

# ASDL-6771

## High Sensitivity Silicon NPN Phototransistor in Side Look Package



## Data Sheet

### Description

ASDL-6771 is a silicon phototransistor encapsulated in red Side Look package. It has high sensitivity, low dark current and a wide spectral response. Collector is denoted by a flat on the packaging diagram and the shorter of the two leads. This device matches with infrared emitter ASDL-4772 and is ideal for low cost, high volume applications.

### Features

- Side Look Package
- Wide spectral response
- High Sensitivity
- High Precision
- Low Dark Current
- Narrow Viewing Angle
- Low Cost
- Lead Free & ROHS Compliant

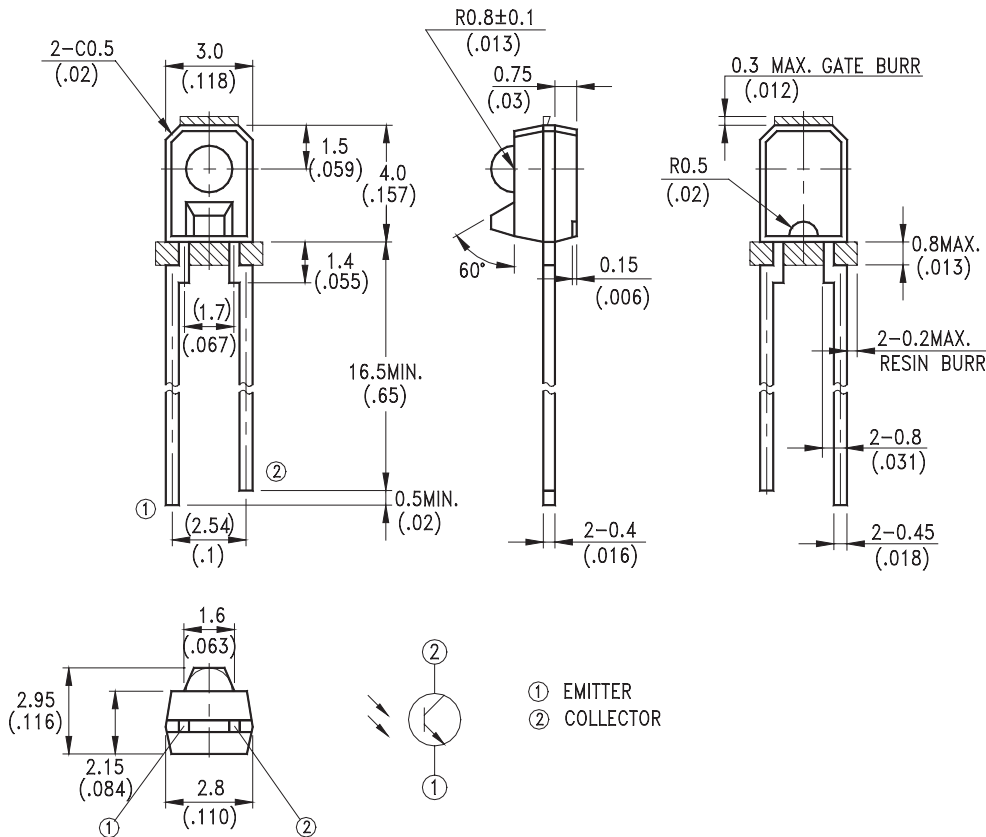
### Applications

- Detector in Consumer Electronics
- Detector Industrial Electronics & Equipment
- Coin counters
- Position sensing
- IR Data Communication
- Photo Interrupter

## Ordering Information

Part Number	Lead Form	Color	Packaging	Shipping Option
ASDL-6771-C22	Straight	Clear	Tape & Reel	4000pcs
ASDL-6771-C41			Bulk	20Kpcs / Carton

## Package Dimensions



### Notes:

1. All dimensions are in millimeters (inches)
2. Tolerance is + 0.25mm (.010") unless otherwise noted
3. Lead spacing is measured where leads emerge from package
4. Specifications are subject to change without notice.

### Absolute Maximum Ratings at $T_A=25^{\circ}\text{C}$

Parameter	Symbol	Min.	Max	Unit
Power Dissipation	$P_{DISS}$		100	mW
Collector Emitter Voltage	$V_{CEO}$		30	V
Emitter Collector Voltage	$V_{EC0}$		5	V
Operating Temperature	$T_0$	-40	85	$^{\circ}\text{C}$
Storage Temperature	$T_S$	-55	100	$^{\circ}\text{C}$
Junction temperature	$T_J$		110	$^{\circ}\text{C}$
Lead Soldering Temperature [ .6mm (0.063") From Body ]		260 $^{\circ}\text{C}$ for 5 seconds		

### Electrical Characteristics at $25^{\circ}\text{C}$

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	30			V	$I_C = 1\text{mA}$ $E_e = 0\text{mW}/\text{cm}^2$
Emitter-Collector Breakdown Voltage	$V_{(BR)ECO}$	5			V	$I_e = 100\mu\text{A}$ $E_e = 0\text{mW}/\text{cm}^2$
Collector Emitter Saturation Voltage	$V_{CE(SAT)}$		0.1	0.4	V	$I_C = 100\mu\text{A}$ $E_e = 1\text{mW}/\text{cm}^2$
Collector Dark Current	$I_{CEO}$		0.1	100	nA	$V_{CE} = 10\text{V}$ $E_e = 0\text{mW}/\text{cm}^2$
Thermal Resistance, Junction to Pin	$R\theta_{JP}$		350		$^{\circ}\text{C}/\text{W}$	

### Optical Characteristics at $25^{\circ}\text{C}$

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Viewing Angle	$2\theta_{1/2}$		30		Deg	
Wavelength of Peak sensitivity	$\lambda_{PK}$		900		nm	
Spectral BandWidth	$\Delta\lambda$	400	900	1100	nm	
Rise Time	$t_r$		20		$\mu\text{s}$	$V_{CC} = 5\text{V}$ $I_C = 1\text{mA}$ $R_L = 1\text{K}\Omega$
Fall Time	$t_f$		20		$\mu\text{s}$	$V_{CC} = 5\text{V}$ $I_C = 1\text{mA}$ $R_L = 1\text{K}\Omega$
On State Collector Current	$I_{C(ON)}$	1.2		5	mA	$V_{CE} = 5\text{V}$ $E_e = 1\text{mW}/\text{cm}^2$ $\lambda = 940\text{nm}$

Typical Electrical/Optical Characteristics Curves ( $T_A=25^\circ\text{C}$  unless otherwise indicated)

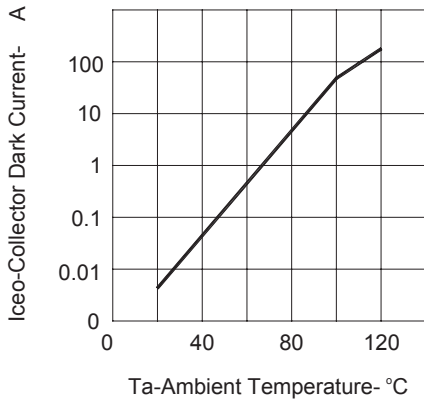


FIGURE 1. COLLECTOR DARK CURRENT VS AMBIENT TEMPERATURE

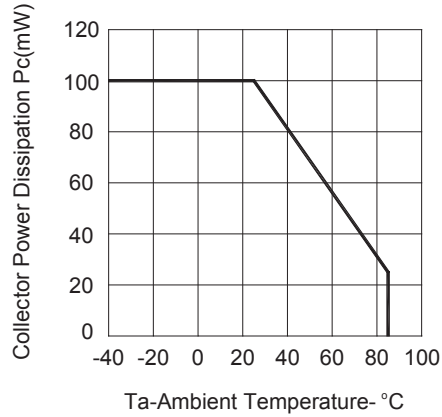


FIGURE 2. COLLECTOR POWER DISSIPATION VS AMBIENT TEMPERATURE

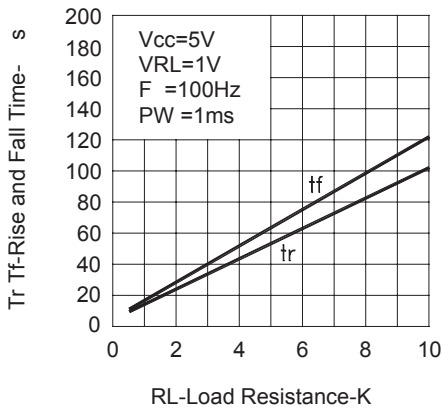


FIGURE 3. RISE AND FALL TIME VS LOAD RESISTANCE

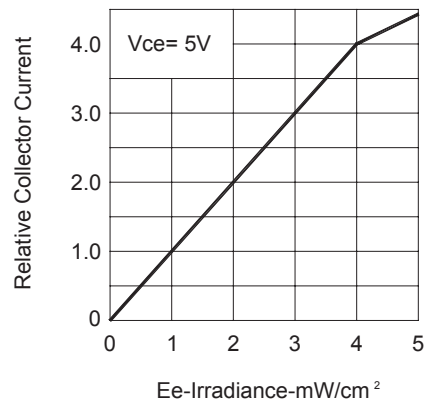


FIGURE 4. RELATIVE COLLECTOR CURRENT VS IRRADIANCE

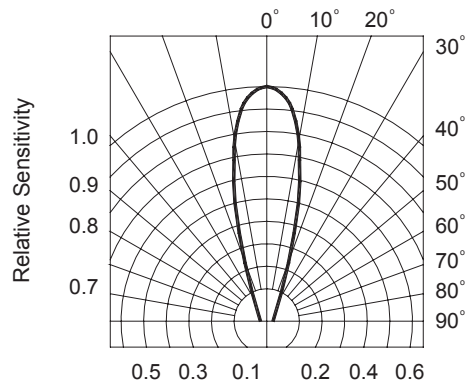


FIGURE 5. SENSITIVITY DIAGRAM

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