

Evaluation Board for SPC-PSD

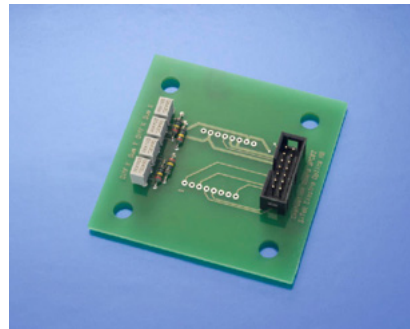
Evaluation board for SiTek Position Sensing Detector with Signal Processing Circuit

Part number: SE – 0013

Description: Evaluation board SPC02

The Evaluation Board for SPC01 is a tool for simplifying the evaluation of our SPC-PSDs. The board includes offset compensation electronics and a 14-pin connector that makes the inputs and outputs of the SPC-PSD easily accessible.

The Evaluation Board can easily be mounted on an optical table by using a standard 2" filter holder or screwed to for example an XYZ stage by using M6 screws.



Electrical specification

Parameter	Symbol	Value	Unit
Potentiometers	P_1-P_4	10	k Ω
Offset compensation resistors	R_1-R_4	1	M Ω
Offset compensation range		± 295	mV

Absolute maximum ratings

Parameter	Symbol	Value	Unit
Power supply voltage	V_s	± 18	V

Offset compensation range

The range of the offset compensation is determined by the value of the the offset compensation resistors. This range can be changed by replacing the resistors R1-R4 with other resistors.

Resistor value (R1-R4)	Offset compensation range
5 Mohm	± 60 mV
500 kohm	$\pm 0,58$ V
100 kohm	$\pm 2,5$ V

Pin no.	Input/Output	Information
1	+15 V	
2	Gnd	
3	-15 V	
4	N.A.	No connection
5	N.A.	No connection
6	N.A.	No connection
7	Amp Y1	
8	Amp Y2	
9	Diff Y	Amp Y1 – Amp Y2
10	Sum Y	Amp Y1 + Amp Y2
11	Amp X1	
12	Amp X2	
13	Diff X	Amp X1 – Amp X2
14	Sum X	Amp X1 + Amp X2

The schematic diagram of the SPC-PSD circuit is divided into two main functional blocks by a dashed line. The top block contains four op-amp comparators, labeled P1, P2, P3, and P4, each with an associated resistor R1, R2, R3, and R4 respectively. The bottom block contains four op-amp summing amplifiers, labeled Amp Y1, Amp Y2, Amp X1, and Amp X2, each with an associated summing node Sum Y, Sum X, Sum Y, and Sum X respectively. The input signals (1-4) are connected to the comparators. The output of the comparators is connected to the summing amplifiers. The summing amplifiers output signals (7-14) which are connected to the summing nodes. The summing nodes output signals (15-18) which are connected to the comparators. The circuit is powered by +15V and -15V.

The drawing shows a rectangular board with overall dimensions of 70 mm by 35 mm. There are four circular mounting holes, one in each corner, with a diameter of 9.8 mm. The distance between the centers of the holes on the long side is 50.4 mm, and on the short side is 35 mm. The board features two sets of headers: a 4-pin header at the top labeled 'CH1 Y', 'Sum Y', 'CH1 X', and 'Sum X', and a 10-pin header at the bottom labeled 'Evaluation Board SPC02' and 'STet. Micro Optics AB'. The board also has two rows of 10 pins each, labeled '1' and '2', and a 4-pin header labeled 'P1', 'P2', 'P3', and 'P4'.

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beyond borders