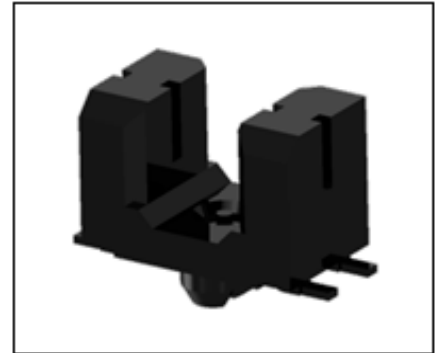


Photo Interrupter

KIT2015S

Description

The KIT2015S photo interrupter high-performance standard type, combines high-output GaAs IRED with high sensitivity phototransistor.



Features

- Transmissive with phototransistor output
- 2.2mm gap, 0.3mm slit with
- Compact size
- Lead Free and RoHS Compliant.
- MSL 3

Applications

- Cameras.
- Encoders.
- Printers.
- DVD.



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

Characteristic		Symbol	Ratings	Unit
Input LED	Power Dissipation	P _D	75	mW
	Forward Current	I _F	50	mA
	Reverse Voltage	V _R	6	V
	Pulse Forward Current *1	I _{FP}	0.5	A
Output Detector	Collector Dissipation	P _C	75	mW
	Collector Current	I _C	20	mA
	C-E Voltage	V _{CEO}	35	V
	E-C Voltage	V _{ECO}	6	V
Operating Temperature *2		T _{opr.}	-40 ~ +85	°C
Storage Temperature *2		T _{stg.}	-40 ~ +100	°C
Soldering Temperature *3		T _{sol.}	260	°C

*1 : Pulse width $t_w \leq 100 \mu s$ period $T = 10 ms$

*2 : No icebound or dew

*3 : The soldering should be 0.3mm or more away from bottom of the case t=within 3sec

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Electrical Characteristics ($T_a=25^\circ\text{C}$)

Characteristic		Symbol	Min.	Typ.	Max.	Unit	Condition
Input LED	Forward Voltage	V_F	-	1.2	1.4	V	$I_F=20\text{ mA}$
	Reverse Current	I_R	-	-	10	μA	$V_R=5\text{V}$
	Peak Wavelength	λ_P	-	940	-	nm	$I_F=20\text{ mA}$
Output Detector	Dark Current	I_{CEO}	-	1	100	nA	$V_{CE}=10\text{V}, 0\text{Lux}$
	Peak Wavelength	λ_P	-	880	-	nm	-
Transmission Characteristics	Light Current (Collector Current)	I_C	0.10	-	0.65	mA	$I_F=5\text{ mA}, V_{CE}=5\text{V}$ Non shading
	Leakage Current	$I_{CEO D}$	-	0.5	10	μA	$I_F=5\text{ mA}, V_{CE}=5\text{V}$ Shading
	C-E Saturation Voltage	$V_{CE}(\text{sat})$	-	0.15	0.4	V	$I_F=10\text{ mA},$ $I_C=0.04\text{ mA}$
Response Time	Rise Time	t_r	-	50	150	μs	$V_{CC}=5\text{V}, I_C=1\text{ mA}$ $R_L=1\text{k}\Omega$
	Fall Time	t_f	-	50	150	μs	

- Circuit for measuring response time

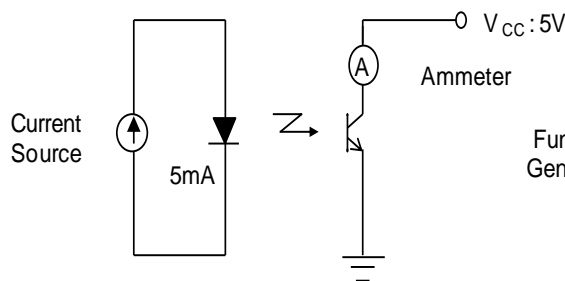


Fig 1. Test Circuit for I_C

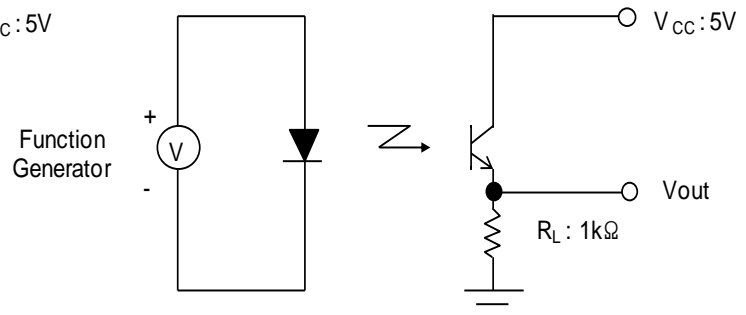


Fig 2. Test Circuit for Rise and Fall Time

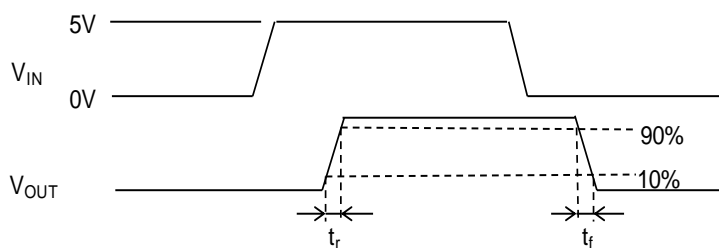
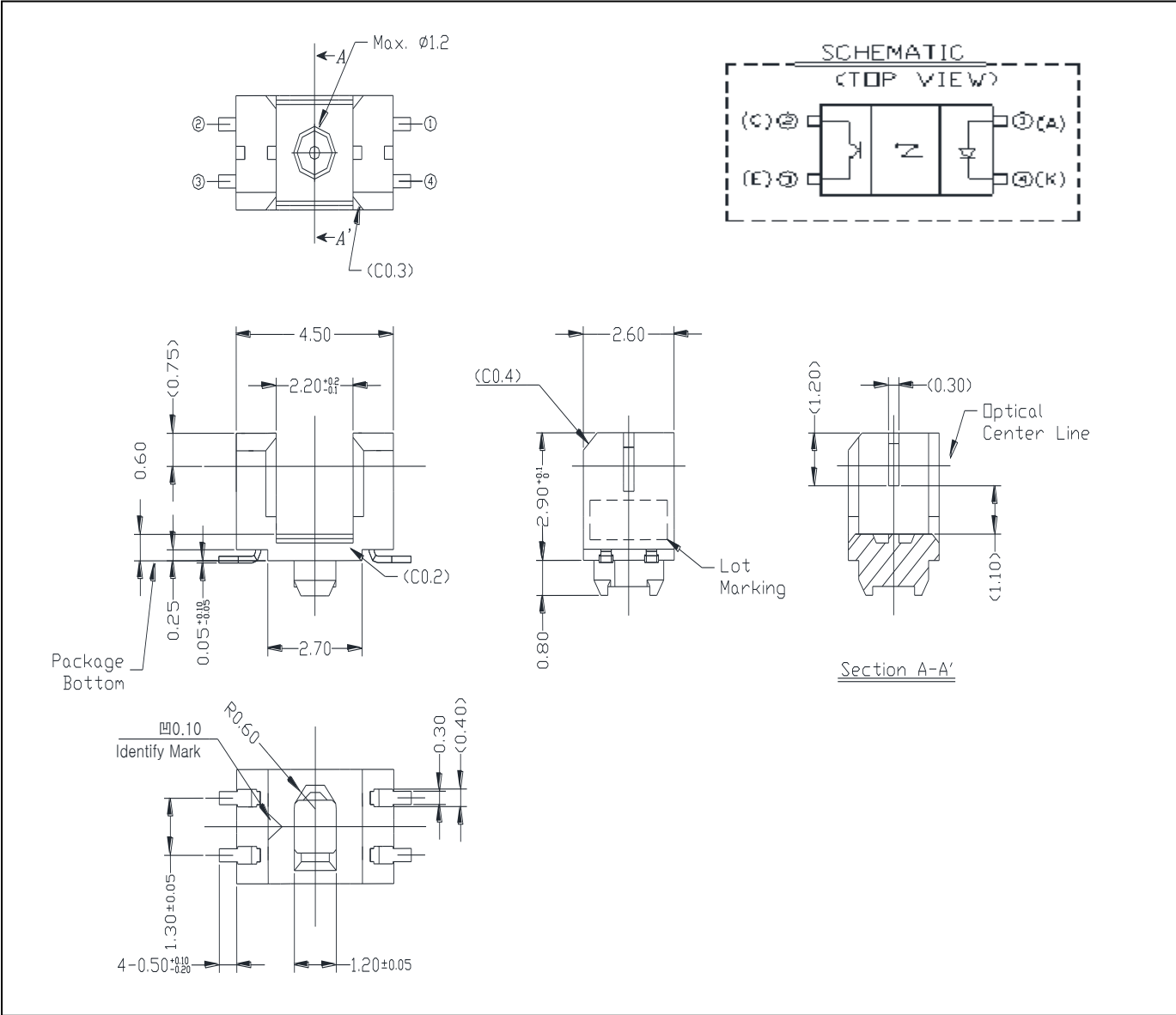


Fig 3. Definitions for Response Times

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Package Outline Dimensions



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