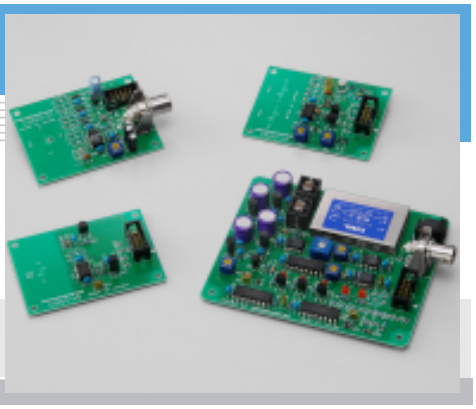
NEW

MODULE

Si photodiode evaluation circuit
C9052 series

Easy-to-use circuit for Si photodiode operation



Features

- Allows easy evaluation of standard Si photodiodes
- On-board circuit examples for typical applications of Si photodiodes
- Multiple circuits assembled on one board
- Support board (C9052-04 with dedicated cable A9053) for processing output signals from head board (C9052-01/-02/-03 with dedicated cable A9053-01)

Applications

- Testing and evaluation of standard Si photodiodes
- Simple optical power meters

■ Absolute maximum rating

Parameter	Symbol	C9052-01	C9052-02	C9052-03	C9052-04	Unit
Maximum supply voltage	Vcc Max.	±15		+15	+12	V
Operating temperature	Topr	+10 to +40				°C
Storage temperature	Tstg	0 to +50				°C

C9052-01

Low noise AC amplifier circuit, photocurrent-to-voltage conversion circuit and wide band amplifier circuit on one board

Circuit configuration	Features
Low noise AC amplifier circuit	Low noise AC amplifier circuit using FET, bandwidth 160 to 1 MHz, trans-impedance 15 kV/A
Photocurrent-to-voltage conversion circuit	Current-to-voltage conversion circuit with bandwidth of DC to 100 kHz and feedback resistance of 100 kΩ
Wide band amplifier circuit	Amplifier circuit with bandwidth of DC to 1 MHz and trans-impedance of 30 kV/A

<Usable photodiodes>
Standard Si PIN photodiodes with metal package (TO-18, TO-5, TO-8): S5821 series, etc.

C9052-02

Light balance detection circuit, light-to-logarithmic voltage conversion circuit and light integration circuit on one board

Circuit configuration	Features
Light balance detection circuit	Detects output balance between two photodiodes when light enters them and outputs the light level difference as a voltage.
Light-to-logarithmic voltage conversion circuit	Outputs a voltage in proportion to logarithmic change in detected light level
Light integration circuit	Converts input pulsed light of constant cycle into DC signal. Controlled by external integration reset pulses.

<Usable photodiodes>
Standard Si photodiodes with metal package (TO-18, TO-5, TO-8): S2386 series, etc.
Standard Si photodiodes with ceramic package (except -16BQ/-16BK/-16BR types): S1337-1010BR, S1227-1010BR, etc.

C9052-03

Two types of light-to-frequency conversion circuits assembled on one board

Circuit configuration	Features
High illuminance type	Interface circuit that outputs pulses at frequency proportional to input light from 100 to 10,000 *lx*.
Low illuminance type	Interface circuit that outputs pulses at frequency proportional to input light from 1 to 200 *lx*.

<Usable photodiodes>
S1087 (high illuminance type), S2386-5K (low illuminance type)

PRELIMINARY DATA
Aug. 2002

SOLID STATE DIVISION

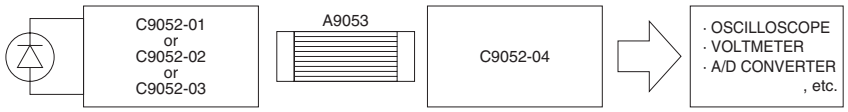
C9052-04

Power supply circuit for driving C9052-01/-02/-03 and output processing circuit assembled together.

Circuit configuration	Feature	Connectable product
Power supply circuit	Supplies constant voltage to each head board. C9052-01/-02: ±12 V, C9052-03: +12 V	C9052-01/-02/-03
Sample-and-hold circuit *	Samples and holds the output signal of head board in synchronization with input light.	C9052-01/-02
Peak hold circuit *	Holds peak values of head board output signal.	C9052-01/-02
Integration reset circuit	Reset pulse generator circuit for integration circuit output. Operates in synchronization with input light and sample-and-hold circuit.	C9052-02
Imbalance indication circuit	Monitor circuit for light balance detection circuit. Indicator LED lights up when difference between two photodiodes exceeds a specified level.	C9052-02
Frequency counter circuit	Counts the number of output pulses from a frequency conversion circuit and turns on the indicator LED in a lighting cycle according to light level.	C9052-03

* The sample-and-hold circuit and peak hold circuit can be selected to replace the jumpsocket.

■ Circuit connection

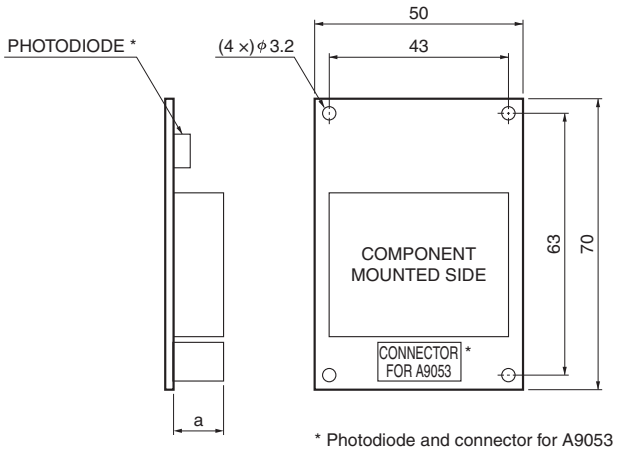


NOTE) Photodiode is sold separately.

KACCC0183EA

■ Dimensional outlines (unit: mm)

C9052-01/-02/-03

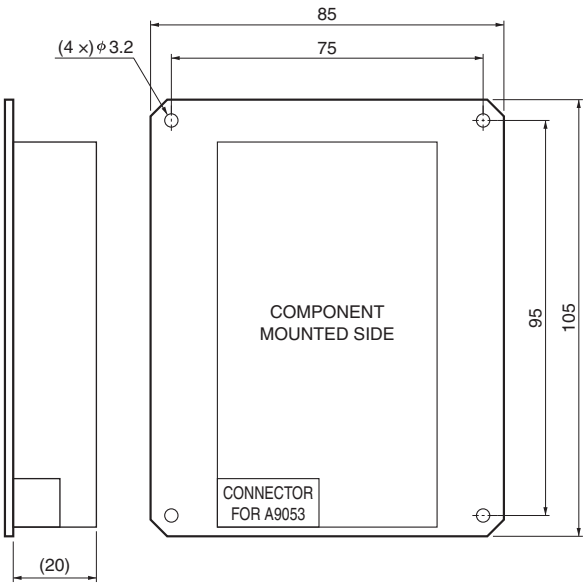


* Photodiode and connector for A9053 are sold separately.

Mark	-01	-02	-03
a	(20)	(12)	

KACCA0119EA

C9052-04



KACCA0120EA

■ Accessory

Dedicated AC adapter (C9052-04 only)

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