Photointerrupter KW1S53FC

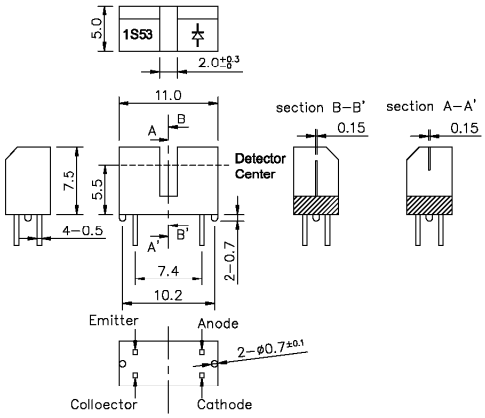
Features

1. Horizontal slit type
2. PWB direct mounting type
3. GAP between light emitter and detector : 2.0mm
4. Slit width : 0.15mm
5. With a positioning pin

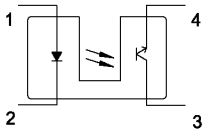
Applications

1. OA equipment, such as printer etc.
2. VCRs, cassette decks
3. Floppy disk drives

Outside Dimension:Unit (mm)



Schematic:Top View



1. Anode
2. Cathode
3. Collector
4. Emitter

Absolute Maximum Ratings

(Ta=25°C)

	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
	Operating 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 ≦ 100 μs, duty ratio=1%
*2 For 5 seconds

Electro-optical Characteristics

(Ta=25°C)

	Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Input	Forward voltage	V_F	I_F=20mA	—	1.2	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	—	1	100	nA
Transfer charac-teristics	Collector Current	I_C	V_{CE}=5V, I_F=20mA	0.4	—		mA
	Collector saturation voltage	$V_{CE(SET)}$	I_F=40mA, I_C=0.25mA	—	—	0.4	V
	Respone time (Rise)	T_R	V_{CE}=2V, I_C=0.5mA, R_L=1KΩ	—	38	90	μS
	Respone time (Fall)	T_F		—	48	110	μS

Fig.1 Forward Current vs. Ambient Temperature

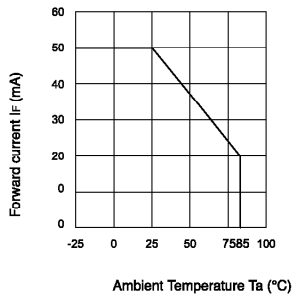


Fig.2 Collector Power Dissipation vs. Ambient Temperature

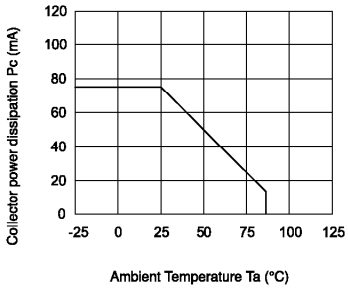


Fig.3 Peak Forward Current vs. Duty Ratio

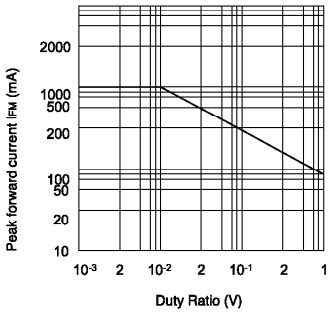


Fig.4 Forward Current vs. Forward Voltage

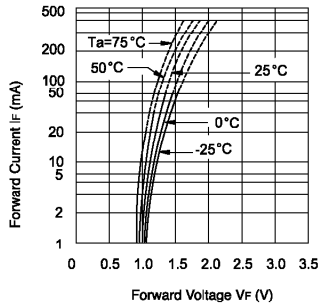


Fig.5 Collector Current vs. Forward Current

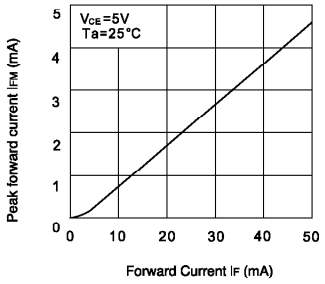


Fig.6 Collector Current vs. Collector-emitter Voltage

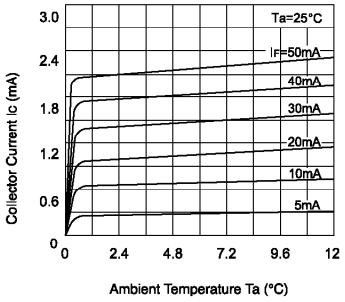


Fig.7 Collector Current vs. Ambient Temperature

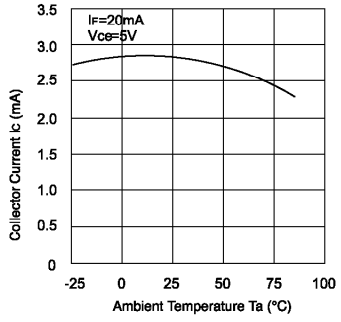


Fig.8 Collector-emitter Saturation Voltage vs. Ambient Temperature

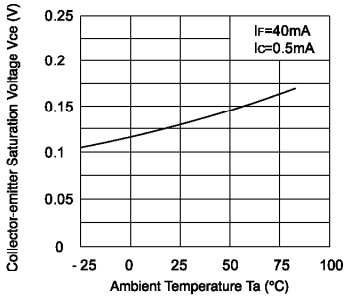
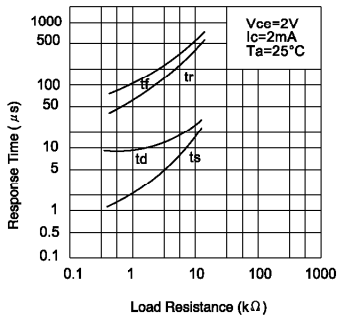


Fig.9 Response Time vs. Load Resistance



Test Circuit for Reaponse Time

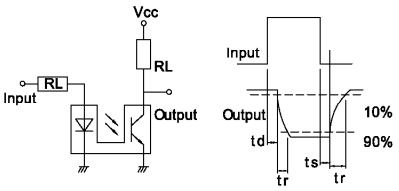


Fig.10 Relatove Collector Current vs. Shield Distance (1)

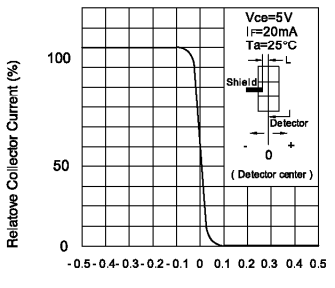


Fig.11 Relatove Collector Current vs. Shield Distance (2)