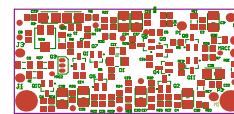


Charge sensitive preamplifiers CB400 series.

The preamplifier **CB400** is low noise charge sensitive preamplifier. CB400 series has four fixed gain values. The preamplifier is optimized for high input capacitance (up to 1000pF). The preamplifier has protection circuit to avoid breakdown of the input of the preamplifier circuit and need only +/-12 Volt supply voltage. The output of preamplifiers is unipolar signal but can be adapted for differential output. This optional requirement should be specified in order. In this case output resistor will be 50 Ohms and output ground will be connected through 50 Ohms too.



Model	Charge sensitivity (Si Equivalent)	Max. Noise (keV/(Si) (Cin=0pF)	Energy range
CB400C	120 mV/MeV	<0,6 KeV	0-60 MeV
CB400B	90 mV/MeV	<0.8 KeV	0-100 MeV
CB400A	45 mV/MeV	<1.0 KeV	0-200 MeV
CB400A2	20 mV/MeV	<1.2 KeV	0-400 MeV
CB400A3	12 mV/MeV	<1,3 KeV	0-600 MeV
CB400A7	5.5 mV/MeV	<1,4 KeV	0-1200 MeV

PERFORMANCE

	CB400C	30 us
	CB400B	50 us
Decay time	CB400A	100 us
	CB400A2	200 us
	CB400A3	165 us
	CB400A7	350 us
Dynamic input capacitance:	up to 1000 pF	
	CB400C	5 e-/pF
	CB400B	7 e-/pF
Noise/Input capacitance ratio:	CB400A	9 e-/pF
	CB400A2	10 e-/pF
	CB400A3	12 e-/pF
	CB400A7	14 e-/pF
Integral nonlinearity:	0,03 % (without termination)	
Dynamic range:		
Positive output signal:	+7 V/ -4V (without termination).	
Negative output signal:	+3 / -2 V (with 100 Ohms termination).	
Temperature stability:	+/- 100 ppm/C.	
Rise time	Less than 12 ns	
Open loop gain:	30,000	

Output resistors:

50 Ohm in differential mode, 100 Ohm in unipolar mode.

Standard fabric unipolar layout. Differential mode should be specified in order.

INPUTS/ OUTPUT

INPUT

Accepts positive or negative charge signal.

POWER

Input power through 3 soldering points +12 V, -12 V, Ground.

OUTPUT

Output negative or positive linear pulse.

POWER SUPPLY REQUIREMENTS:

The best solution is alimentation from a low noise linear power supply.

Power supply pin out:

P. Voltage (V)	Current (mA)
+12	22,0
-12	15,0

Pcb board has small dimensions 54,6 x 25,4 x 8 mm and, on the board, 2 mounting holes for M2,5 screws are placed.

