

KTIR0411S

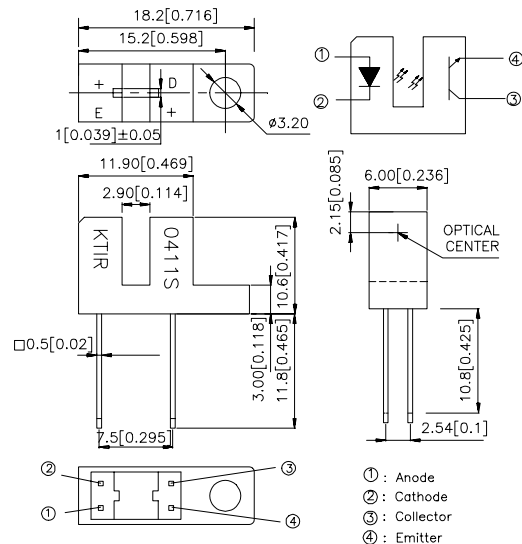
Features

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

Applications

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

Package Dimensions



Notes:

1. All dimensions are in millimeters (inches).
2. Tolerance is ±0.15(0.006") unless otherwise noted.
3. Lead spacing is measured where the lead emerge package.
4. Specifications are subject to change without notice.

Absolute Maximum Ratings (T_a=25°C)

Parameter		Symbol	Rating	Unit
Input	Forward current	I _F	50	mA
	Reverse voltage	V _R	5	V
	Power dissipation	P	75	mW
Output	Collector-emitter voltage	V _{CEO}	30	V
	Emitter-collector voltage	V _{ECO}	5	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	$I_F=20\text{mA}$	—	1.2	1.5	V
	Reverse current	I_R	$V_R=5\text{V}$	—	—	10	μA
Output	Collector dark current	I_{CEO}	$V_{CE}=20\text{V}$	—	—	100	nA
Transfer characteristics	Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=1\text{mA}$ $I_F=40\text{mA}$	—	—	0.4	V
	Current transfer ratio	CTR	$V_{CE}=5\text{V}$ $I_F=20\text{mA}$	—	38	—	%
	Response time	Rise time	t_r	$V_{CE}=2\text{V}$ $I_C=2\text{mA}$ $R_L=100\Omega$	—	5	25
Fall time		t_f	—		4	20	μsec

Fig.1 Forward Current vs. Forward Voltage

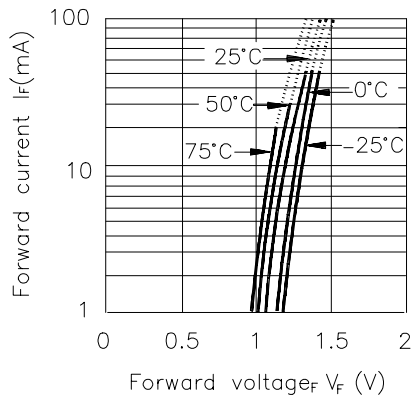


Fig.2 Collector Current vs. Forward Current

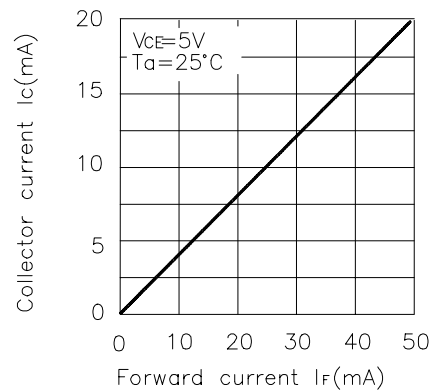


Fig.3 Collector Current vs. Collector-emitter Voltage

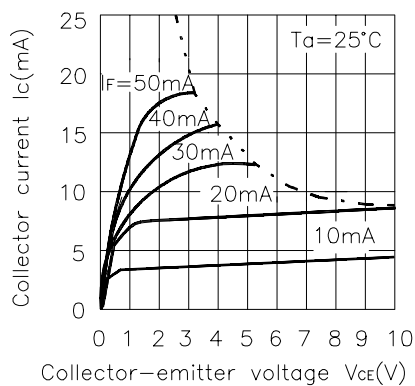


Fig.4 Collector Current vs. Ambient Temperature

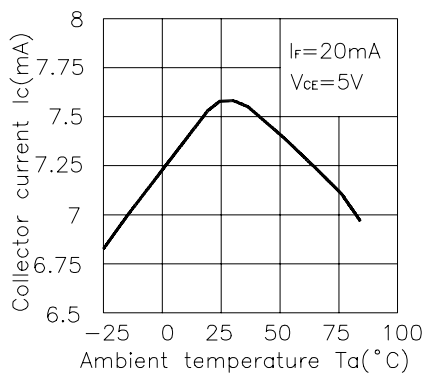


Fig.5 Collector-emitter Saturation Voltage vs. Ambient Temperature

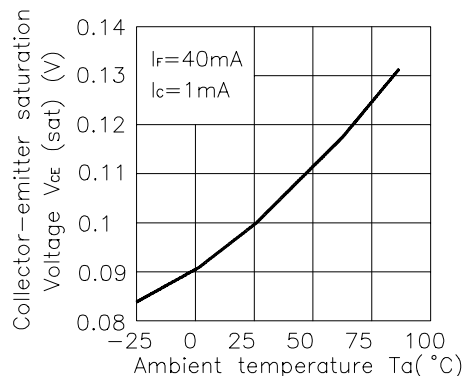


Fig.6 Relative Collector Current vs. Shield Distance(1)

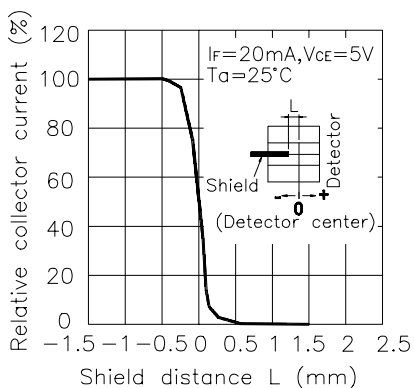


Fig.7 Relative Collector Current vs. Shield Distance(2)

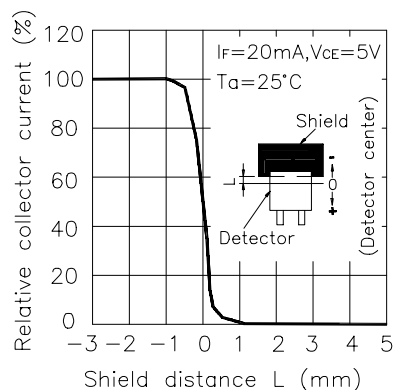
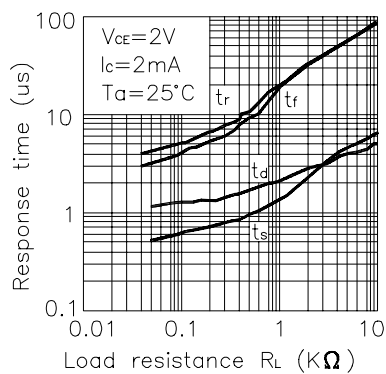


Fig.8 Response Time vs. Load Resistance



Test Circuit for Response Time

