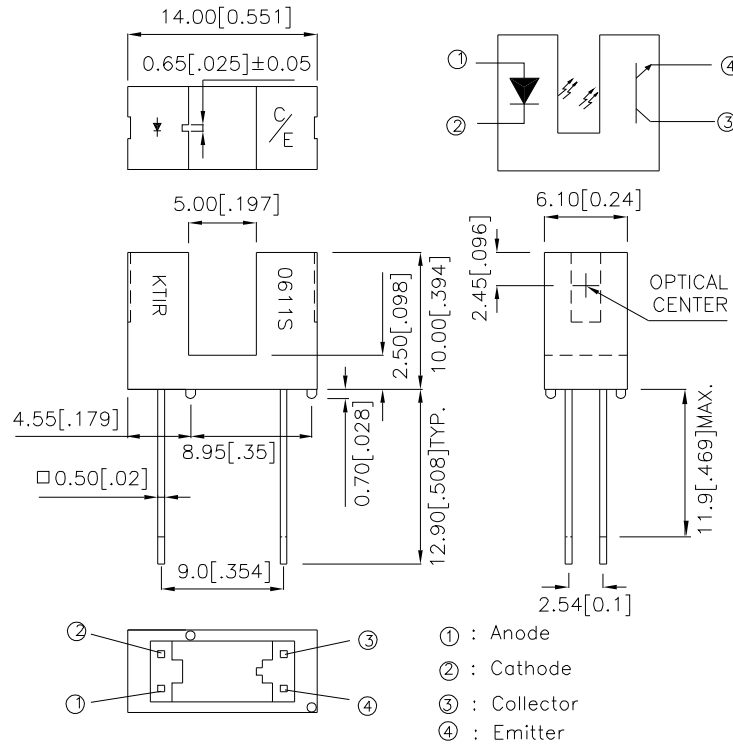


P/N: KTIR0611S

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

### Features

- Ultra-small.
- Minimal influence from stray light.
- Low collector-emitter saturation voltage.
- RoHS Compliant.

### Applications

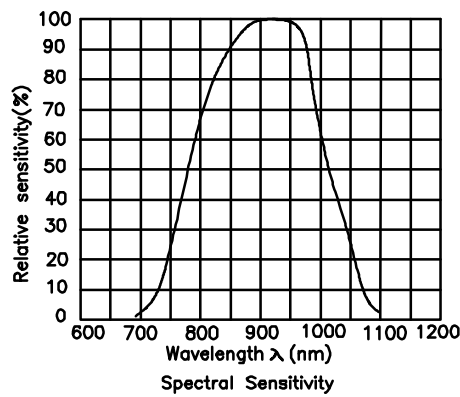
- Optical control equipment.
- Cameras.
- Floppy disk drives.

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

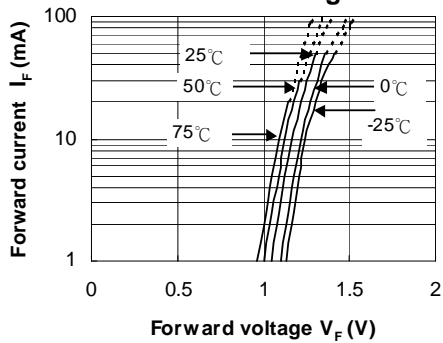
Parameter		Symbol	Rating	Unit
Input	Forward current	$I_F$	50	mA
	Reverse voltage	$V_R$	6	V
	Power dissipation	$P_d$	75	mW
	Peak Forward Current (Pulse Width $\leq 100\mu\text{s}$ , Duty Cycle =1%)	$I_{FP}$	1	A
Output	Collector-emitter voltage	$V_{CEO}$	35	V
	Emitter-collector voltage	$V_{ECO}$	6	V
	Collector current	$I_C$	20	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)**

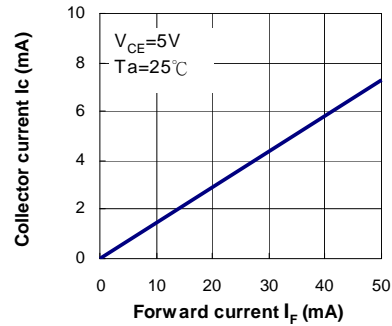
Parameter		Symbol	Conditions	Min.	TYP.	Max.	Unit	
Input	Forward Voltage	$V_F$	$I_F=20mA$	1.0	1.2	1.5	V	
	Reverse Current	$I_R$	$V_R=6V$	-	-	10	$\mu A$	
	Peak Wavelength	$\lambda_P$	$I_F=20mA$	-	940	-	nm	
Output	Collector dark current	$I_{CEO}$	$V_{CE}=20V$	-	-	100	nA	
Transfer characteristics	Collector-emitter saturation voltage	$V_{CE(SAT)}$	$I_C=1mA$ $I_F=40mA$	-	-	0.4	V	
	Current transfer ratio	CTR	$V_{CE}=5V$ $I_F=20mA$	-	14	-	%	
	Response time	Rise time	$t_r$	$V_{CE}=2V$ $I_C=2mA$	-	5	25	$\mu sec$
		Fall time	$t_f$	$R_L=100\Omega$	-	4	20	$\mu sec$



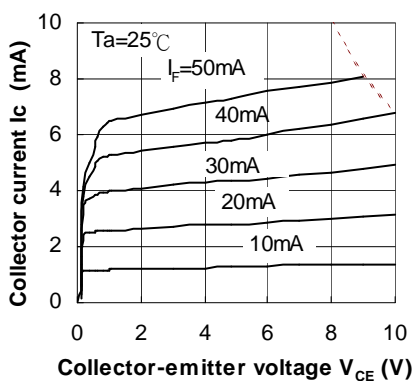
**Fig. 1 Forward Current vs. Forward Voltage**



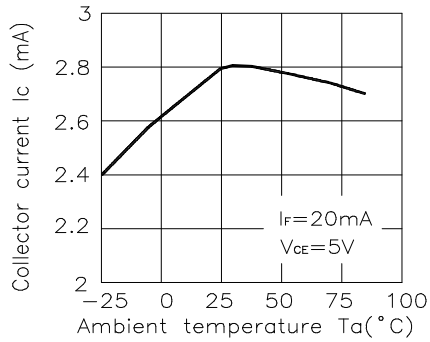
**Fig. 2 Collector Current vs. Forward Current**



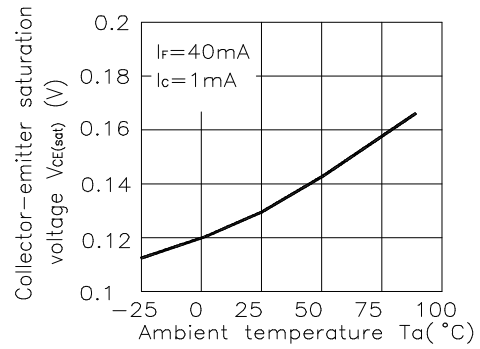
**Fig. 3 Collector Current vs. Collector-emitter Voltage**



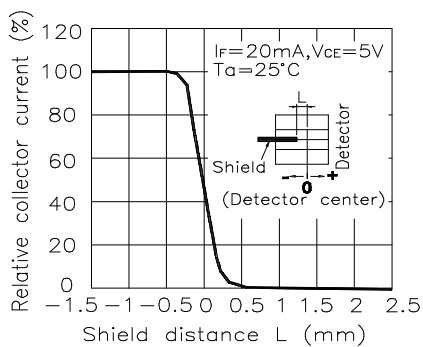
**Fig. 4 Collector Current vs. Ambient Temperature**



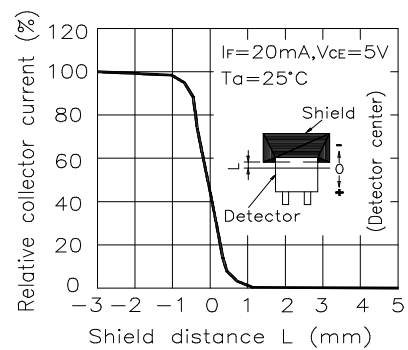
**Fig.5 Collector-emitter Saturation Voltage vs. Ambient Temperature**



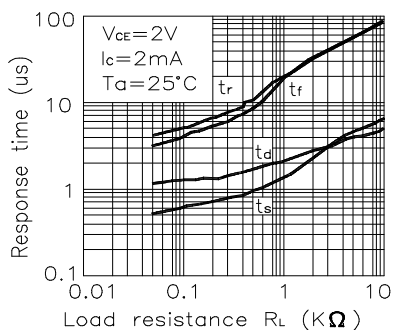
**Fig.6 Relative Collector Current vs. Shield Distance (1)**



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



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



**Test Circuit for Response Time**

