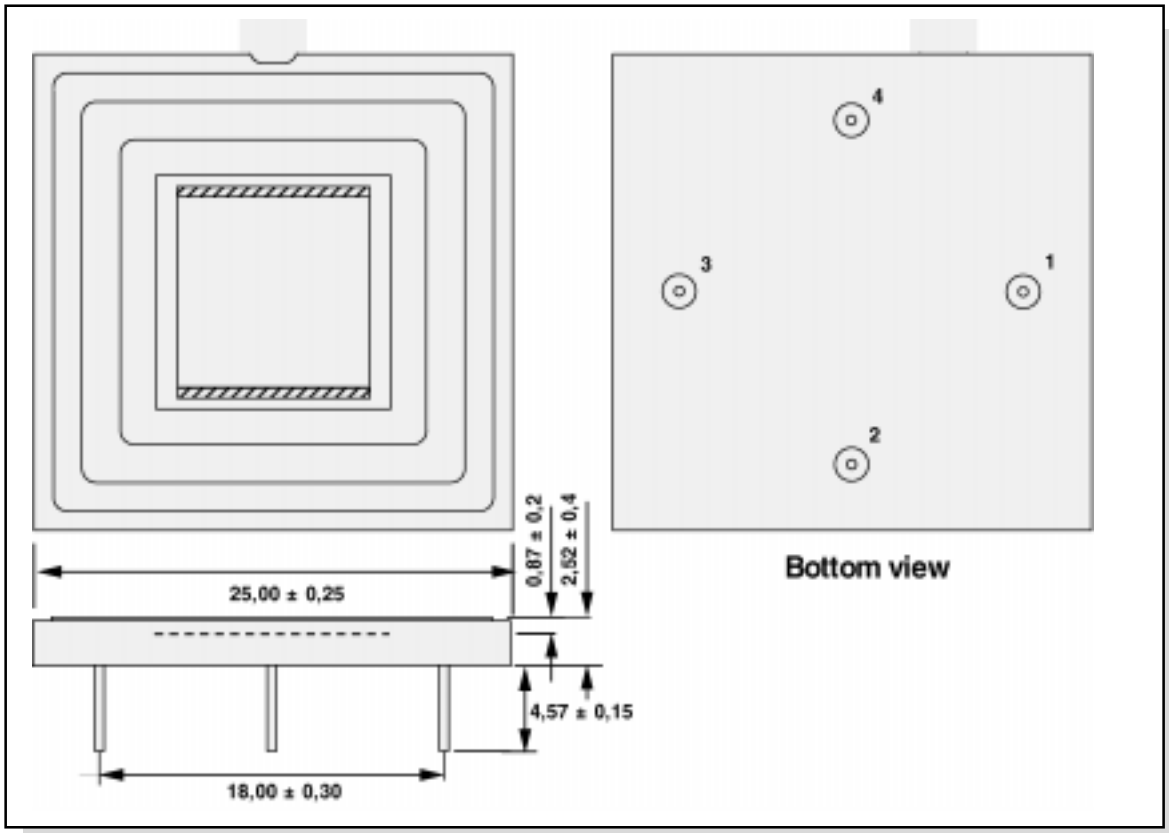
Special UV- or YAG-enhanced and Nuclear versions are available.



Parameter	Symbol	Min.	Typ.	Max.	Unit
Active area			10 x 10		mm^2
Position non-linearity			0,3	0,8	%(±)
Detector resistance	R_{det}	7	10	16	k Ω
Dark current	I_d		100	500	nA
Noise current	I_{noise}		1,3	2,5	pA/√Hz
Responsivity	r		0,63		A/W
Capacitance	C_j		90	110	pF
Rise time (10-90%)	t_r		400	800	ns
Reverse voltage (bias)	V_r	5	15	20	V
Thermal drift			40	200	ppm/°C
Maximum ratings					
Reverse voltage	$V_{R\text{-}max}$			30	V
Operating temperature	T_{oper}			70	°C
Storage temperature	T_{stg}			100	°C

Test conditions: Room temperature 23°C. Reverse voltage 15 V. Light-source wavelength 940 nm. Position non-linearity and thermal drift are valid within 80% of the detector length.

Package: 4-pin ceramic package, 25,0 x 25,0 mm^2, with protective window.



2L10_CP6

Pin configuration:			Note:	
	1	Output X1		Outputs Y1, Y2 and X1, X2 are respectively
	2	Output Y1		interchangeable. The anodes Y1, Y2 must
	3	Output X2		be at negative potential compared
	4	Output Y2		to the cathodes X1, X2.

Application information:

The inherent resolution of a PSD is very good. It is proven to be better than one part in one million. The performance of a PSD based measurement system is thus limited by its mechanical, optical and electrial components.

To get the best performance you have to consider:
- Modulated light source. Modulation makes it possible to avoid influence of other light sources.
- Stable temperature.
- Mechanical stable system.
- High optical resolution.
- High resolution in division of the sum- and difference signals.

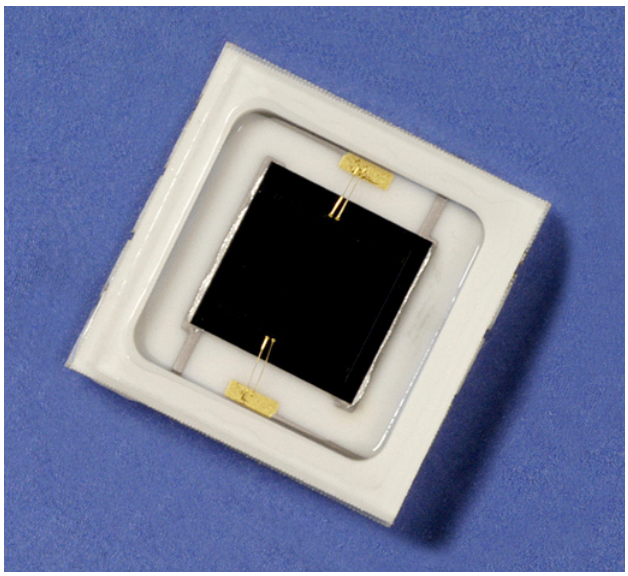
Resolution, optical sensitivity and measurement speed are related to each other in the PSD measurement system and you have to make the proper choices and tradeoffs for your system. Further information as schematics of a recommende hook-up is obtainable from your local distributor or from SiTek Electro Optics AB.

SiTek PSD Position Measurement electronic boards:

For most position measurement applications the SiTek PM-kit offers a complete and easy-to use solution. It is a series of general purpose, high performance, low-noise electronic boards designed for SiTek PSD. You can easily build your own measurement system using our PM-kit. Further information is obtainable from your local distributor or from SiTek Electro Optics AB.

High Linearity Position Sensing Detector

Part Number: S2-0184
Description: 2L4_SU71



The SiTek 2L4 PSD functions according to the Lateral Effect Photodiode principle. It is an analogue device and therefore displays excellent position resolution. The resolution is determined by the system signal-to-noise ratio.

The 2L4 is operated in the biased mode.

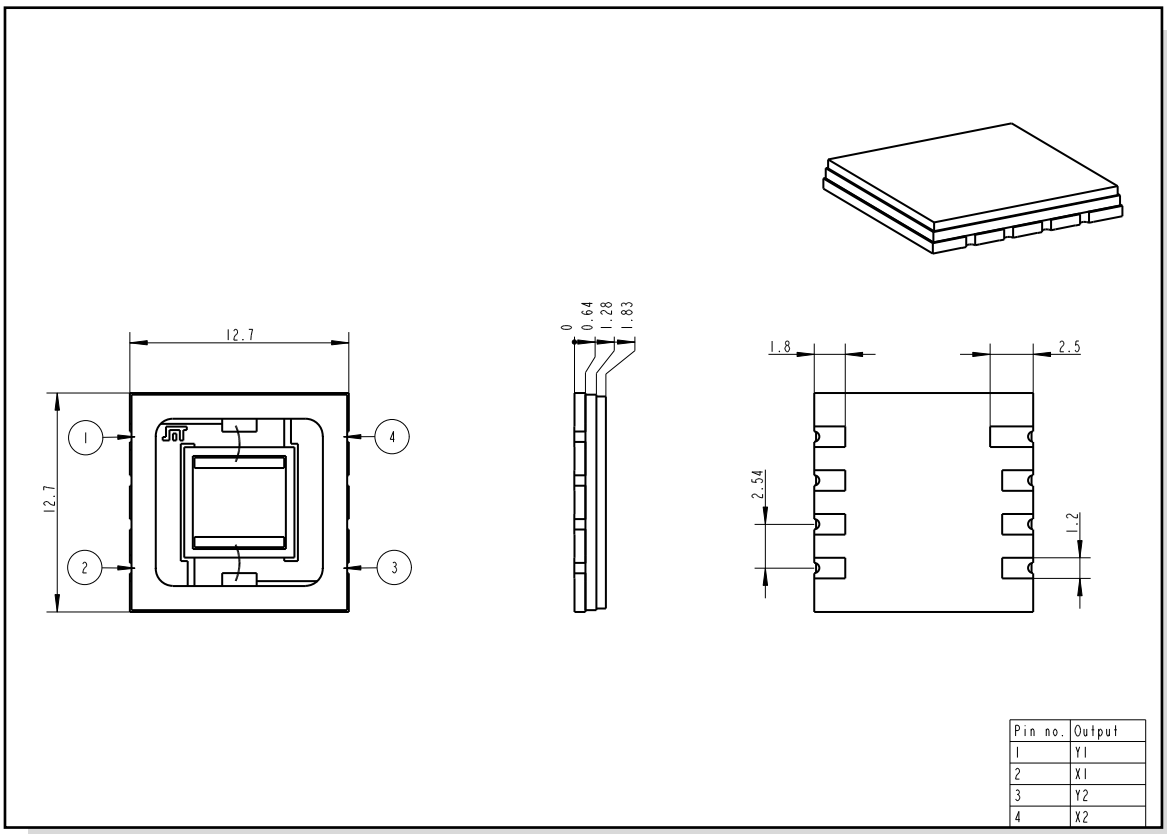
Typical applications include: distance and height measurement, alignment, position and motion measurements and vibration studies.

Special UV- or YAG-enhanced and Nuclear versions are available.

Parameter	Symbol	Min.	Typ.	Max.	Unit
Active area			4 x 4		mm^2
Position non-linearity			0,3	0,8	%(±)
Detector resistance	R_{det}	7	10	16	kΩ
Dark current	I_d		50	200	nA
Noise current	I_{noise}		1,3	2,5	pA/√Hz
Responsivity	r		0,63		A/W
Capacitance	C_j		20	25	pF
Rise time (10-90%)	t_r		80	160	ns
Reverse voltage (bias)	V_r	5	15	20	V
Thermal drift			40	200	ppm/°C
Maximum ratings					
Reverse voltage	$V_{R\text{-}max}$			30	V
Operating temperature	T_{oper}			70	°C
Storage temperature	T_{stg}			100	°C

Test conditions: Room temperature 23°C. Reverse voltage 15 V. Light-source wavelength 940 nm. Position non-linearity and thermal drift are valid within 80% of the detector length.

Package: SMD package, 12,7 x 12,7 mm^2, with protective window.



Pin no.	Output
1	Y1
2	X1
3	Y2
4	X2

2L4_SU71

Pin configuration: See drawing

Note: Outputs Y1, Y2 and X1, X2 are respectively interchangeable. The anodes Y1, Y2 must be at negative potential compared to the cathodes X1, X2.

Application information:

The inherent resolution of a PSD is very good. It is proven to be better than one part in one million. The performance of a PSD based measurement system is thus limited by its mechanical, optical and electrical components.

To get the best performance you have to consider:
- Modulated light source. Modulation makes it possible to avoid influence of other light sources.
- Stable temperature.
- Mechanical stable system.
- High optical resolution.
- High resolution in division of the sum- and difference signals.

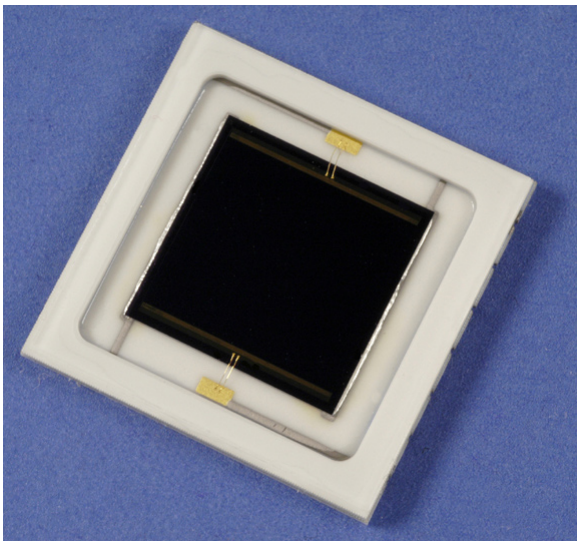
Resolution, optical sensitivity and measurement speed are related to each other in the PSD measurement system and you have to make the proper choices and tradeoffs for your system. Further information as schematics of a recommended hook-up is obtainable from your local distributor or from SiTek Electro Optics AB.

SiTek PSD Position Measurement electronic boards:

For most position measurement applications the SiTek PM-kit offers a complete and easy-to use solution. It is a series of general purpose, high performance, low-noise electronic boards designed for SiTek PSD. You can easily build your own measurement system using our PM-kit. Further information is obtainable from your local distributor or from SiTek Electro Optics AB.

High Linearity Position Sensing Detector

Part Number: S2-0185
Description: 2L10_SU72



The SiTek 2L10 PSD functions according to the Lateral Effect Photodiode principle. It is an analogue device and therefore displays excellent position resolution. The resolution is determined by the system signal-to-noise ratio.

The 2L10 is operated in the biased mode.

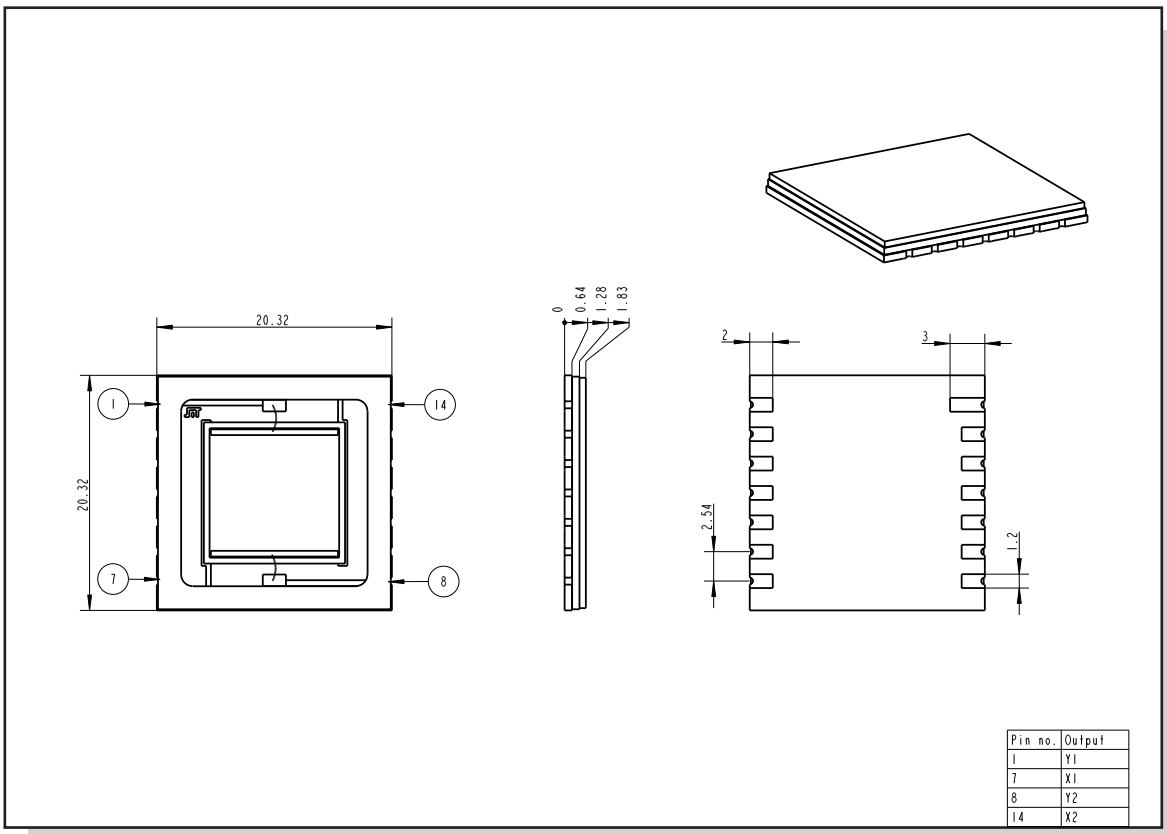
Typical applications include: distance and height measurement, alignment, position and motion measurements and vibration studies.

Special UV- or YAG-enhanced and Nuclear versions are available.

Parameter	Symbol	Min.	Typ.	Max.	Unit
Active area			10 x 10		mm^2
Position non-linearity			0,3	0,8	%(±)
Detector resistance	R_{det}	7	10	16	kΩ
Dark current	I_d		100	500	nA
Noise current	I_{noise}		1,3	2,5	pA/√Hz
Responsivity	r		0,63		A/W
Capacitance	C_j		90	110	pF
Rise time (10-90%)	tr		400	800	ns
Reverse voltage (bias)	V_r	5	15	20	V
Thermal drift			40	200	ppm/°C
Maximum ratings					
Reverse voltage	$V_{R\text{-}max}$			30	V
Operating temperature	T_{oper}			70	°C
Storage temperature	T_{stg}			100	°C

Test conditions: Room temperature 23°C. Reverse voltage 15 V. Light-source wavelength 940 nm. Position non-linearity and thermal drift are valid within 80% of the detector length.

Package: SMD package, 20,32 x 20,32 mm^2, with protective window.



2L10_SU72

Pin configuration: See drawing

Note: Outputs Y1, Y2 and X1, X2 are respectively interchangeable. The anodes Y1, Y2 must be at negative potential compared to the cathodes X1, X2.

Application information:

The inherent resolution of a PSD is very good. It is proven to be better than one part in one million. The performance of a PSD based measurement system is thus limited by its mechanical, optical and electrical components.

To get the best performance you have to consider:
- Modulated light source. Modulation makes it possible to avoid influence of other light sources.
- Stable temperature.
- Mechanical stable system.
- High optical resolution.
- High resolution in division of the sum- and difference signals.

Resolution, optical sensitivity and measurement speed are related to each other in the PSD measurement system and you have to make the proper choices and tradeoffs for your system. Further information as schematics of a recommended hook-up is obtainable from your local distributor or from SiTek Electro Optics AB.

SiTek PSD Position Measurement electronic boards:

For most position measurement applications the SiTek PM-kit offers a complete and easy-to use solution. It is a series of general purpose, high performance, low-noise electronic boards designed for SiTek PSD. You can easily build your own measurement system using our PM-kit. Further information is obtainable from your local distributor or from SiTek Electro Optics AB.

High Linearity Position Sensing Detector

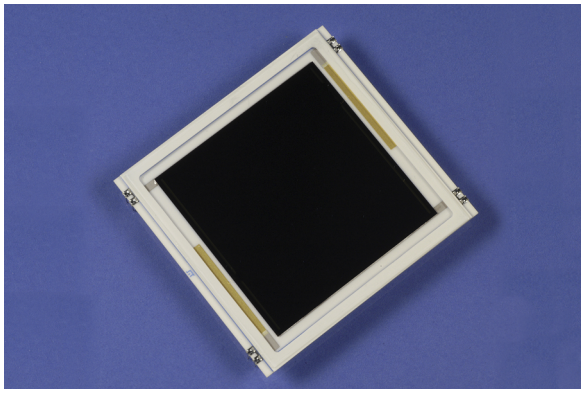
Part Number: S2-0196
Description: 2L45_SU24

The SiTek 2L45 PSD functions according to the Lateral Effect Photodiode principle. It is an analogue device and therefore displays excellent position resolution. The resolution is determined by the system signal-to-noise ratio.

The 2L45 is operated in the biased mode.

Typical applications include: distance and height measurement, alignment, position and motion measurements and vibration studies.

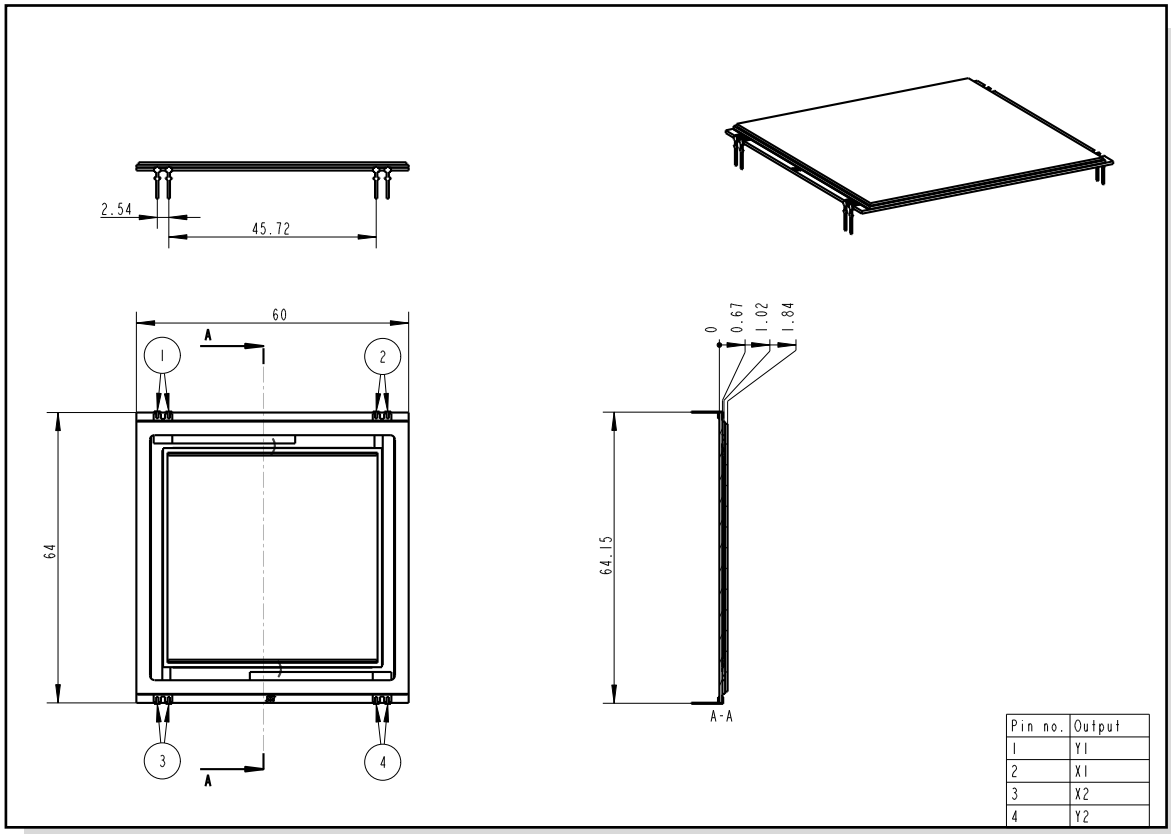
Special UV- or YAG-enhanced and Nuclear versions are available.



Parameter	Symbol	Min.	Typ.	Max.	Unit
Active area			45 x 45		mm^2
Position non-linearity			0,3	1,0	%(±)
Detector resistance	R_{de}	7	10	16	kΩ
Dark current	I_d		400	4000	nA
Noise current	I_{noise}		1,5	3,5	$pA/\sqrt{Hz}$
Responsivity	r		0,63		A/W
Capacitance	C_j		1600	2000	pF
Rise time (10-90%)	t_r		7	14	µs
Reverse voltage (bias)	V_r	5	15	30	V
Thermal drift			40	200	ppm/°C
Maximum ratings					
Reverse voltage	$V_{R\text{-}max}$			30	V
Operating temperature	T_{oper}			70	°C
Storage temperature	T_{stg}			100	°C

Test conditions: Room temperature 23°C. Reverse voltage 15 V. Light-source wavelength 940 nm. Position non-linearity and thermal drift are valid within 80% of the detector length.

Package: Ceramic substrate, 64 x 60 mm^2, with solderable pins and protective window.



2L45_SU24

Pin configuration: See drawing

Note: Outputs Y1, Y2 are interchangeable. The anodes Y1, Y2 must be at negative potential compared to the cathode.

Application information:

The inherent resolution of a PSD is very good. It is proven to be better than one part in one million. The performance of a PSD based measurement system is thus limited by its mechanical, optical and electrical components.

To get the best performance you have to consider:
- Modulated light source. Modulation makes it possible to avoid influence of other light sources.
- Stable temperature.
- Mechanical stable system.
- High optical resolution.
- High resolution in division of the sum- and difference signals.

Resolution, optical sensitivity and measurement speed are related to each other in the PSD measurement system and you have to make the proper choices and tradeoffs for your system. Further information as schematics of a recommended hook-up is obtainable from your local distributor or from SiTek Electro Optics AB.

SiTek PSD Position Measurement electronic boards:

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