

Description

The KIT1018S photo-interrupter high-performance standard type, combines high-output GaAs IrED with high sensitivity phototransistor.



Features

- PWB direct mount type.
- 1.1mm gap.
- Compact.
- Lead Free, RoHS and Halogen Free Compliant.

Applications

- Cameras.
- Copiers.
- Printers.
- DVD Player.

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}	30	V
	E-C Voltage	V _{ECO}	6	V
Operating Temperature *2		Topr.	-25 ~ +85	°C
Storage Temperature *2		Tstg.	-40 ~ +100	°C
Soldering Temperature *3		Tsol.	260	°C

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

*2 : No icebound or dew

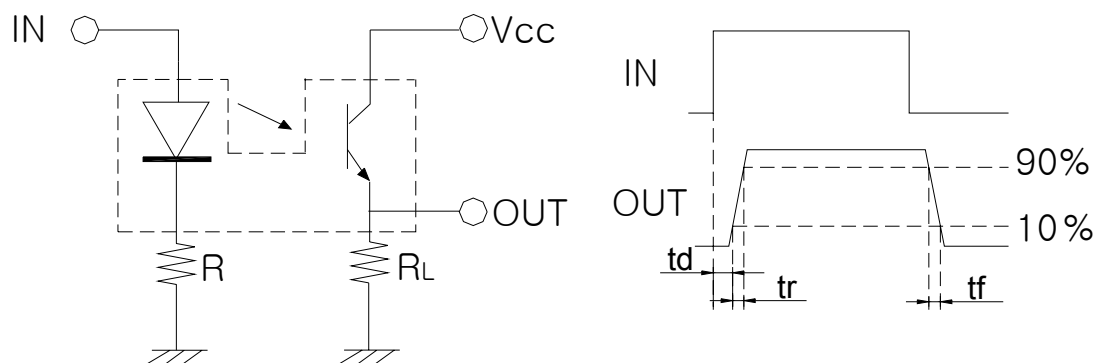
*3 : The soldering should be 0.3mm or more away from bottom of the case t=within 3sec

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Electrical Characteristics (T_a=25°C)

Characteristic		Symbol	Min.	Typ.	Max.	Unit	Condition
Input LED	Forward Voltage	V _F	-	1.2	1.4	V	I _F =20 mA
	Reverse Current	I _R	-	-	10	μA	V _R =5V
	Peak Wavelength	λ _P	-	940	-	nm	I _F =20 mA
Output Detector	Dark Current	I _{CEO}	-	1	100	nA	V _{CE} =10V, 0Ix
	Peak Wavelength	λ _P	-	880	-	nm	-
Transmission Characteristics	Light Current (Collector Current)	I _C	0.10	-	0.45	mA	I _F =5 mA, V _{CE} =5V Non shading
	Leakage Current	I _{CEOD}	-	0.5	10	μA	I _F =5 mA, V _{CE} =5V Shading
	C-E Saturation Voltage	V _{CE(sat)}	-	0.15	0.4	V	I _F =10 mA, I _C =0.03 mA
Response Time	Rise Time	t _r	-	10	-	μs	V _{CC} =5V, I _C =1 mA R _L =100Ω
	Fall Time	t _f	-	10	-	μs	

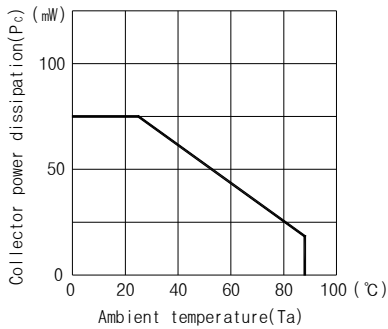
- Circuit for measuring response time



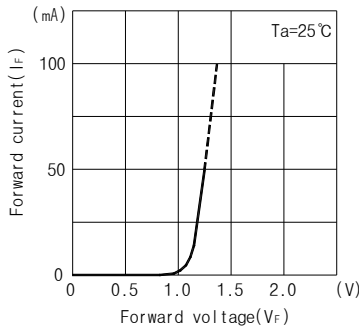
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Electrical and optical characteristic curves

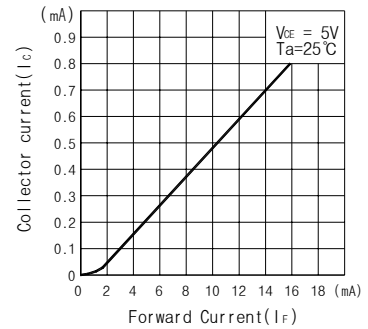
Collector power dissipation Vs. Ambient temperature



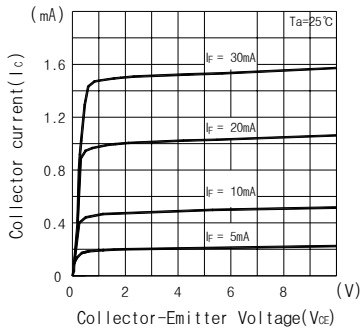
Forward current Vs. Forward voltage



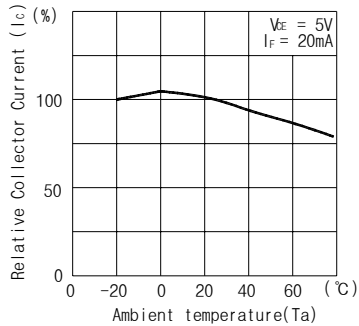
Collector Current Vs. Forward Current



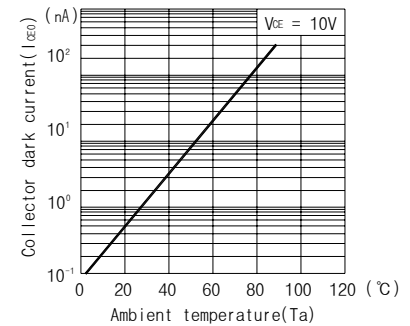
Collector Current Vs. Collector-Emitter Voltage



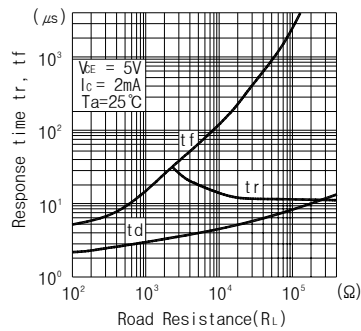
Relative Collector Current Vs. Ambient temperature



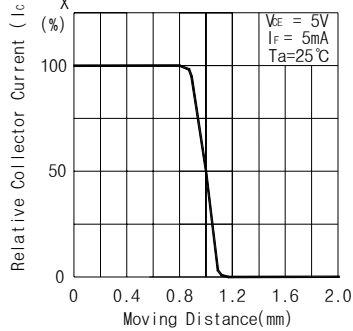
Collector Current Vs. Ambient temperature



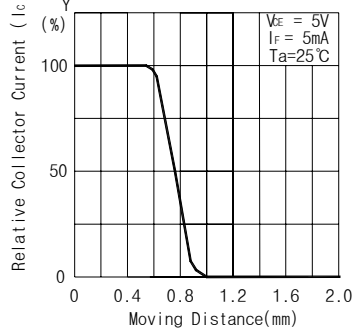
Switching time Vs. Load resistance



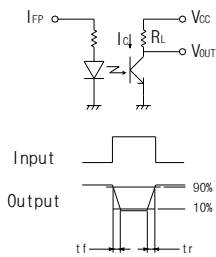
Relative Collector Current Vs. Moving distance



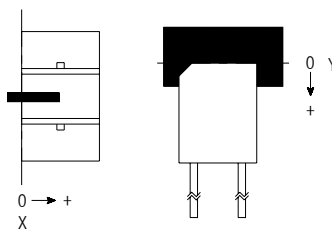
Relative Collector Current Vs. Moving distance



Switching time measurement circuit

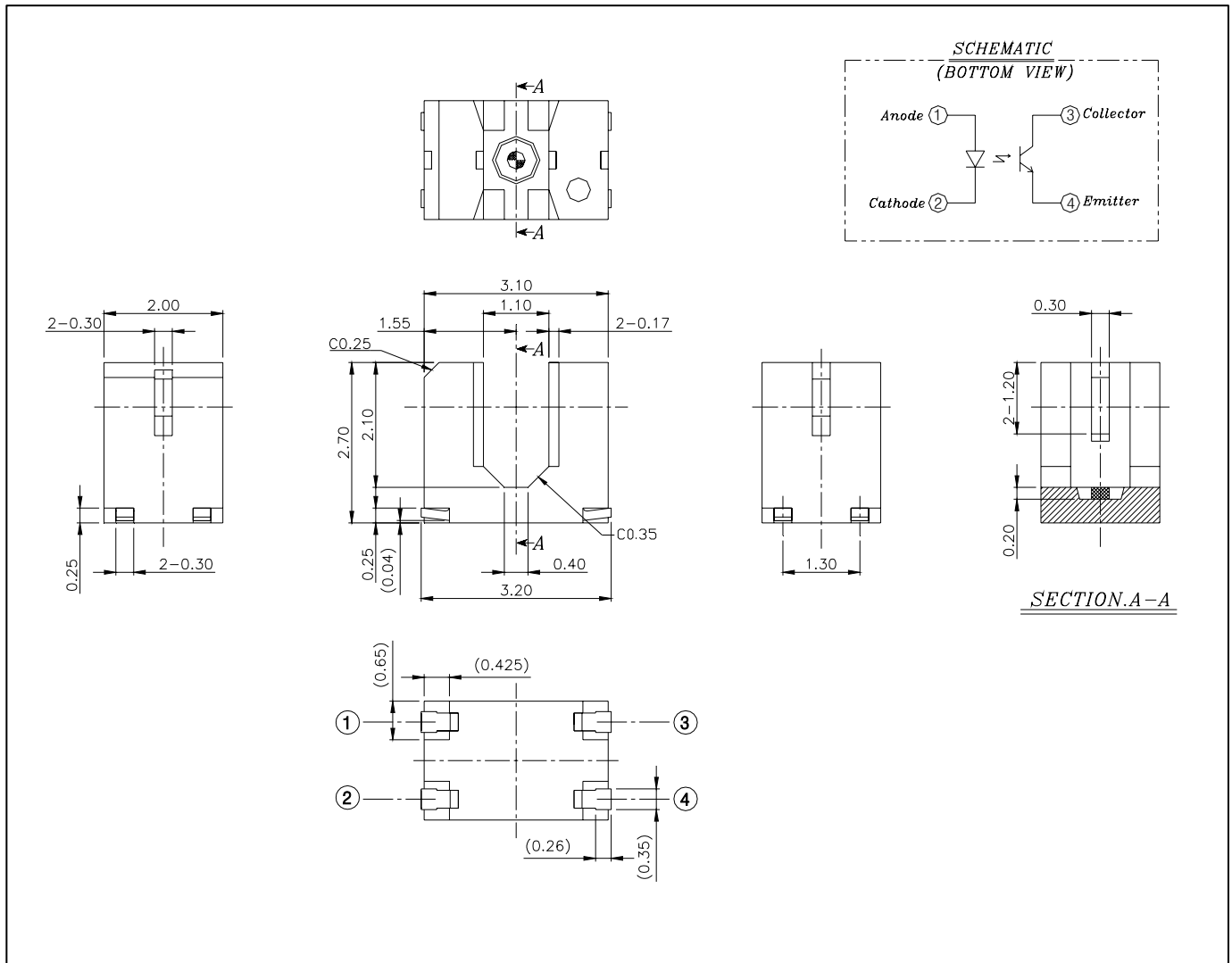


Method of measuring position detection characteristic



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Package Outline Dimensions



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