

PRODUCT SPECIFICATION

Date : 2003/12/15

COSMO	Photointerrupter :	No.60K00001	REV.
ELECTRONICS CORPORATION	KW1S50FC	Sheet 1 Of 5	1

Horizontal Slit Type Photointerrupter

● Features

1. Horizontal slit type
2. PWB direct mounting type
3. GAP between light emitter and detector : 4.2mm
4. Slit width : 0.5mm
5. With a positioning boss

● Applications

1. OA equipment, such as printer etc.

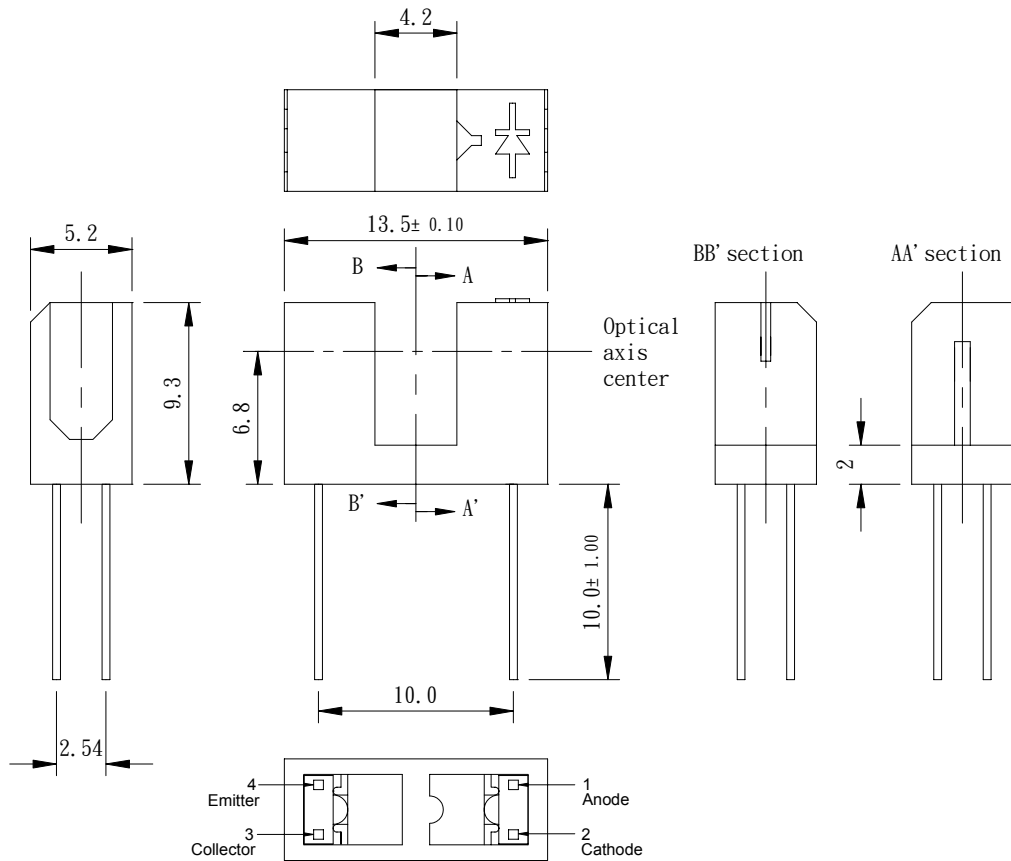
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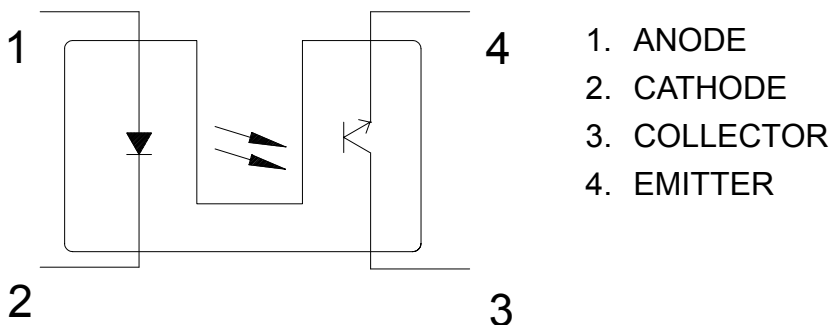
<p>COSMO ELECTRONICS CORPORATION</p>	<p>Photointerrupter : KW1S50FC</p>	<p>No.60K00001 Sheet 2 Of 5</p>	<p>REV. 1</p>
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Outside Dimension :

(Unit : mm)



Schematic :



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● Absolute Maximum Ratings

Parameter		Symbol	Rating	Unit
Input	Forward Current	I_F	50	mA
	Peak Forward Current ^{*1}	I_{FP}	1	A
	Reverse Voltage	V_R	6	V
	Power Dissipation	P_D	75	mW
Output	Collector-emitter Voltage	V_{CEO}	35	V
	Emitter-collector Voltage	V_{ECO}	6	V
	Collector Current	I_C	20	mA
	Power Dissipation	P_D	75	mW
Total Power Dissipation		T_{PD}	100	mW
Operation Temperature		T_{OPR}	-25 to +85	°C
Storage Temperature		T_{STG}	-40 to +100	°C
Soldering Temperature ^{*2}		T_{SOL}	260	°C

※ 1 Pulse width $\leq 100\mu s$, duty ratio=1%

※ 2 For 5 seconds

● Electronics Characteristics

Parameter	Symbol	Conditions	Min.	TYP.	MAX.	Unit	
Input	Forward Voltage	V_F	$I_F=20mA$	—	1.25	1.4	V
	Peak Forward Voltage	V_{FM}	$I_{FM}=0.5A$	—	3	4	V
	Reverse Current	I_R	$V_R=3V$	—	—	10	μA
Output	Collector-emitter dark current	I_{CEO}	$V_{CE}=20V, I_F=0mA$	—	1	100	nA
Transfer Characteristics	Collector Current	I_C	$V_{CE}=5V, I_F=20mA$	0.5	—	10	mA
	Collector saturation voltage	$V_{CE(SET)}$	$I_F=40mA, I_C=0.5mA$	—	—	0.4	V
	Response time (Rise)	T_r	$V_{CE}=2V, I_C=0.5mA$	—	3	15	μs
	Response time (Fall)	T_f	$R_L=100\Omega$	—	4	20	μs

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Fig. 1 Forward Current vs. Ambient Temperature

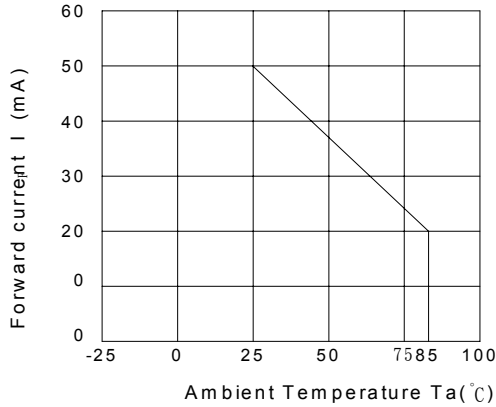


Fig. 2 Collector Power Dissipation vs. Ambient Temperature

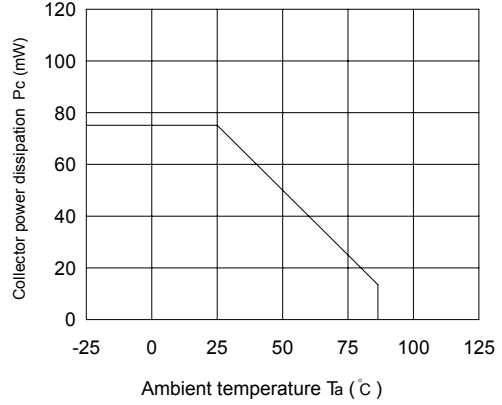


Fig. 3 Peak Forward Current vs. Duty Ratio

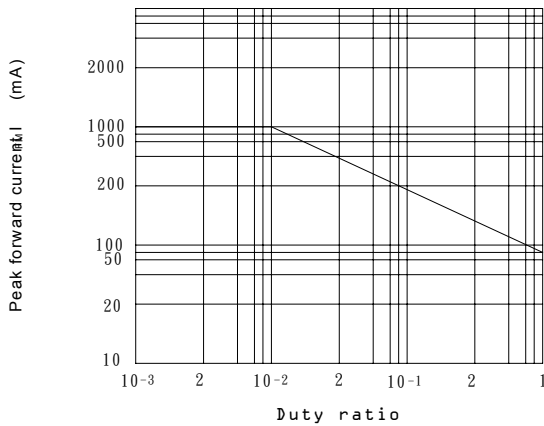


Fig. 4 Forward Current vs. Forward Voltage

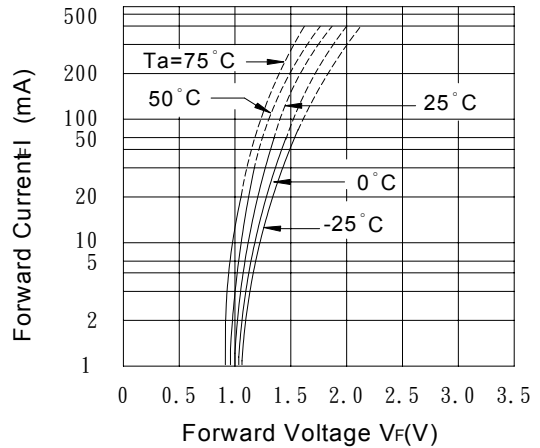


Fig. 5 Collector Current vs. Forward Current

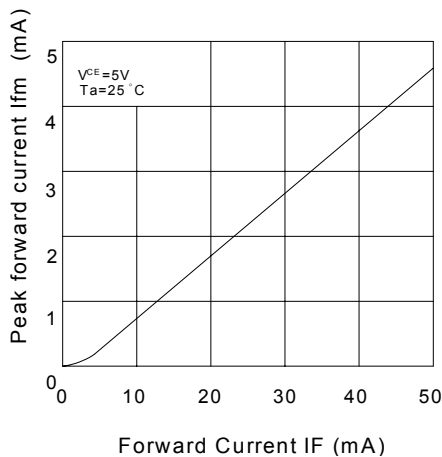
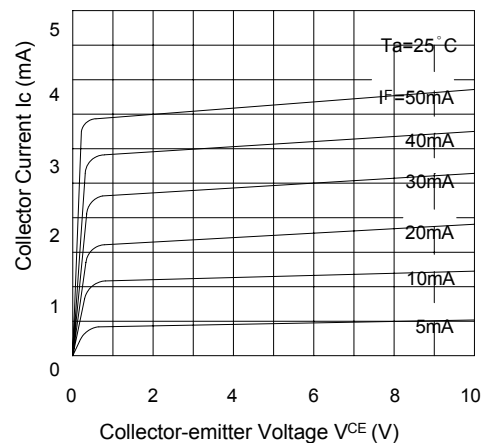


Fig. 6 Collector Current vs. Collector-emitter Voltage



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Fig. 7 Collector Current vs. Ambient Temperature

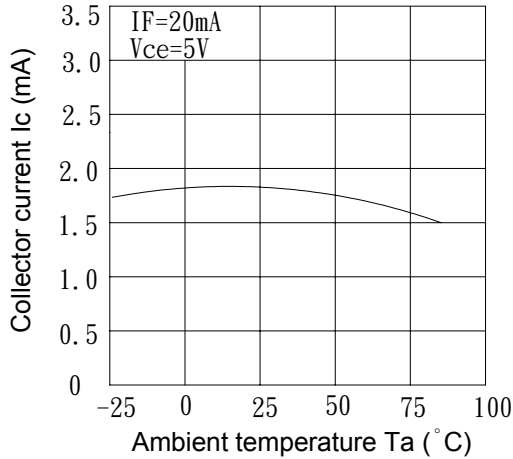


Fig 8 Collector-emitter Saturation Voltage vs. Ambient Temperature

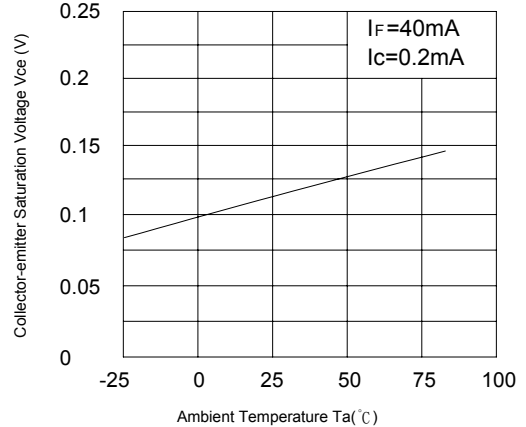


Fig. 9 Response Time vs. Load Resistance

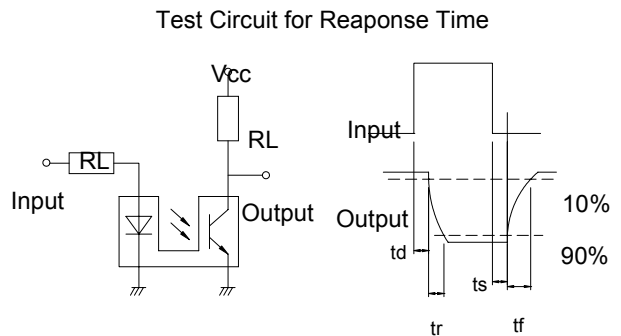
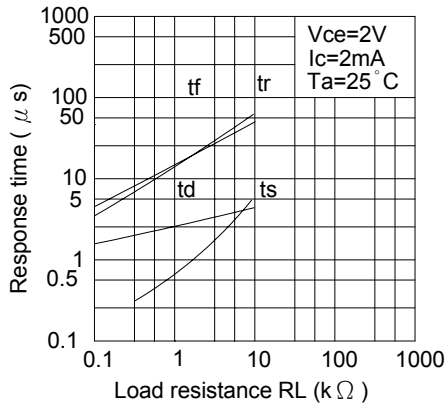


Fig. 10 Relative Collector Current vs. Shield Distance (1)

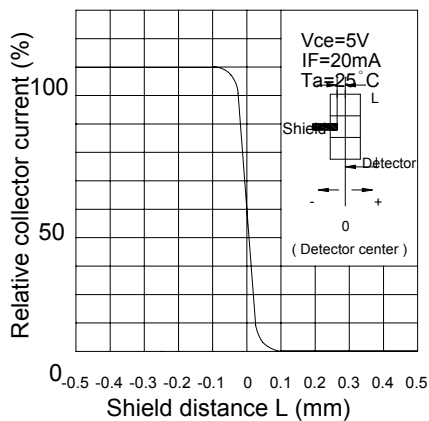


Fig. 11 Relative Collector Current vs. Shield Distance (2)

