

Part Number: KTIR0121DS

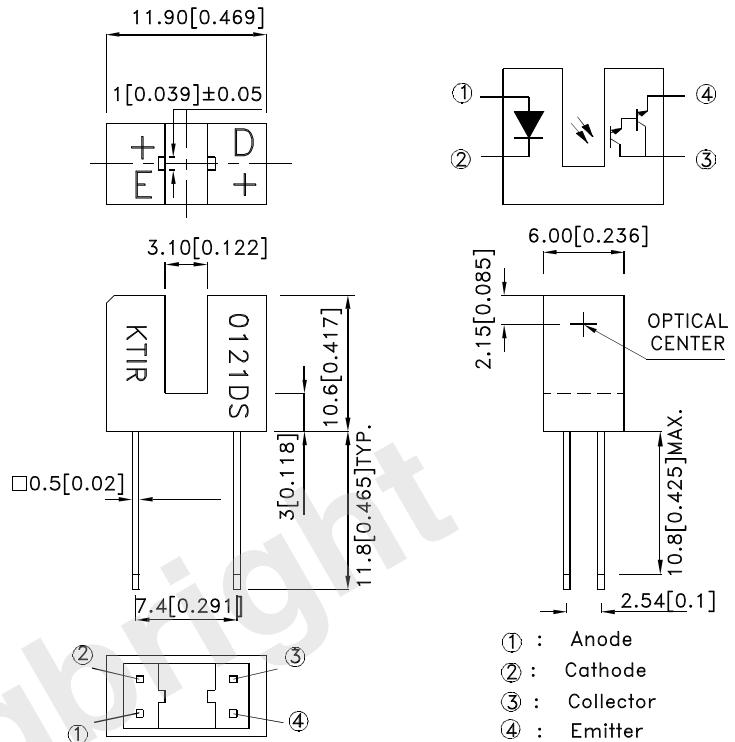
### Package Dimensions

#### 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)

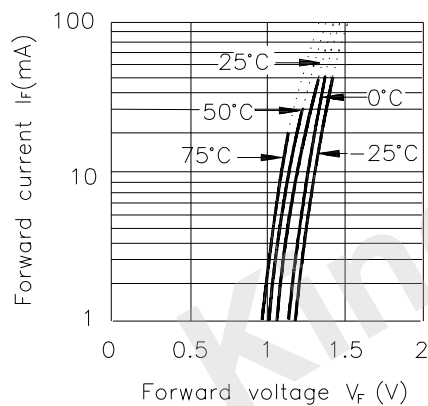
Parameter		Symbol	Rating	Unit
Input	Forward current	$I_F$	50	mA
	Reverse voltage	$V_R$	6	V
	Power dissipation	$P_D$	75	mW
	Peak Forward Current (Pulse Width $\leq 100\mu\text{s}$ , Duty Cycle = 1%)	$I_{FP}$	1	A
Output	Collector-emitter voltage	$V_{CEO}$	35	V
	Emitter-collector voltage	$V_{ECO}$	6	V
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



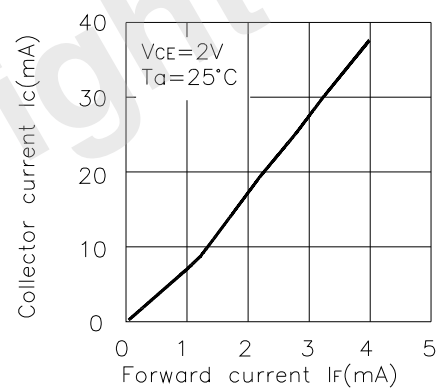
### Electro-optical Characteristics(Ta=25°C)

Parameter		Symbol	Conditions	Min.	Typ.	Max.	Unit
Input	Forward voltage	$V_F$	$I_F=20\text{mA}$	1.0	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	$\mu\text{A}$
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	$V_{CE}=2\text{V}$ $I_F=1\text{mA}$	—	600	—	%
	Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_F=2\text{mA}$ $I_C=1\text{mA}$	—	—	1.0	V
	Response time	Rise time	$V_{CE}=2\text{V}$ $I_C=10\text{mA}$ $R_L=100\Omega$	—	90	400	$\mu\text{Sec}$
		Fall time		—	80	300	$\mu\text{Sec}$

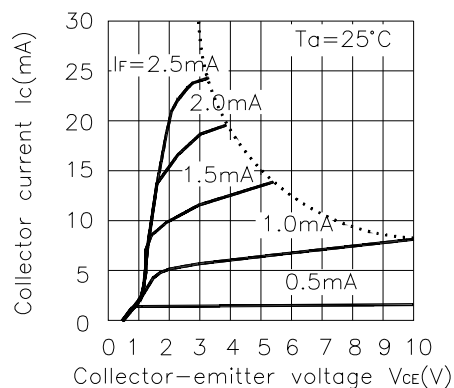
**Fig.1 Forward Current vs. Forward Voltage**



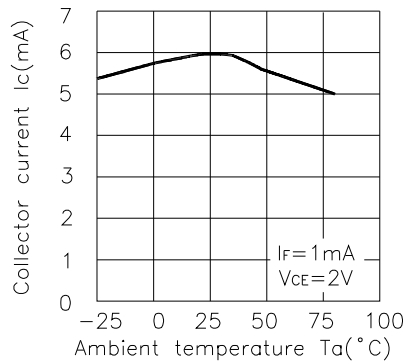
**Fig.2 Collector Current vs. Forward Current**



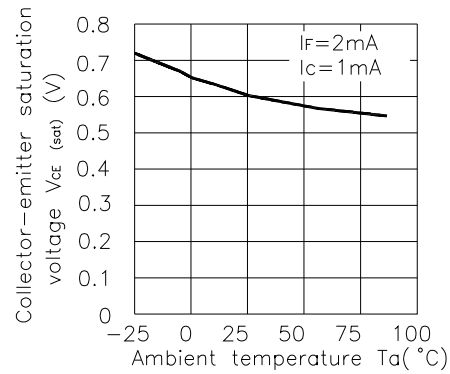
**Fig.3 Collector Current vs. Collector-emitter Voltage**



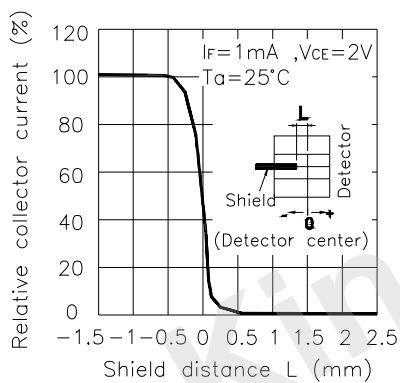
**Fig.4 Collector Current vs. Ambient Temperature**



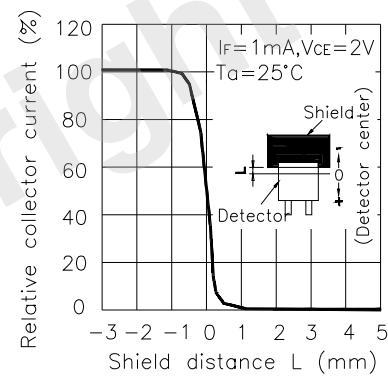
**Fig.5 Collector-emitter Saturation Voltage vs. Ambient Temperature**



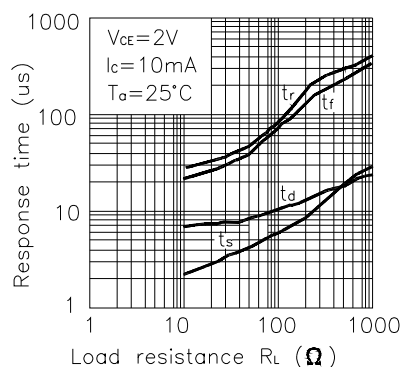
**Fig.6 Relative Collector Current vs. Shield Distance(1)**



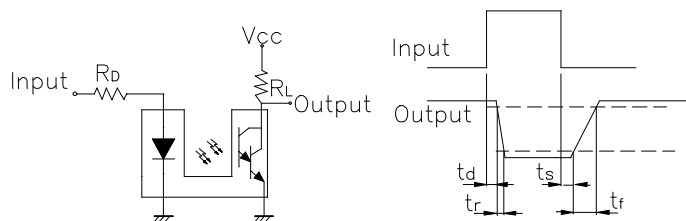
**Fig.7 Relative Collector Current vs. Shield Distance(2)**



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

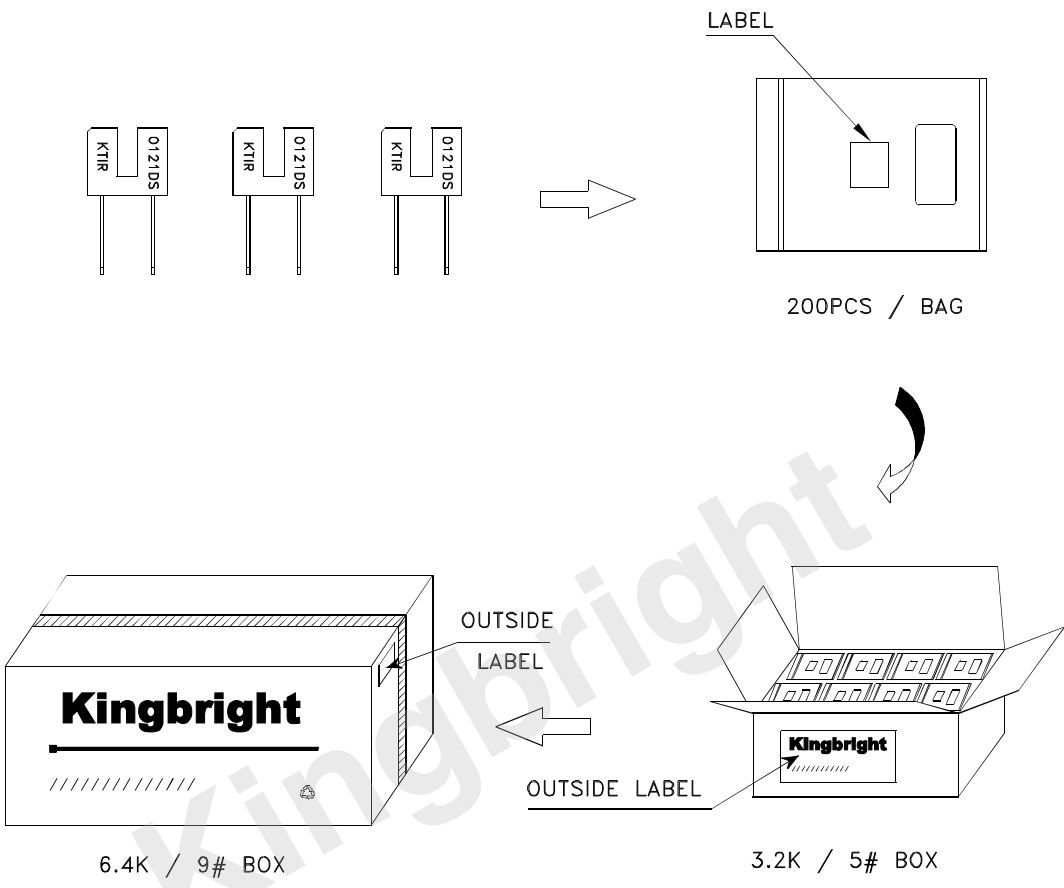



**Test Circuit for Response Time**



PACKING & LABEL SPECIFICATIONS

KTIR0121DS



<b>Kingbright</b>							
P/NO: KTIRxxx							
QTY: 200 pcs	Q.C. <table border="1"><tr><td>Q</td><td>C</td></tr><tr><td>XX</td><td>XX</td></tr><tr><td colspan="2">PASSED</td></tr></table>	Q	C	XX	XX	PASSED	
Q	C						
XX	XX						
PASSED							
S/N: XXXX							
CODE: XXX							
LOT NO:							
							
RoHS Compliant							