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With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

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# CNA1007H

## Photo Interrupter

For contactless SW, object detection

### Overview

CNA1007H is a transmissive photosensor in which a high efficiency GaAs infrared light emitting diode is used as the light emitting element, and a high sensitivity phototransistor is used as the light detecting element. The two elements are arranged so as to face each other, and objects passing between them are detected.

### Features

- Position detection accuracy : 0.3 mm
- Gap width : 5 mm
- Horizontal slit type
- The type directly attached to PCB ( with a positioning pins)

### Absolute Maximum Ratings (Ta = 25°C)

	Parameter	Symbol	Ratings	Unit
Input (Light emitting diode)	Reverse voltage (DC)	$V_R$	5	V
	Forward current (DC)	$I_F$	50	mA
	Power dissipation	$P_D^{*1}$	75	mW
Output (Photo transistor)	Collector current	$I_C$	20	mA
	Collector to emitter voltage	$V_{CEO}$	30	V
	Emitter to collector voltage	$V_{ECO}$	5	V
Temperature	Operating ambient temperature	$T_{opr}$	-25 to +85	°C
	Storage temperature	$T_{sig}$	-40 to +100	°C

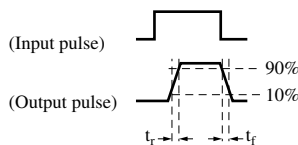
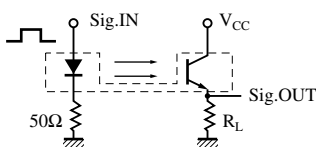
\*1 Input power derating ratio is 1.0 mW/°C at Ta = 25°C.

\*2 Output power derating ratio is 1.33 mW/°C at Ta = 25°C.

### Electrical Characteristics (Ta = 25°C)

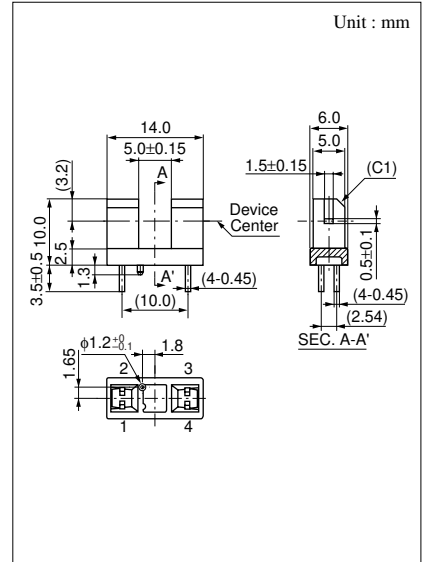
	Parameter	Symbol	Conditions	min	typ	max	Unit
Input characteristics	Forward voltage (DC)	$V_F$	$I_F = 20\text{mA}$		1.25	1.4	V
	Reverse current (DC)	$I_R$	$V_R = 3\text{V}$			10	$\mu\text{A}$
Output characteristics	Collector cutoff current	$I_{CEO}$	$V_{CE} = 10\text{V}$			200	nA
Transfer characteristics	Collector current	$I_C$	$V_{CE} = 5\text{V}, I_F = 20\text{mA}$	0.5		14	mA
	Collector to emitter saturation voltage	$V_{CE(sat)}$	$I_F = 40\text{mA}, I_C = 1\text{mA}$			0.4	V
	Response time	$t_r, t_f^*$	$V_{CC} = 5\text{V}, I_C = 1\text{mA}, R_L = 100\Omega$		5		$\mu\text{s}$

\* Switching time measurement circuit



$t_r$ : Rise time (Time required for the collector current to increase from 10% to 90% of its final value)

$t_f$ : Fall time (Time required for the collector current to decrease from 90% to 10% of its initial value)



Internal connector

