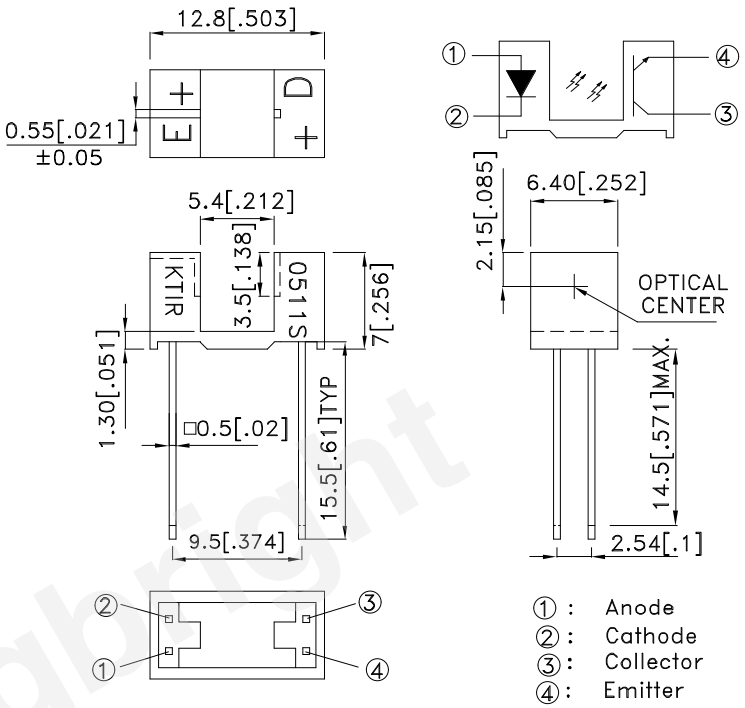
Part Number: KTIR0511S

Package Dimensions



Notes:
1. All dimensions are in millimeters (inches).
2. Tolerance is ±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	Pd	75	mW
	Peak Forward Current (Pulse Width ≤100uS, 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		Topr	-25~+85	ºC
Storage temperature		Tstg	-40~+100	ºC
soldering temperature (1/16 inch from body for 5 seconds)		Tsol	260	ºC

Electro-optical Characteristics (Ta=25C)

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	μA
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	-	10	-	%
	Response time	Rise time	tr	V_{CE}=2V I_C=2mA R_L=100Ω	-	5	25	μs
		Fall time	tf		-	4	20	μs

Fig.1 Forward Current vs. Forward Voltage

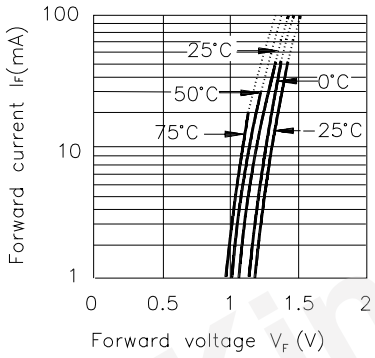


Fig.2 Collector Current vs. Forward Current

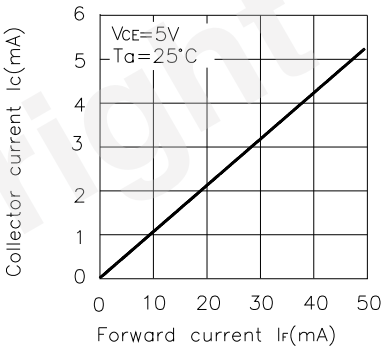
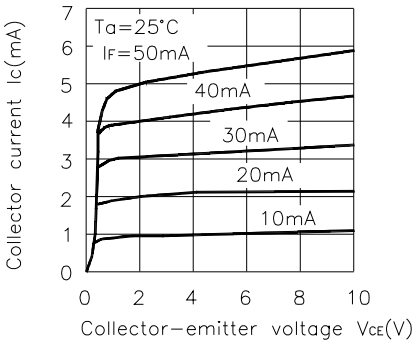
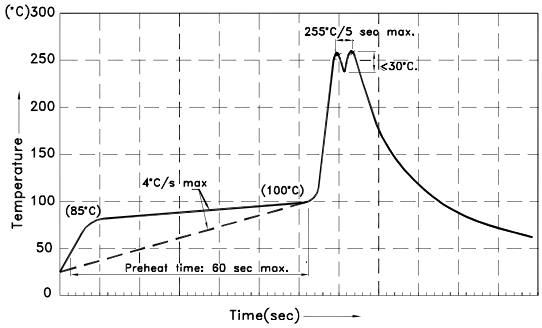


Fig.3 Collector Current vs. Collector-emitter Voltage



Wave Soldering Profile For Lead−free Through−hole LED.



Notes:
1. Recommend pre−heat temperature of 105°C or less (as measured with a thermocouple attached to the LED pins) prior to immersion in the solder wave with a maximum solder bath temperature of 260°C
2. Peak wave soldering temperature between 245°C ~ 255°C for 3 sec (5 sec max).
3. Do not apply stress to the epoxy resin while the temperature is above 85°C.
4. Fixtures should not inour stress on the component when mounting and during soldering process.
5. SAC 305 solder alloy is recommended.
6. No more than one wave soldering pass.

Fig. 4 Collector Current vs. Ambient Temperature

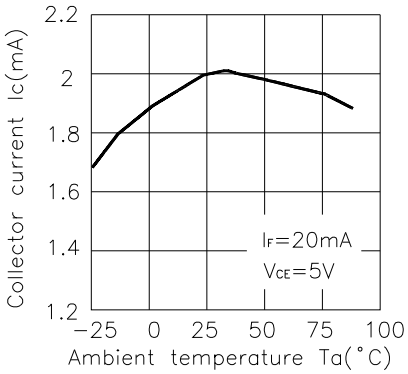


Fig.5 Collector-emitter Saturation Voltage vs. Ambient Temperature

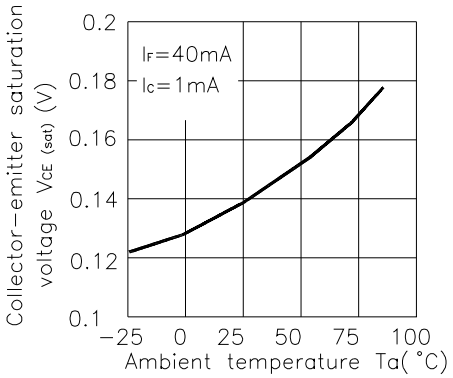


Fig.6 Relative Collector Current vs. Shield Distance (1)

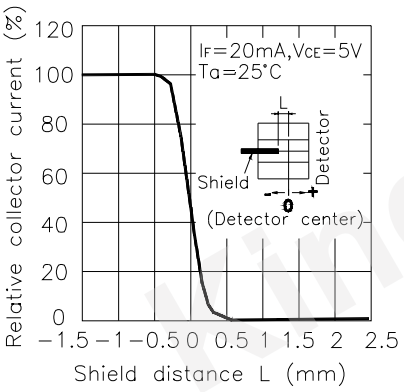


Fig.7 Relative Collector Current vs. Shield Distance (2)

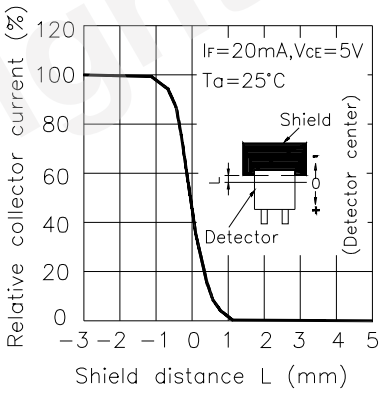
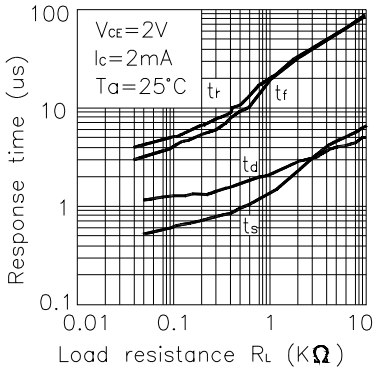
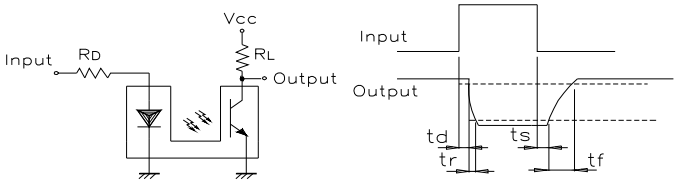


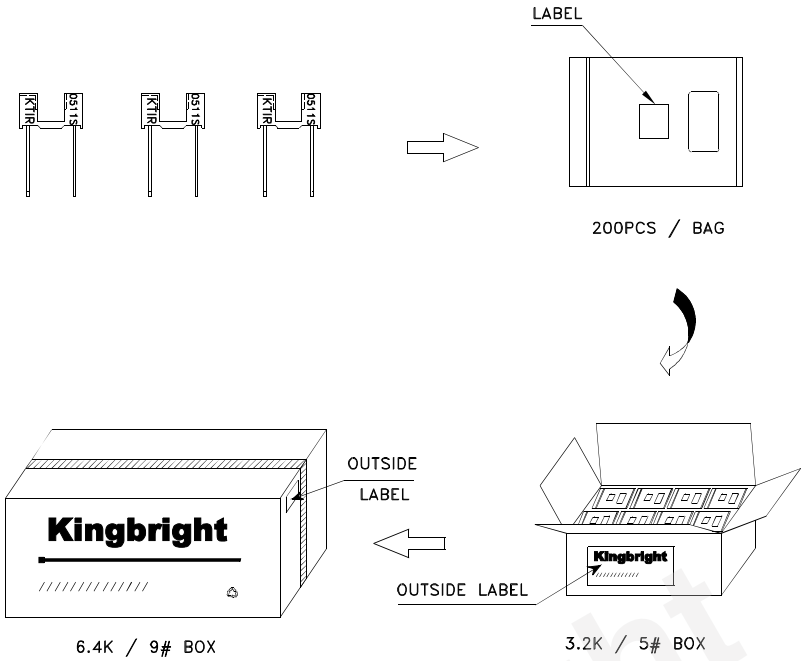
Fig.8 Response Time vs Load Resistance

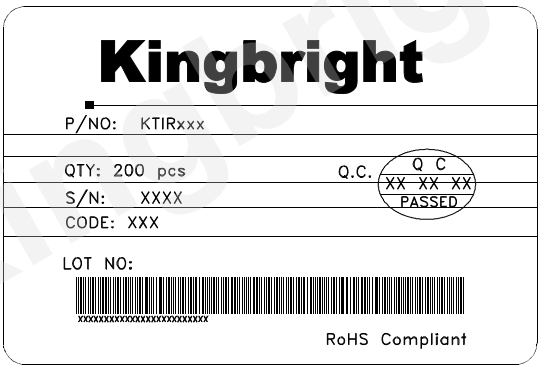


Test Circuit for Response Time



PACKING & LABEL SPECIFICATIONS KTIR0511S





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