

Optoelectronic Devices

Order code	Manufacturer code	Description
58-0944	n/a	KTIR0621DS PHOTO INTERRUPTER (RC)

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The enclosed information is believed to be correct, Information may change 'without notice' due to product improvement. Users should ensure that the product is suitable for their use. E. & O. E.	Revision A 04/07/2003

KTIR0621DS

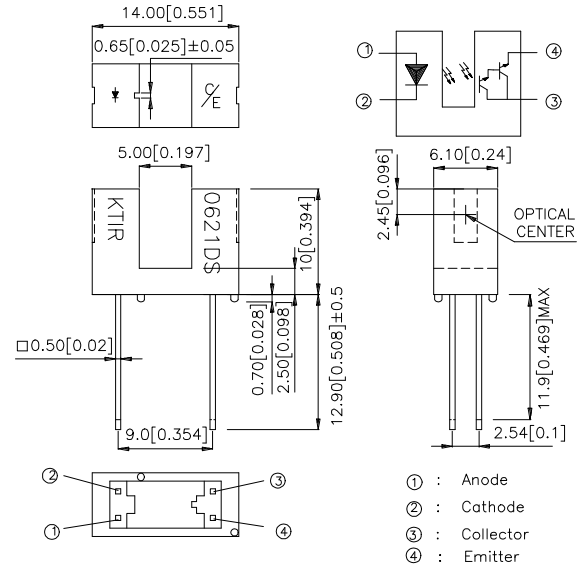
Features

- High sensing accuracy.
- High current transfer ratio.
- Both-sides mounting type.
- RoHS Compliant.

Applications

- OA equipment, such as floppy disk drives, printers, facsimiles, etc.
- VCRs.

Package Dimensions



Notes:

1. All dimensions are in millimeters (inches).
2. Tolerance is $\pm 0.25(0.01")$ unless otherwise noted.
3. Lead spacing is measured where the lead emerge package.
4. Specifications are subject to change without notice.

Absolute Maximum Ratings ($T_a=25^\circ\text{C}$)

Parameter		Symbol	Rating	Unit
Input	Forward current	I_F	50	mA
	Reverse voltage	V_R	6	V
	Power dissipation	P	75	mW
Output	Collector-emitter voltage	V_{CEO}	35	V
	Emitter-collector voltage	V_{ECO}	6	V
	Collector current	I_C	40	mA
	Collector power dissipation	P_C	75	mW
Operating temperature		Topr	-25~+85	$^\circ\text{C}$
Storage temperature		Tstg	-40~+100	$^\circ\text{C}$
Soldering temperature (1/16 inch from body for 5 seconds)		Tsol	260	$^\circ\text{C}$

Electro-optical Characteristics (Ta=25°C)

Parameter		Symbol	Conditions	Min.	Typ.	Max.	Unit	
Input	Forward voltage	V_F	$I_F=20\text{mA}$	1.0	1.2	1.5	V	
	Peak forward voltage	V_{FM}	$I_{FM}=0.5\text{A}$	—	2	3	V	
	Reverse current	I_R	$V_R=6\text{V}$	—	—	10	μA	
Output	Collector dark current	I_{CEO}	$V_{CE}=10\text{V}, I_F=0\text{mA}$	—	—	10^{-6}	A	
Transfer characteristics	Current transfer ratio	CTR	$V_{CE}=2\text{V}, I_F=1\text{mA}$	—	200	—	%	
	Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_F=2\text{mA}, I_C=1\text{mA}$	—	—	1.0	V	
	Response time	Rise time	t_r	$V_{CE}=2\text{V}, I_C=10\text{mA}$ $R_L=100\Omega$	—	90	400	μsec
		Fall time	t_f		—	80	300	μsec

Fig.1 Forward Current vs. Forward Voltage

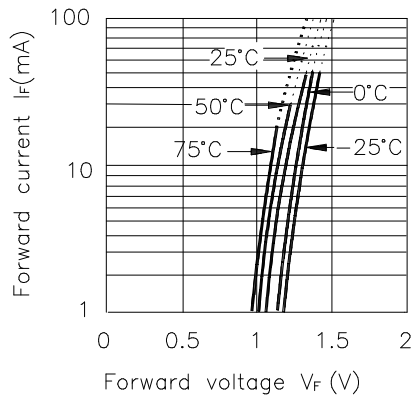


Fig.2 Collector Current vs. Forward Current

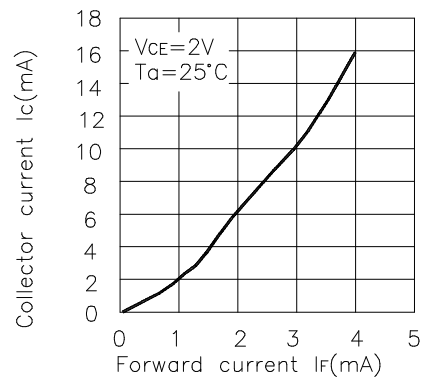


Fig.3 Collector Current vs. Collector-emitter Voltage

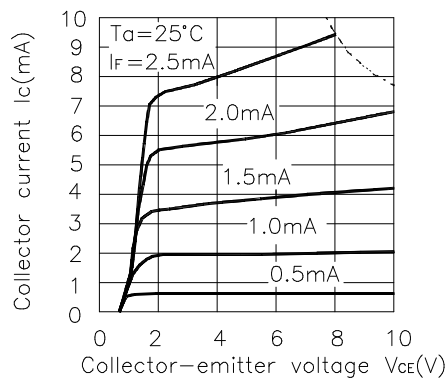


Fig.4 Collector Current vs. Ambient Temperature

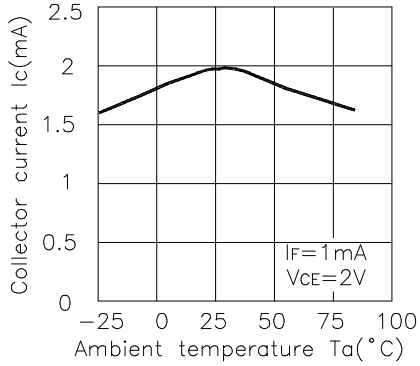


Fig.5 Collector-emitter Saturation Voltage vs. Ambient Temperature

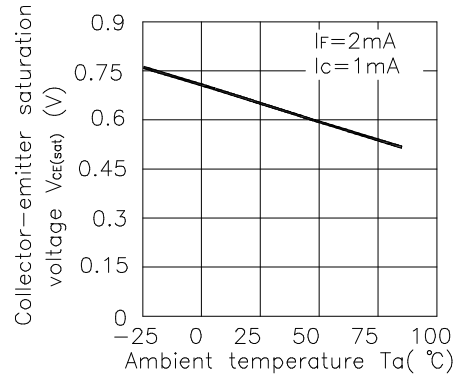


Fig.6 Relative Collector Current vs. Shield Distance(1)

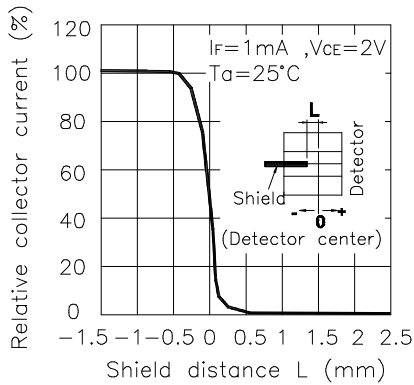


Fig.7 Relative Collector Current vs. Shield Distance(2)

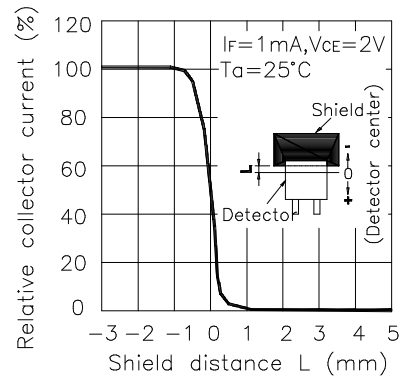
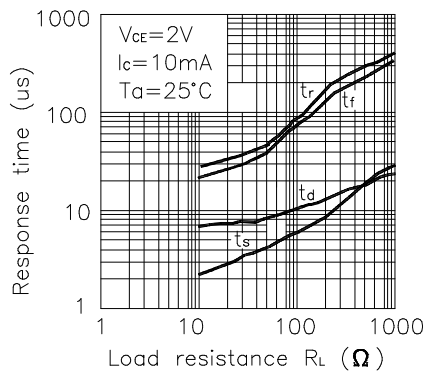


Fig.8 Response Time vs. Load Resistance



Test Circuit for Response Time

