

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

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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

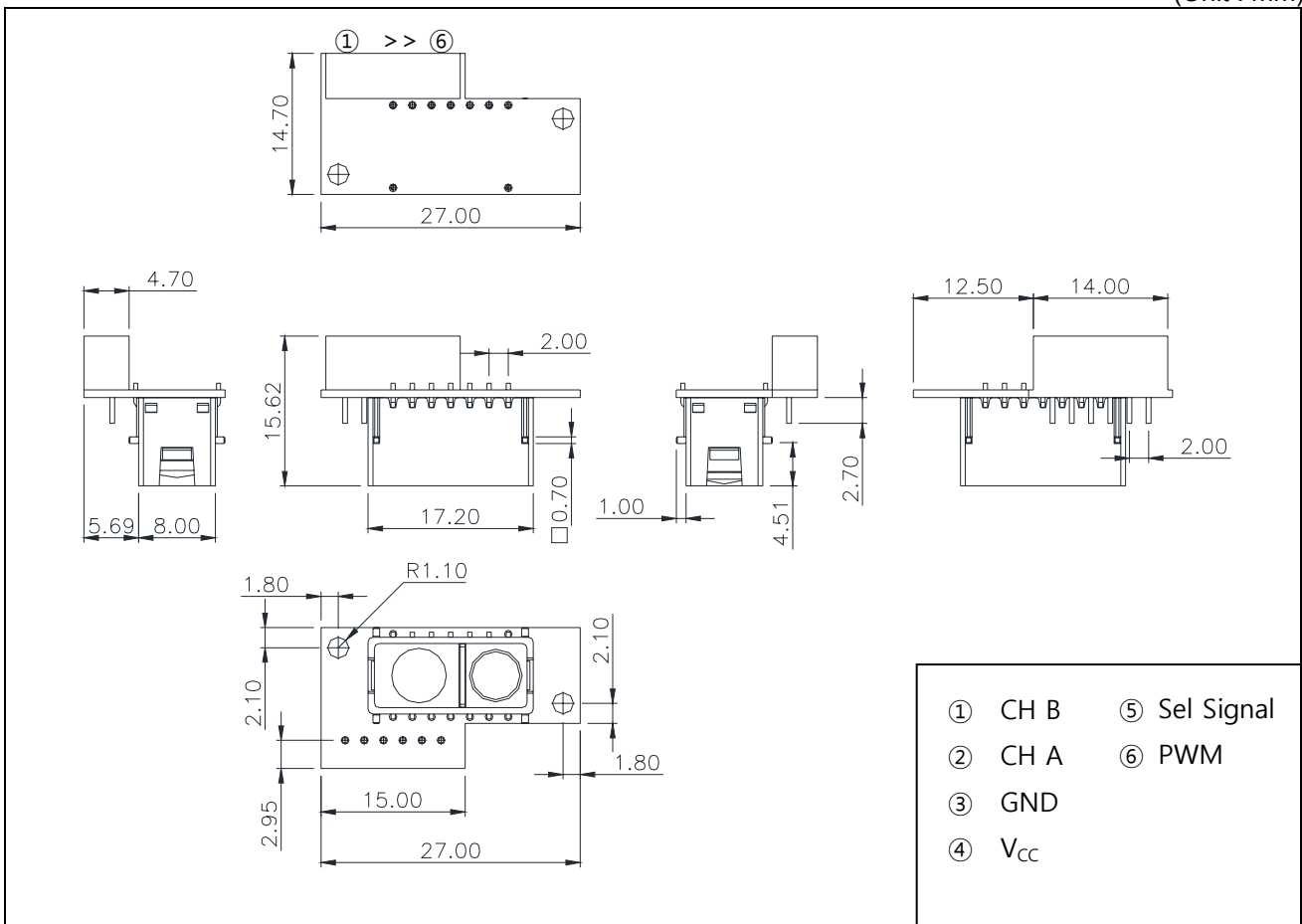
Note 2. Input VFP have a 500Hz frequency with 40% duty and media position is 100mm from top surface of sensor. Apply with recommendation circuit.

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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