

Distance sensor

KMED002A

Description

The KMED001A is a near distance measure photo interrupter. It is combines high-output GaAs IRED and high sensitive LTV(Light To Voltage) with amplifier circuit.

Features

- Operate pulse signal.
- Calculated Distance.
- Low tolerance with other color.
- RoHS compliant.



Applications

- Cleaner robot.
- Short distance measure
- Home appliance.
- Hand drier.

Absolute Maximum Ratings (T_a=25°C, Unless otherwise specified)

Parameter		Symbol	Rating	Unit
Input	Reverse Voltage	V _R	5	V
	Forward Current	I _F	50	mA
	Peak Forward Current ⁽¹⁾	I _{FP}	0.5	A
	Power Dissipation	P _D	90	mW
Output	Supply Voltage	V _{CEO}	0 ~ 12	V
Operating Temperature		Topr.	-25 ~ 85	°C
Storage Temperature		Tstg.	-40 ~ 85	°C
ESD Withstand Voltage(Human Body Model)		V _{ESD}	±2.0	kV

Notes : ※ 1. Duty ratio = 1/100, pulse width = 0.1ms

The contents of this data sheet are subject to change without advance notice for the purpose of improvement. When using this product, would you please refer to the latest specifications.

Electrical-Optical Characteristics (T_a=25°C)

Parameter		Symbol	Conditions	Min.	Typ.	Max.	Unit
Input	Forward Voltage	V _F	I _F =50mA	-	1.6	1.8	V
	Wavelength of Emission	λ		-	875	-	nm
	Reverse Current	I _R	V _R =5V	-	-	10	μA
Output	Dark Current	CH A	V _{CC} =5V, E=0 lux	-	-	60	mV
		CH B	V _{CC} =5V, E=0 lux	-	-	60	
Transfer Characteristics	Detecting Distance ⁽¹⁾	L _{DS}	V _{CC} = 5V	50	-	150	mm
	Output Voltage ⁽²⁾	CH A	V _{CC} = 5V, V _{FP} = 1KHz, L=100 mm	2.2	-	2.5	V
		CH B		0.8	-	1.1	V
	Leakage Voltage	V _{Leak}		-	-	50	mV
Response Time	Rise Time ⁽³⁾	tr	Fig.1 Fig.2	-	250	-	μS
	Fall Time ⁽³⁾	tf		-	350	-	μS

Note 1. Reference media: KODAK 90% White paper

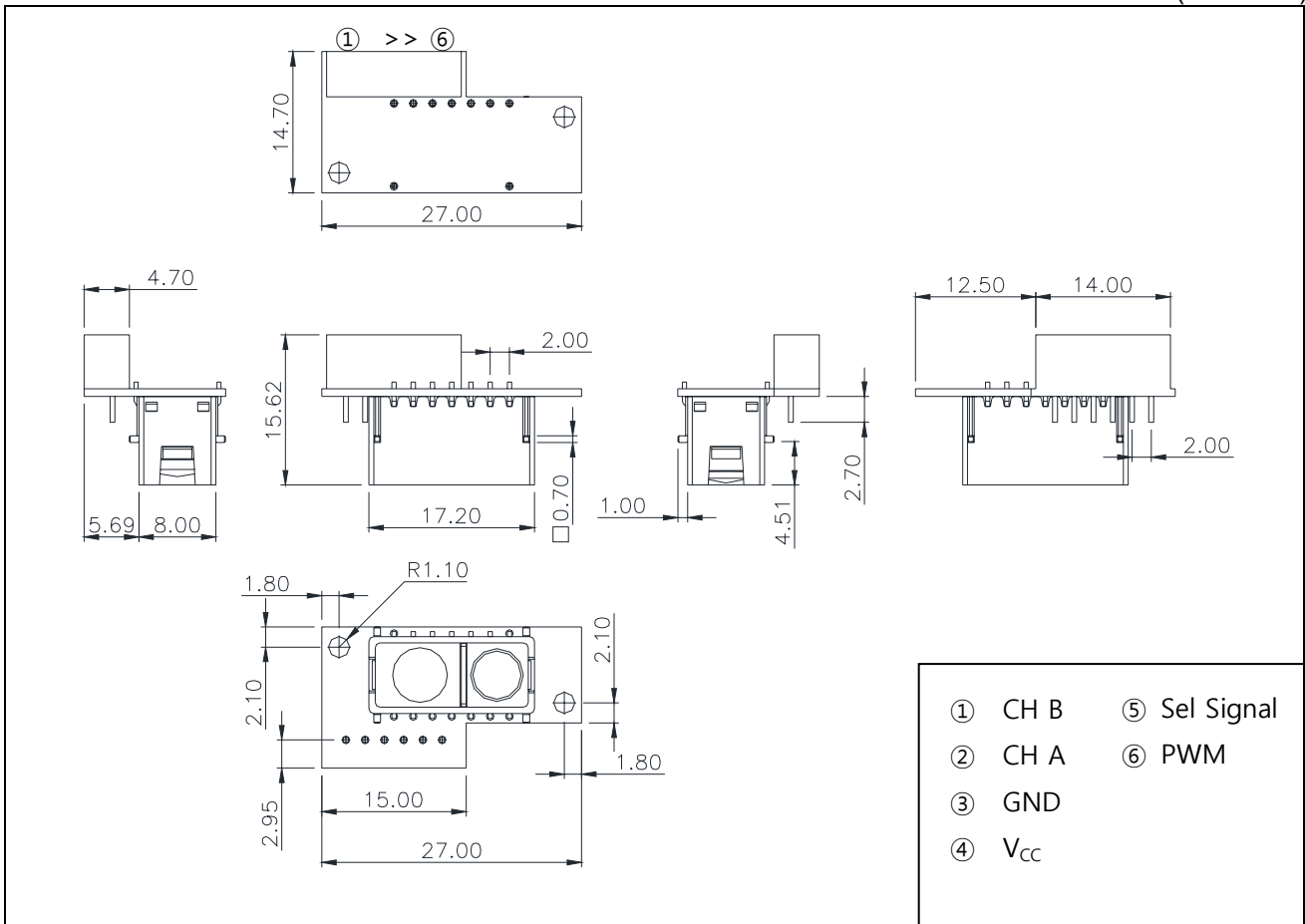
Note 2. Input VFP have a 500Hz frequency with 40% duty and media position is 100mm from top surface of sensor. Apply with recommendation circuit.

Note 3. Adjust amplitude and offset of square wave so that V_{OUT} transitions from 10% to 90% of V_{OUT} range of the Device Under Test(DUT).

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Package Outline Dimensions

(Unit : mm)



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