

Part Number: KTIR0911S

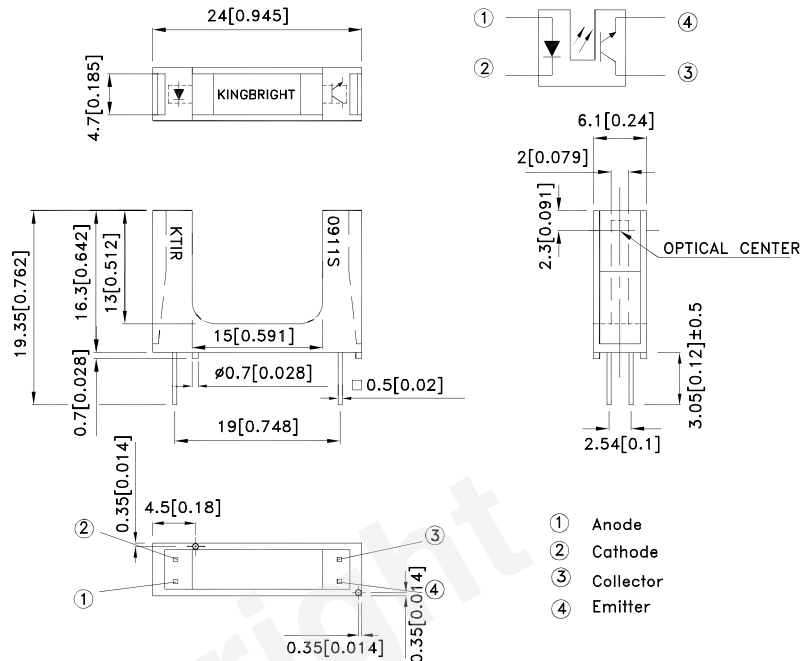
### Package Dimensions

#### Features

- Ultra-Small.
- Minimal influence from stray light.
- Low collector-emitter saturation Voltage.
- RoHS compliant.

#### Applications

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



#### 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. The specifications, characteristics and technical data described in the datasheet are subject to change without prior notice.

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

Parameter		Symbol	Rating	Unit
Input	Forward current	IF	50	mA
	Reverse voltage	VR	6	V
	Power dissipation	Pd	75	mW
	Peak Forward Current (Pulse Width <100uS, Duty Cycle=1%)	IFP	1	A
Output	Collector-emitter voltage	VCEO	35	V
	Emitter-collector voltage	VECO	6	V
	Collector current	IC	20	mA
	Collector power dissipation	PC	75	mW
Operating temperature		Topr	-25~+85	°C
Storage temperature		Tstg	-40~+100	°C
Soldering temperature (1/16 inch from body for 5 seconds)		Tsol	260	°C

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

Parameter		Symbol	Conditions	Min.	Typ.	Max.	Unit
Input	Forward voltage	V <sub>F</sub>	I <sub>F</sub> =20mA	1.0	1.2	1.5	V
	Reverse current	I <sub>R</sub>	V <sub>R</sub> =6V	—	—	10	μA
	Peak Wavelength	λ <sub>P</sub>	I <sub>F</sub> =20mA	—	940	—	nm
Output	Collector dark current	I <sub>CEO</sub>	V <sub>CE</sub> =20V	—	—	100	nA
Transfer Charac- teristics	Collector-emitter saturation voltage		V <sub>CE(SAT)</sub>	I <sub>C</sub> =1mA I <sub>F</sub> =40mA	—	0.4	V
	Current transfer ratio		CTR	V <sub>CE</sub> =5V I <sub>F</sub> =20mA	—	9.5	%
	Response time	Rise time	t <sub>r</sub>	V <sub>CE</sub> =2V I <sub>C</sub> =2mA R <sub>L</sub> =100Ω	—	5	μSec
		Fall time	t <sub>f</sub>		—	4	μSec

Fig.1 FORWARD CURRENT Vs.  
FORWARD VOLTAGE

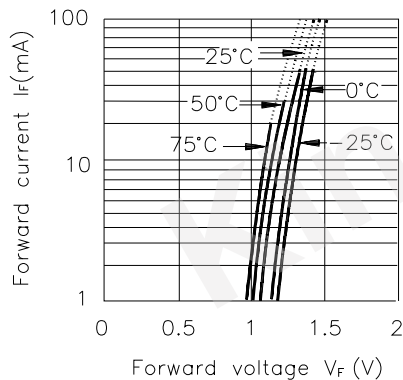


Fig.2 COLLECTOR CURRENT Vs.  
FORWARD CURRENT

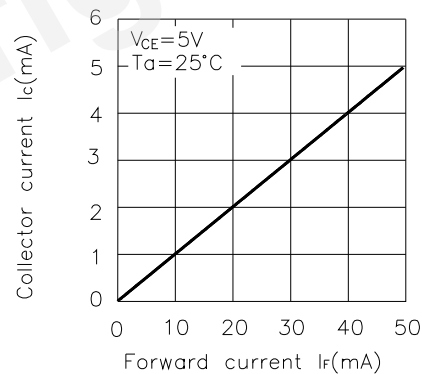


Fig.3 COLLECTOR CURRENT VS.  
COLLECTOR-EMITTER VOLTAGE

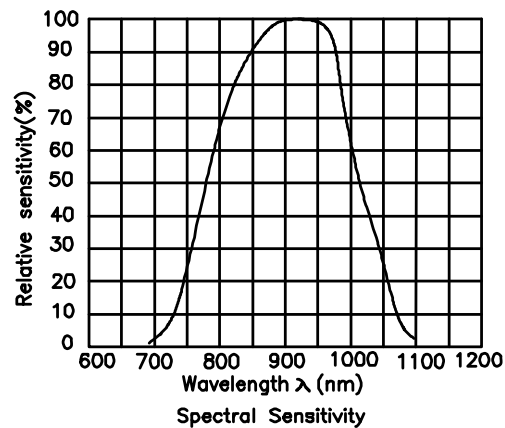
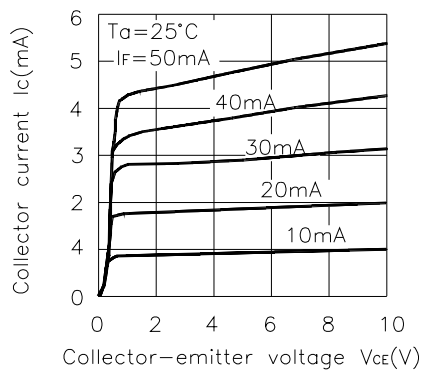


Fig.4 COLLECTOR CURRENT Vs. AMBIENT TEMPERATURE

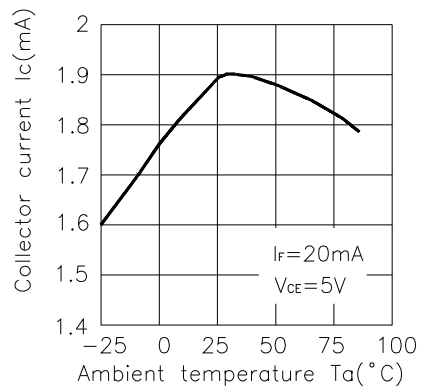


Fig.5 COLLECTOR-EMITTER SATURATION VOLTAGE Vs. AMBIENT TEMPERATURE

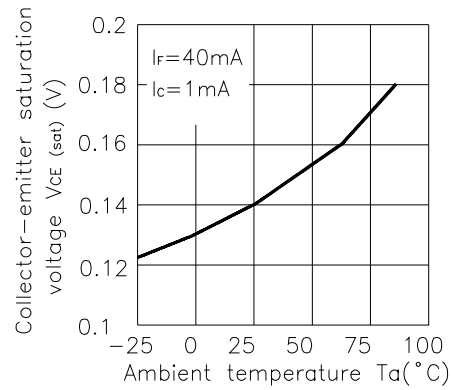


Fig.6 RELATIVE COLLECTOR CURRENT Vs. SHIELD DISTANCE (1)

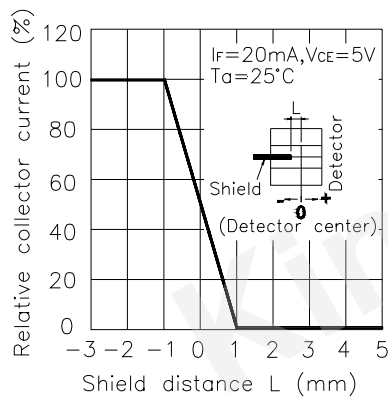


Fig.7 RELATIVE COLLECTOR CURRENT Vs. SHIELD DISTANCE (2)

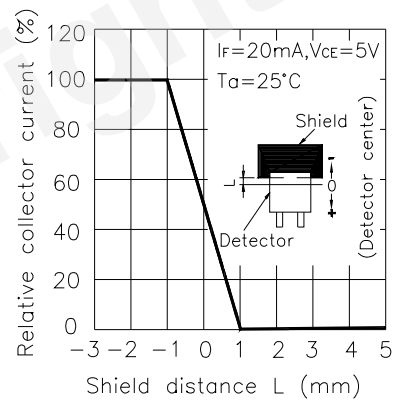
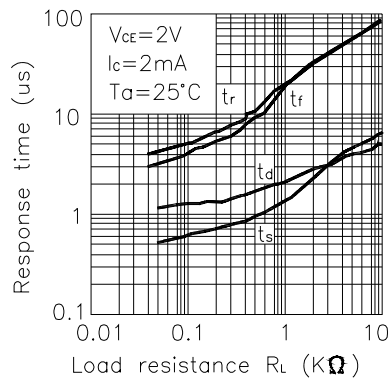
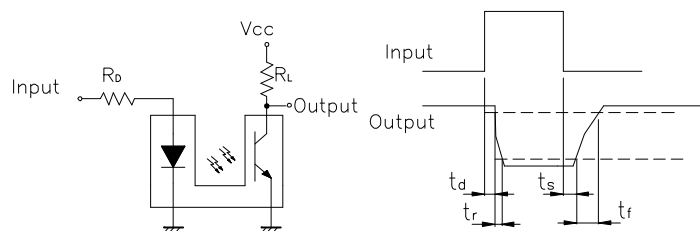


Fig.8 RESPONSE TIME Vs. LOAD RESISTANCE

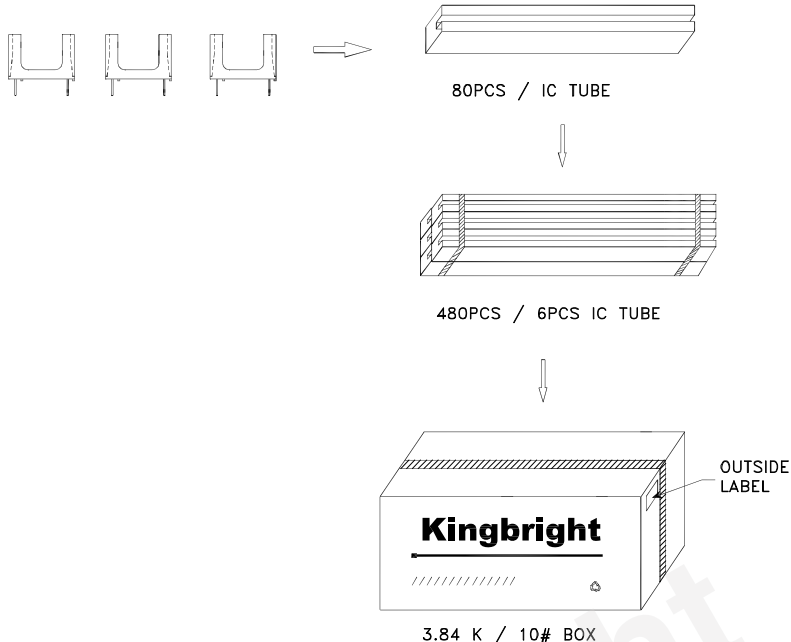


Test Circuit for Response Time



### PACKING & LABEL SPECIFICATIONS

KTIR0911S



<b>Kingbright</b>		
P/N0: KTIRxxx		
QTY: 480 pcs	Q.C.	Q C XX XX XXXX PASSED
S/N: XXXX		
CODE: XXX		
LOT NO:		
XXXXXXXXXXXXXXXXXX		
RoHS Compliant		

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