



TECHNICAL DATA SHEET

CHA-200 CHA-204

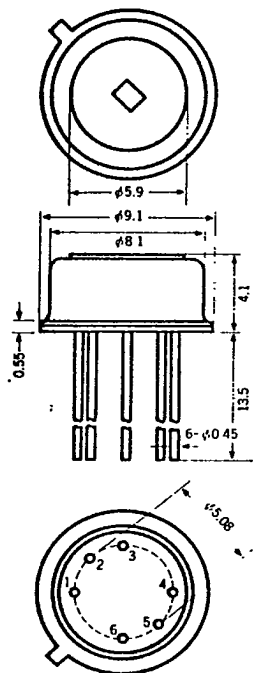
HYBRID PHOTOMETRY AMPLIFIER

Centronic CHA series of photodetectors is a hybrid photometry amplifier with a built-in GaAsP photodiode MOS FET op amp and log diode. It can be used with excellent linearity over the photometry range of 0.005Lux to 10,000Lux.

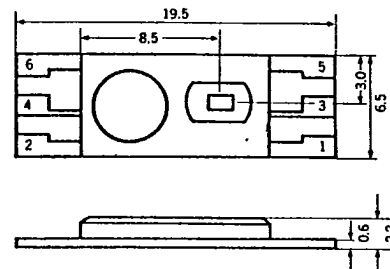
A GaAsP photodiode permits use without a visibility compensation filter. The built-in amplifier logarithmically compresses and converts the photocurrent of photodiode and outputs it as a voltage. In environments where the temperature changes widely, a simple external temperature compensation circuit consisting of transistor thermistor and resistor can be used.

The CHA-204 is hermetically sealed in TO-5 can for high reliability and the CHA-200 is an economy version mounted on a glass epoxy printed circuit board.

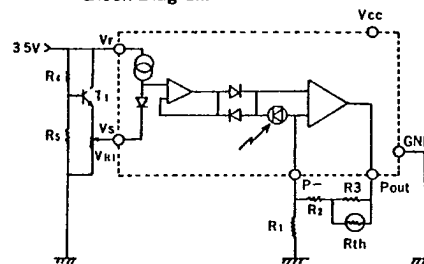
CHA-204



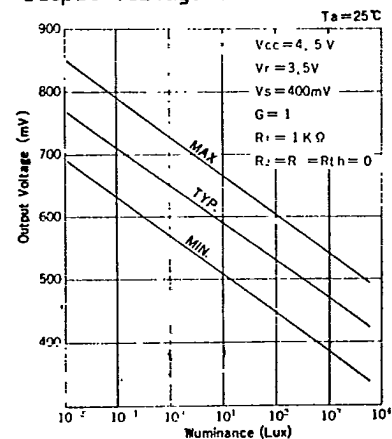
CHA-200



Block Diagram



Output Voltage vs. Illuminance



(Notes)

- (1) Pout 4 GND
(2) Vcc 5 Vs
(3) P- 5 Vr

unit: mm

Maximum Ratings

Ta = 25°C

Items	Symbol	CHA-204	CHA 200	Units
Supply Voltage	Vcc	7	7	V
Current Consumption	Icc	2	2	mA
Operating Temperature	Topr	-20 ~ +70	-20 ~ +60	°C
Storage Temperature	Tstg	-30 ~ +80	-30 ~ +70	°C

Characteristics (Vcc=4.5V, Vr=3V)

Ta = 25°C

Items	Symbol	Conditions	CHA-204			CHA-200			Units
			MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	
Operating Voltage	Vcc		3.5	4.5	6.5	3.5	4.5	6.5	V
Current Consumption	Icc	No load		1.0			1.0		mA
Photometry Range	E		5 × 10 ⁻³		5 × 10 ³	5 × 10 ⁻³		5 × 10 ³	Lux
Output Voltage	Pout	1Lux *	560	640	720	560	640	720	mV
Linearity	L	0.05 ~ 500Lux	216	240	264	216	240	264	mV
Colortemp. error	ΔCt				15			15	%

* R1 = 1KΩ, R2 = R3 = Rth = 0, Vs = 400mV

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