

Part Number: KTIR0521DS

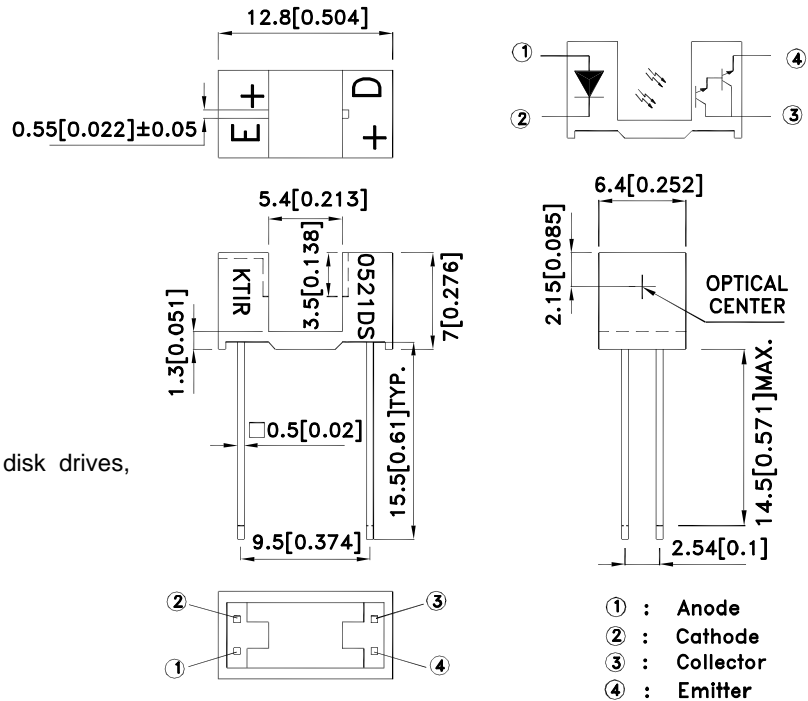
### Package Dimensions

#### 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.



#### 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 leads emerge from the package.
4. Specifications are subject to change without notice.

### Absolute Maximum Ratings (Ta=25°C)

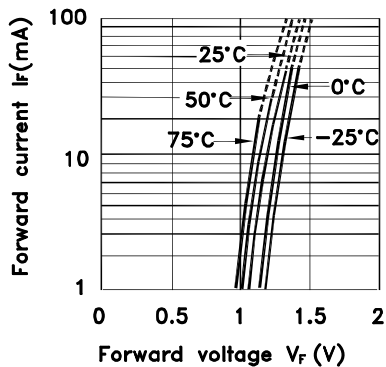
Parameter		Symbol	Rating	Unit
Input	Forward current	$I_F$	50	mA
	Reverse voltage	$V_R$	6	V
	Power dissipation	$P_d$	75	mW
	Peak Forward Current (Pulse Width $\leq 100\mu\text{s}$ , Duty Cycle = 1%)	$I_{FP}$	1	A
Output	Collector-emitter voltage	$V_{CEO}$	35	V
	Emitter-collector voltage	$V_{ECO}$	6	V
	Collector current	$I_C$	40	mA
	Collector power dissipation	$P_C$	75	mW
Operating temperature		$T_{opr}$	-25~+85	°C
Storage temperature		$T_{stg}$	-40~+100	°C
soldering temperature (1/16 inch from body for 5 seconds)		$T_{sol}$	260	°C



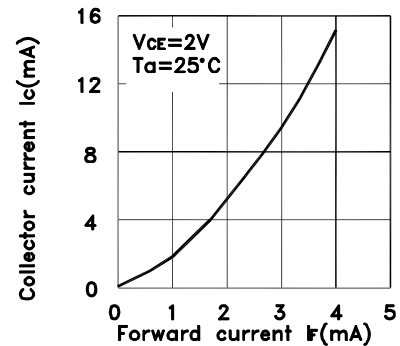
### Electro-optical Characteristics (Ta=25°C)

Parameter		Symbol	Conditions	Min.	Typ.	Max.	Unit	
Input	Forward voltage	$V_F$	$I_F=20\text{mA}$	—	1.2	1.5	V	
	Peak forward voltage	$V_{FM}$	$I_{FM}=0.5\text{A}$	—	2	4	V	
	Reverse current	$I_R$	$V_R=5\text{V}$	—	—	10	$\mu\text{A}$	
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	$V_{CE}=2\text{V}, I_F=1\text{mA}$	—	180	—	%	
	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	$\mu\text{sec}$
		Fall time	$t_f$		—	80	300	$\mu\text{sec}$

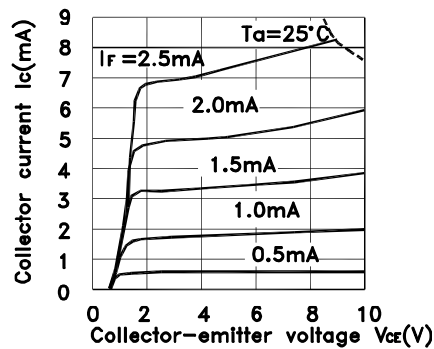
**Fig.1 Forward Current vs. Forward Voltage**



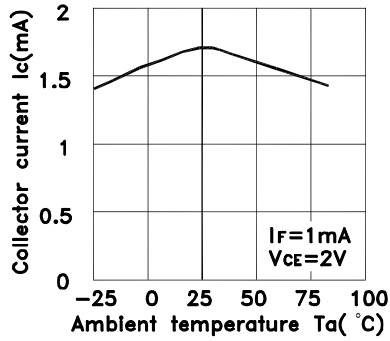
**Fig.2 Collector Current vs. Forward Current**



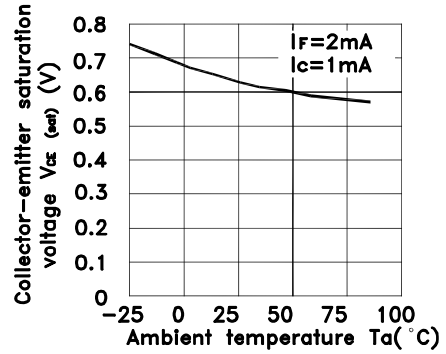
**Fig.3 Collector Current vs. Collector-emitter Voltage**



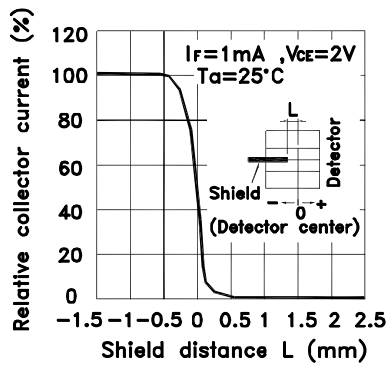
**Fig. 4 Collector Current vs. Ambient Temperature**



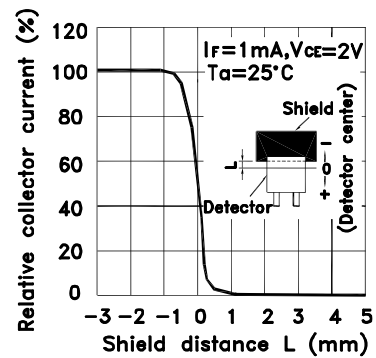
**Fig.5 Collector-emitter Saturation Voltage vs. Ambient Temperature**



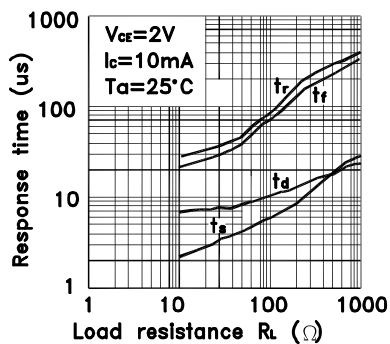
**Fig.6 Relative Collector Current vs. Shield Distance (1)**



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



**Fig.8 Response Time vs Load Resistance**



**Test Circuit for Response Time**

