

# Phototransistor

## ST-2L2B

ST-2L2B is a high-sensitivity NPN silicon phototransistor mounted in a dark plastic package. With lensed package, this small phototransistor permits narrow view angle so that the product performs a high directional characteristic.

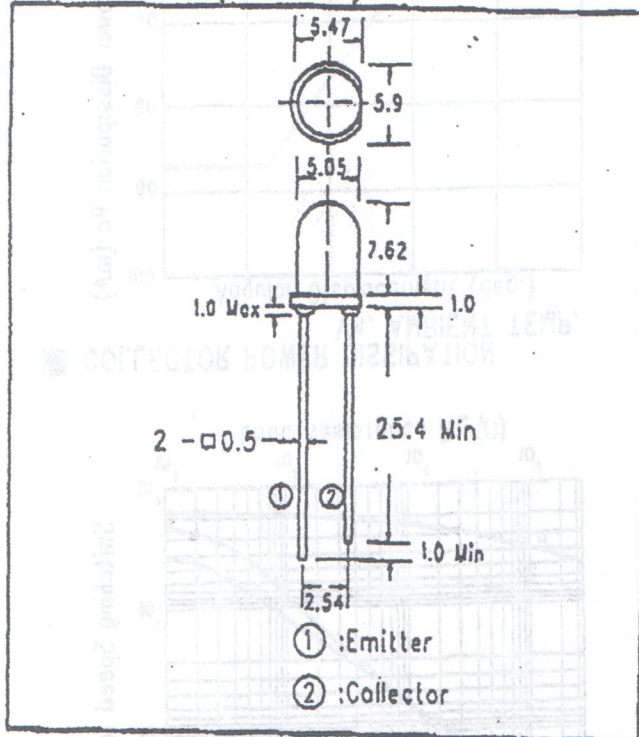
### FEATURES

- .Wide range of collector current
- .Lensed for high sensitivity
- .Low-cost
- .Standard T-1 3/4 (5mm) package.

### APPLICATIONS

- .Optical counters
- .Optical detectors
- .Camera stroboscopes

### DIMENSIONS (Unit:mm)



### MAXIMUM RATINGS

( $T_o=25^\circ\text{C}$ )

Item	Symbol	Rating	Unit
-E voltage.	$V_{ce0}$	30	V
-C voltage.	$V_{ec0}$	5	V
Collector current.	$I_c$	20	mA
Collector Power dissipation.	$P_c$	150	mW
Operating temp.	$T_{opr.}$	-55~+100	$^\circ\text{C}$
Storage temp.	$T_{stg.}$	-55~+100	$^\circ\text{C}$
Soldering temp.	$T_{sol.}$	260	$^\circ\text{C}$

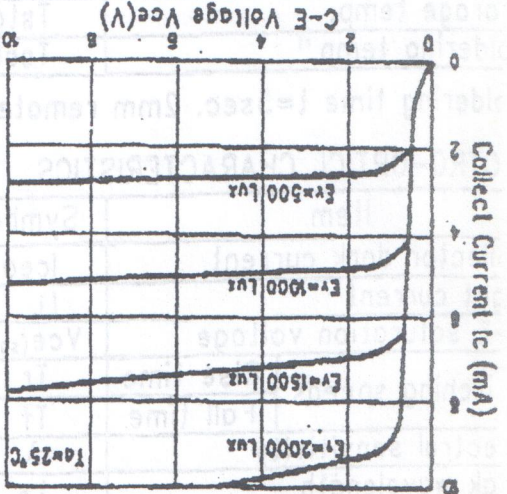
Soldering time  $t=5\text{sec}$ . 2mm removed from lead origin.

### PHOTO-OPTICAL CHARACTERISTICS

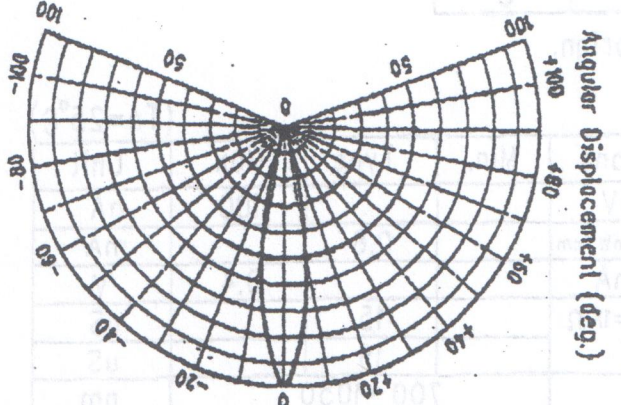
( $T_o=25^\circ\text{C}$ )

Item	Symbol	Conditions	Min.	Type	Max.	Unit
Collector dark current	$I_{ce0}$	$V_{ce}=10\text{V}$			100	nA
Light current	$I_L$	$V_{cc}=5\text{V}$ , $E_s=0.1\text{mW/cm}^2$		0.8		mA
-E saturation voltage	$V_{ce(sat)}$	$I_c=0.5\text{mA}$			0.4	V
Switching speeds	Rise time	$V_{cc}=5\text{V}$ , $R_L=1\text{K}\Omega$ $I_c=1\text{mA}$		15		$\mu\text{s}$
	Fall time			15		$\mu\text{s}$
Spectral sensitivity	$\lambda$			700~1050		nm
Peak wavelength	$\lambda_p$			940		nm
View angle	$\Delta\theta$			$\pm 20$		deg.

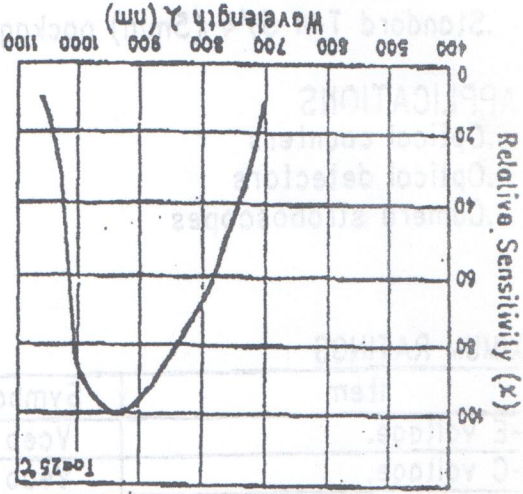
ST-2L2B



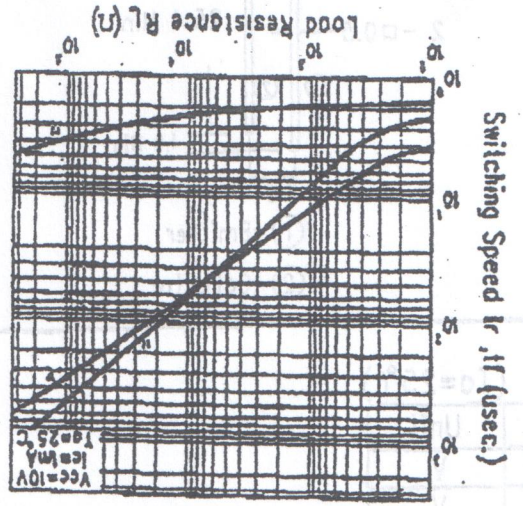
COLLECTOR CURRENT VS. C-E VOLTAGE



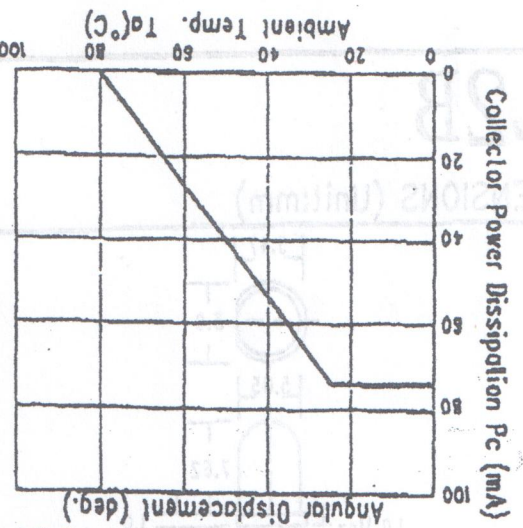
RELATIVE OUTPUT VS. ANGULAR DISPLACEMENT



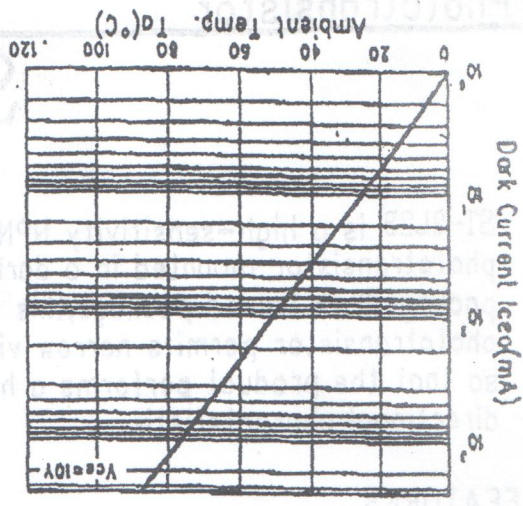
RELATIVE SENSITIVITY VS. WAVELENGTH



SWITCHING SPEEDS VS. LOAD RESISTANCE



COLLECTOR POWER DISSIPATION VS. AMBIENT TEMP.



DARK CURRENT VS. AMBIENT TEMP.