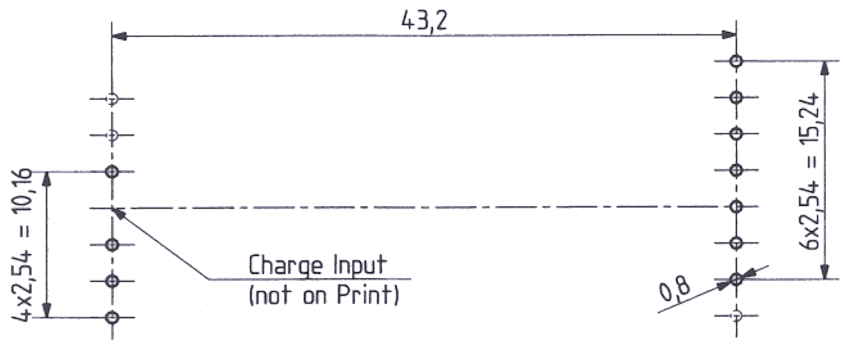
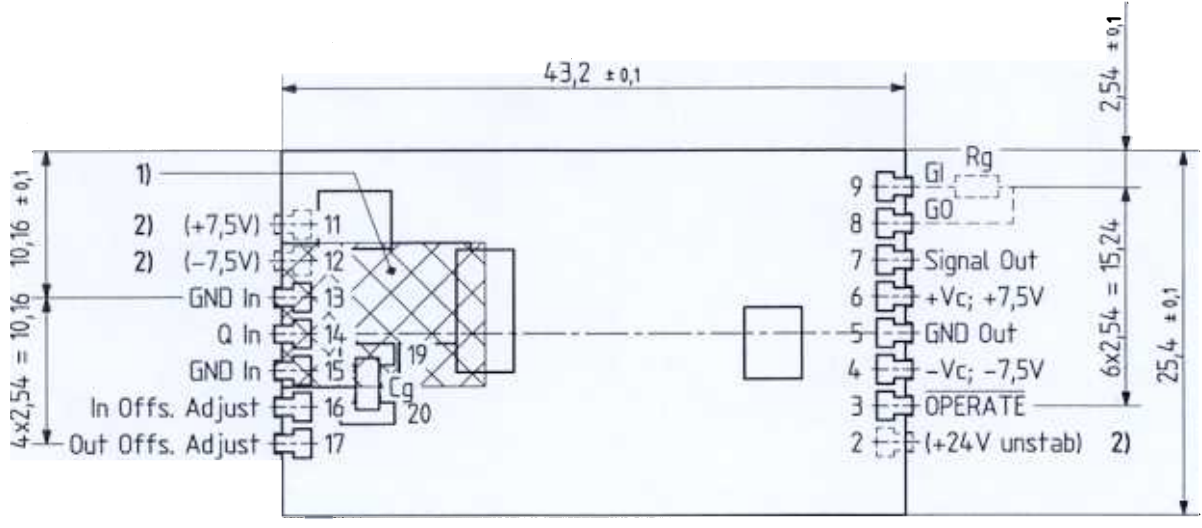
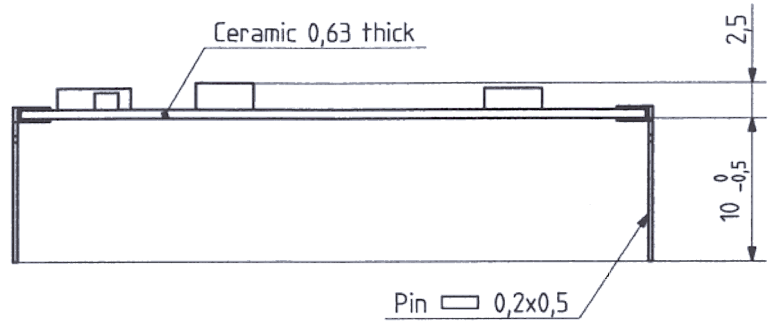


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Attention!

- 1) Highly sensitive electronic circuit, do not touch with hands, keep dirt and moisture off!
 - 2) Pin 2,11,12: Connections to power supply 5755Q for non-stabilized power supply 24 VDC
- Cg) Range capacitor, ceramic multi-layer (Special type)

Short description

Charge amplifier for quasistatic measurement with fixed range capacitor Cg. Sensitivity adjustment with external resistor Rg (Gain 1 ... 100). Input stage protected against static electricity. Compact, lightweight and vibration proof design (hybrid on ceramic substrate).



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Ind.	AN-Nr.	Datum	b	8505	22.6.2000	Ersatz für	vom
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ges.		Am					

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Technical data

- Range (depending on external resistor Rg) (± 5 V output voltage)

- Capacitor Cg: 1nF Type 5042Q1	pC	$\pm 50 \dots 5000$
10nF Type 5042Q2	pC	$\pm 500 \dots 50000$
2x10nF Type 5042Q3	pC	$\pm 1000 \dots 100'000$

- Gain A adjustable with external resistor Rg

- [$A = 100 \text{ k}\Omega / (Rg + 12 \Omega)$]	1 ... 100
----------------------------------------------------	-----------

- Error

	%	$< \pm 4$
--	---	-----------

- Output Voltage; load resistance $> 10 \text{ k}\Omega$; power supply $\pm 7,1 \text{ V}$

	V	$> \pm 6,3$
--	---	-------------

- Output load resistance at 5,2V FS; power supply $\pm 7,1 \text{ V}$

	k Ω	$\geq 2,5$
--	------------	------------

- Output impedance, DC ... 20 kHz

- Output impedance maximum at 1,5 MHz	Ω	≈ 100
	k Ω	$\approx 1,5$

- Frequency range; for error $< \pm 1\%$

- Gain A = 1	kHz	0 ... 5,5
- Gain A = 10	kHz	0 ... 5
- Gain A = 100	kHz	0 ... 2,2
- for error $< \pm 5\%$

- Gain A = 1	kHz	0 ... 11
- Gain A = 10	kHz	0 ... 9,6
- Gain A = 100	kHz	0 ... 4,4

- Input cable: in highly sensitive ranges long input cables can reduce the amplifier performance; slew rate (0 ... 90% FS) at 1nC/V; Cg = 1 nF

- 5m cable	μs	≈ 15
- 100 m cable	μs	≈ 40

- Output cable: A shielded output cable has to be used in electromagnetic fields. The specified frequency range is not reduced by output cables shorter than 100m (10nF).

- Output offset at Reset

- Temperature coefficient	mV	$< \pm 15$
	$\mu\text{V/K}$	≈ 2

- Input offset

- Temperature coefficient	mV	$< \pm 8$
	$\mu\text{V/K}$	≈ 1

- Input offset can be adjusted with external resistors between Pin 16 and power supply +Vc or -Vc.
- Output offset can be adjusted with external resistors between Pin 17 and power supply +Vc or -Vc.

- Drift (Operate) 25°C

-20 ... 60°C	pC/s	$< 0,05$
-20 ... 80°C	pC/s	$< 0,2$
	pC/s	< 1

V

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- Input isolation resistance against mass and output (-20 ... 85°C) Ω $\geq 10^{14}$
- Input noise; 1Hz...1MHz; per meter input cable (100pF/m) fC_{pp} $\approx 0,5$
- Output noise;
 - C_g 1nF; A=1 (1nC/V); 1Hz...1MHz μVpp ≈ 200
 - C_g 1nF; A=100 (10pC/V); 1Hz...1MHz mV_{pp} ≈ 2
- Operate / Reset digital input; pull-up resistor
 - OPERATE: Low, connect to mass or k Ω 220
 - RESET: High, leave open or V < 0,8
 - V > 2,0
- Reset-Operate jump pC ≤ 1
- Reset-duration [tr] (Output signal < 0,5 %FS)
 - Sensitivity [E] ≤ 1 nC/V ms ≈ 6
 - Sensitivity >1 nC/V [value of E in nC/V] ms (1,5E) +5
- Supply voltage (stabilized) V $\pm 7,1... \pm 7,9$
- Current consumption, output unloaded mA $\approx \pm 3,5$
- Operating temperature range; output resistance >10k Ω
 - Min/Max Temperature °C - 20 ... 85
 - °C - 40/85
- Connections (see drawing) DIL - Pins at 1/10"-raster
- Weight g ≈ 6
- For multi-channel applications, hybrid charge amplifiers can be stacked. Therefore a shield is printed on the back of each. The hybrid power supply Type 5755Q has to be the lowest on the stack, it can supply several charge amplifier hybrides. (see corresponding technical data).



Scope of delivery

- High insulating soldering pin 7.640.033

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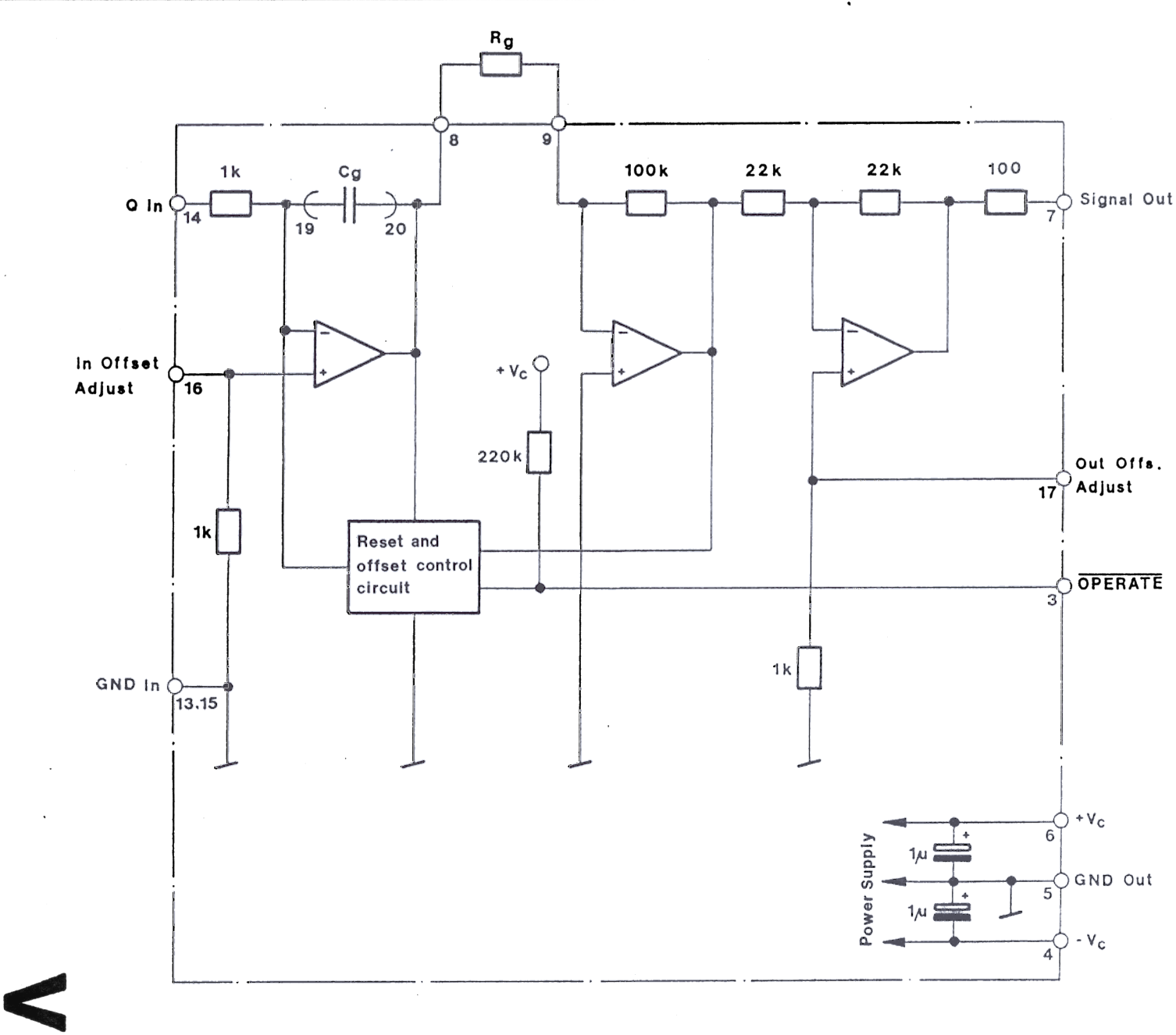
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