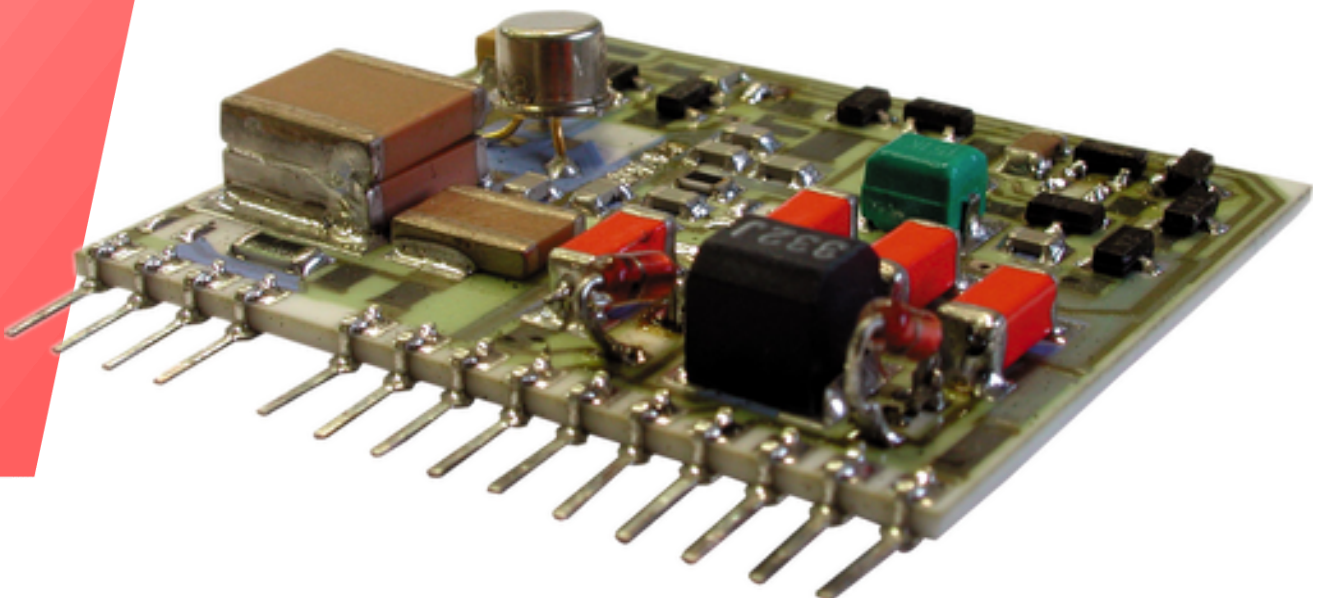


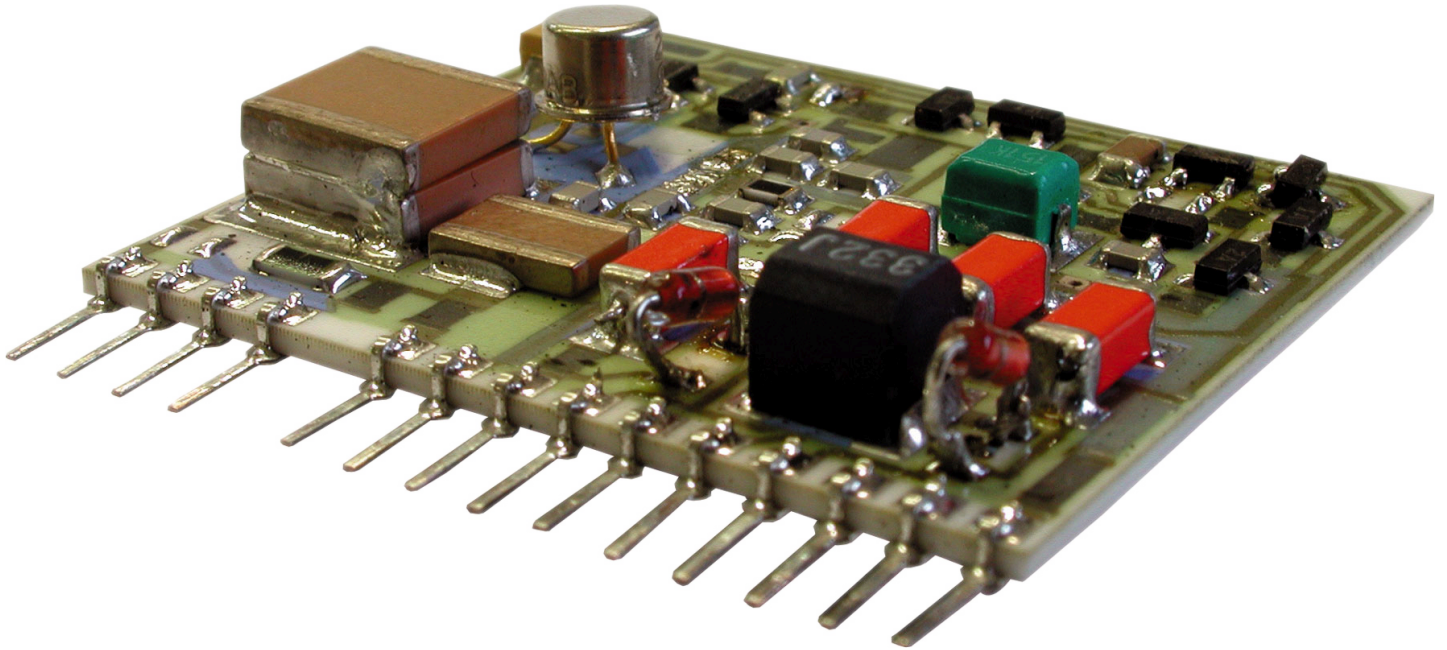
Discontinued

A422

**Charge Sensitive
Preamplifier with
Timing (Hybrid)**



Features



- Fast, low noise inverting preamplifier
- Positive or negative input signals
- Energy sensitivity range selectable between 1, 45 or 90 mV/MeV (Si)
- Timing output
- Up to 1 kV (positive or negative) detector bias voltage

Description

The CAEN **Mod. A422** is a charge sensitive preamplifier implemented on an open frame SIP hybrid assembly. The module is designed to be used especially with semiconductor detectors and in particular whenever the charge division is required (as in position sensitive silicon detectors). The unit accepts both positive and negative input pulses. A Test input for detector gain calibration and a HV input (up to 1 kV) for the detector bias are also included. The output is an inverting unipolar voltage pulse, proportional in amplitude to the integrated charge; decay time is 220 μs . A Timing output provides an unipolar inverting fast voltage pulse, with a 15 ns typical rise time, across a 50 Ω load. Three different sensitivities (1, 45 or 90 mV/MeV) can be selected via internal connections. A 8-slot motherboard for the A422 is also available; it can be purchased equipped with LEMO 00 I/O connectors (Mod. A658) or with soldering pads (Mod. A658A).

Technical Specifications

Packaging

Single in-line package hybrid
(38 mm x 33 mm x 7 mm);
pin pitch: 2.54 mm; weight: 9.8 g

Input Signals (IN/DETECTOR)

Accepts positive and negative charge pulses from semiconductor detectors and supplies the HV bias to the detector itself

Input Signals (HV)

up to 1KV (positive or negative) for detector bias. 101 M Ω resistance in series

Input Signals (TEST)

Positive or negative inputs to calibrate the gain of the detector input via $C_{test} = 10$ pF

Output Signals (OUT/ENERGY)

- Inverting unipolar output
- Rise time < 20 ns typically
- Decay time constant : 220 μ s
- Maximum peak amplitude: ± 8 V

Output Signals (TIMING)

Inverting unipolar fast voltage pulse. 5 ns minimum rise time. Requires a 50 Ω termination whether it is used or not.

Integral non linearity

± 0.05 % (from 0 to ± 8 V peak output)

Gain drift

± 50 ppm/ $^{\circ}$ C (from 0 $^{\circ}$ to 50 $^{\circ}$ C)

Energy sensitivity

1/45/90 mV/MeV (Si) selectable via internal jumpers

Typical noise

9.8 KeV FWHM at 470 pF capacitance and 90 mV/MeV sensitivity

Power requirements

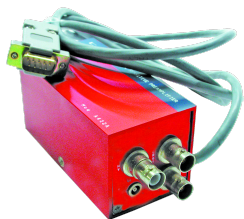
- +24 V/30 mA
- -24 V/20 mA

Ordering Options

Code	Description	RoHS
WA422XAAAAAA	A422 - Charge Sensitive Preamplifier with timing(Hybrid) (Discontinued)	RoHS

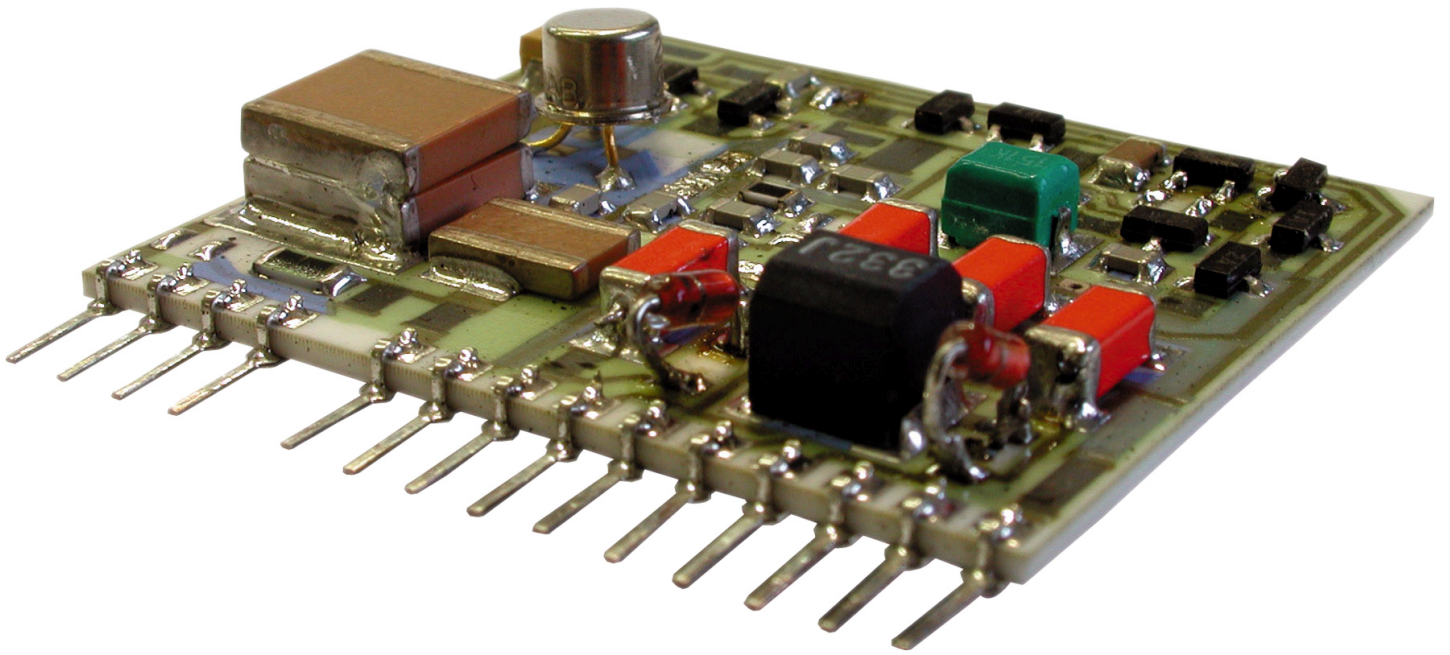
Related Products

A422A



Charge Sensitive Preamplifier with Timing (Box)

Gallery



This document, or parts thereof, may not be reproduced in any form or by any means without written permission from Caen S.p.A. Although every effort has been made to ensure the accuracy of information presented in this catalog, Caen S.p.A reserves the right to modify its products specifications without giving any notice; for up to date information please visit www.caen.it © Caen S.p.A - 2024

CAEN S.p.A.

Via Vetraia 11
55049 - Viareggio
Italy

Phone +39.0584.388.398

Fax +39.0584.388.959

info@caen.it

www.caen.it

CAEN GmbH

Brunnenweg 9
64331 Weiterstadt, Germany

Phone +49 (0)212.254.4077

Mobile +49 (0)151.16.548.484

info@caen-de.com

www.caen-de.com

CAEN Technologies, Inc.

1 Edgewater Street - Suite 101
Staten Island, NY 10305
USA

Phone +1.718.981.0401

Fax +1.718.556.9185

info@caentechnologies.com

www.caentechnologies.com

CAENspa India Private Limited

B205, BLDG42, B Wing,
Azad Nagar Sangam CHS,
Mhada Layout, Azad Nagar, Andheri West
Mumbai, Maharashtra 400053, India

info@caen-india.in

www.caen-india.in

