

Ambient Light Sensor

■ GENERAL DESCRIPTION

The NJL7502L is the photo transistor which spectral response is similar to human eye.

■ FEATURES

1. Peak wavelength 560 nm
2. Photo current 33 μ A typ. Condition : White LED, 100Lux
3. Lead pin package

■ APPLICATIONS

Room light, Toy, TV, PDP, Clock, Refrigerator, etc.

to adjust the luminance of display

to control ON/OFF

Replacement of CdS

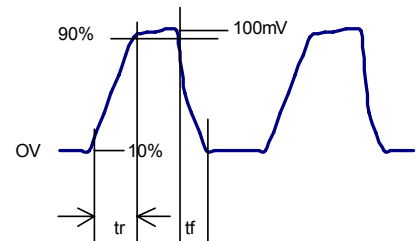
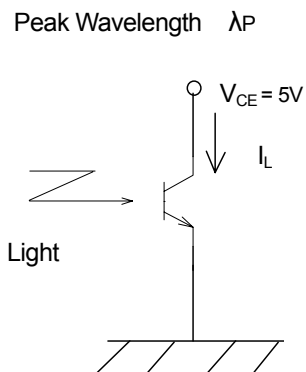
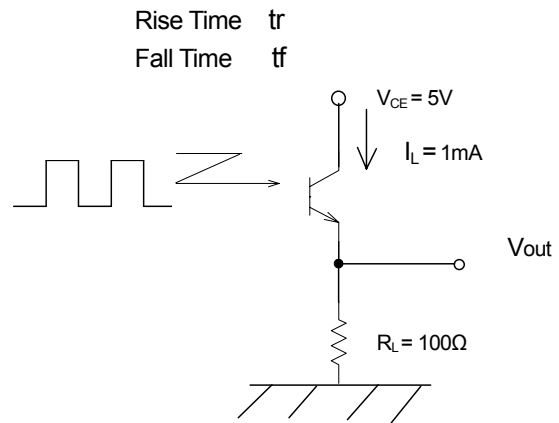
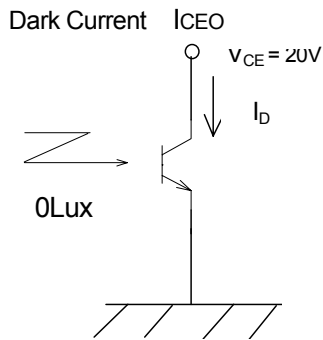
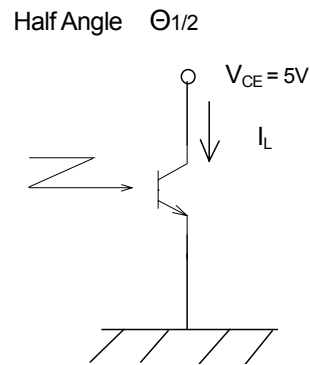
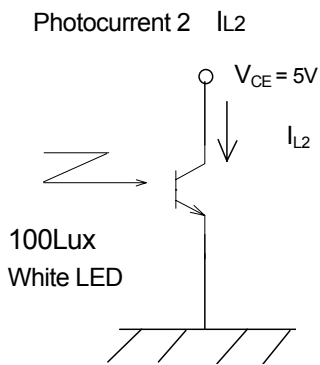
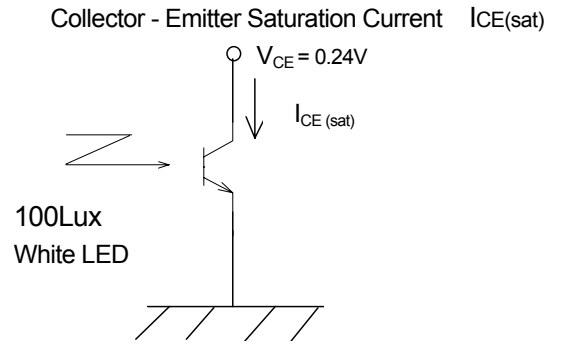
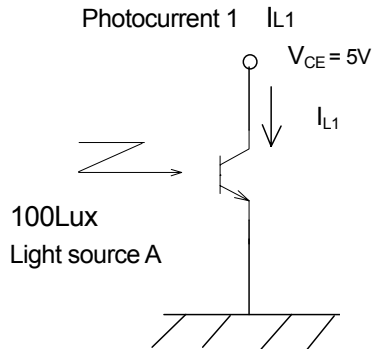
■ ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

PARAMETER	SYMBOL	RATINGS	UNIT
Collector - Emitter Voltage	V_{CEO}	70	V
Emitter - Collector Voltage	V_{ECO}	10	V
Photocurrent	I_L	10	mA
Power Dissipation	P_D	150	mW
Operating Temperature	T_{opr}	-40 to +85	°C
Storage Temperature	T_{stg}	-40 to +100	°C
Soldering Temperature	T_{sol}	260	°C

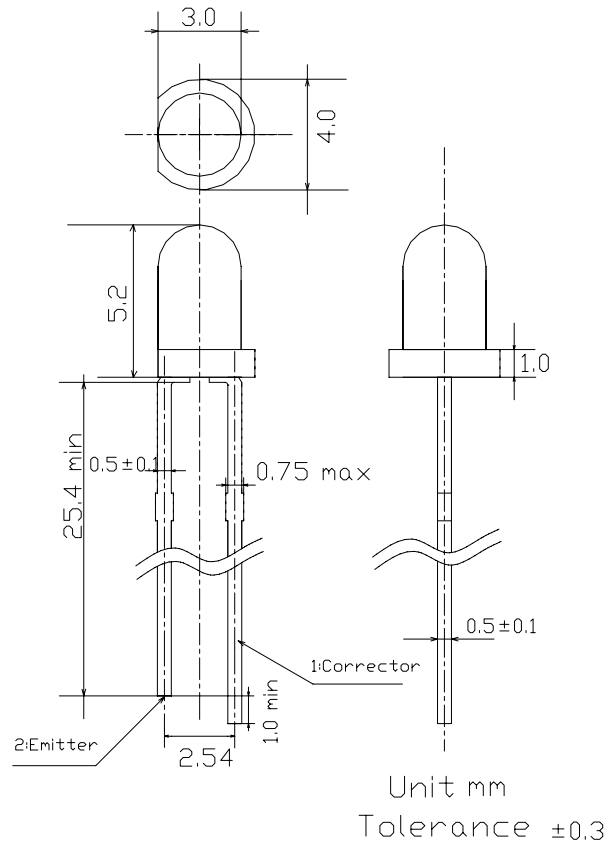
■ ELECTRO-OPTICAL CHARACTERISTICS (Ta=25°C)

PARAMETER	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Photocurrent 1	I_{L1}	$V_{CE}=5V$, Light source A, 100Lux	—	46	—	μ A
Photocurrent 2	I_{L2}	$V_{CE}=5V$, White LED, 100Lux	15	33	73	μ A
Dark Current	I_D	$V_{CE}=20V$	—	—	0.1	μ A
Peak Wavelength	λ_P	—	—	560	—	nm
Collector - Emitter Saturation Current	$I_{CE(sat)}$	$V_{CE}=0.24V$, White LED, 100Lux	10	—	—	μ A
Emitter - Collector Voltage	V_{ECL}	$I_{ECL}=1\mu A$, White LED, 100Lux	9	—	—	V
Half Angle	$\Theta_{1/2}$	—	—	± 20	—	deg.
Rise Time	t_r	$V_{CE}=5V$, $I_C=1mA$, $R_L=100\Omega$	—	10	—	μ s
Fall Time	t_f	$V_{CE}=5V$, $I_C=1mA$, $R_L=100\Omega$	—	10	—	μ s

■ TEST CIRCUIT

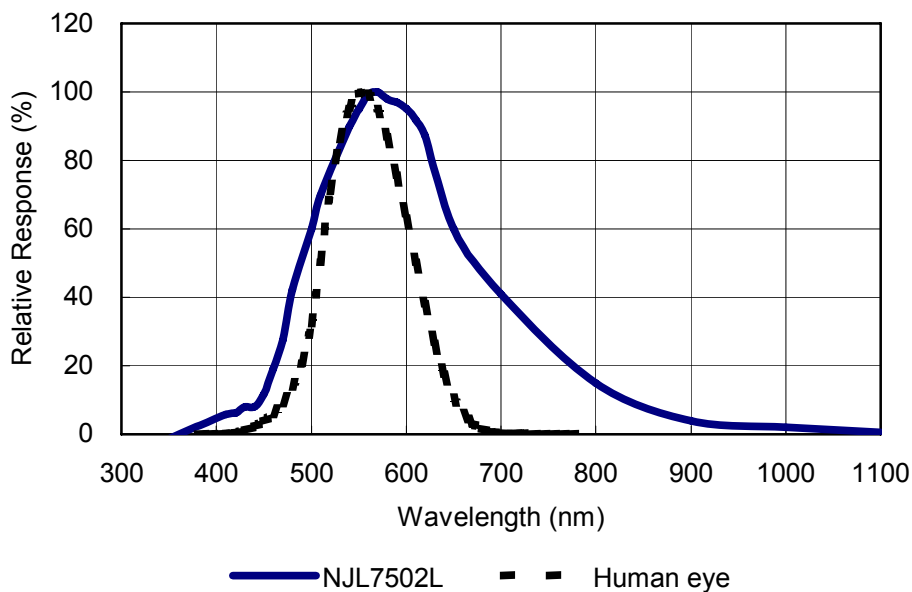


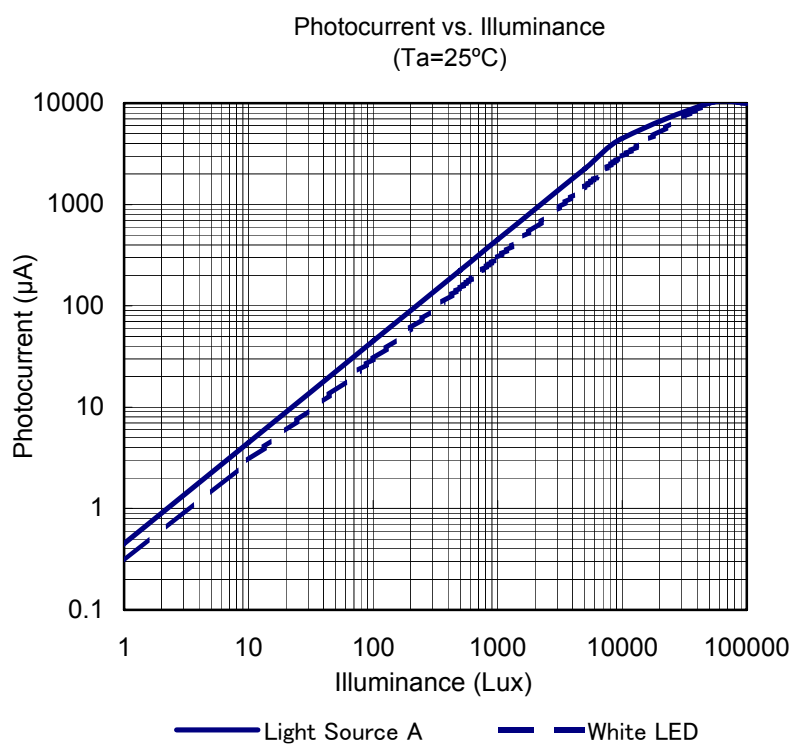
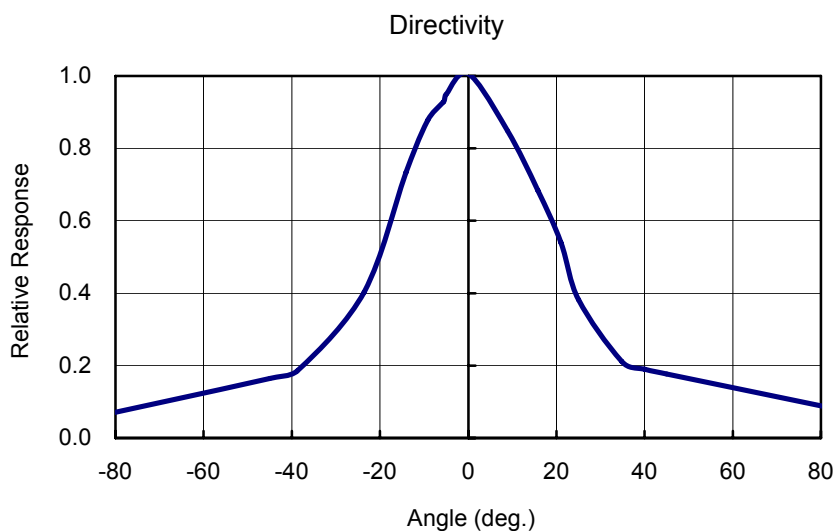
■ OUTLINE (TYP.)

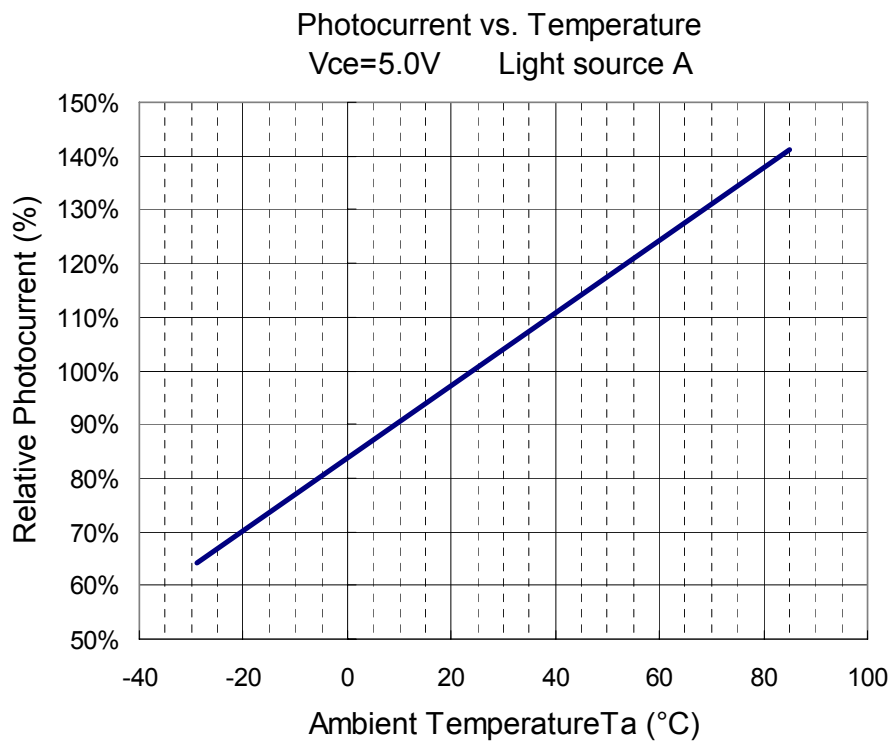
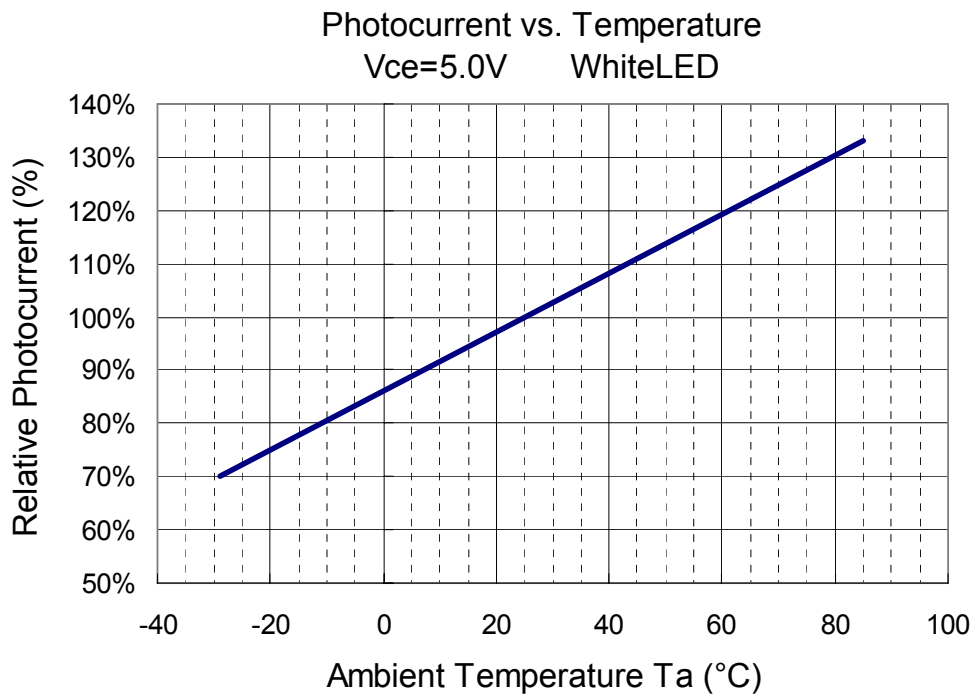


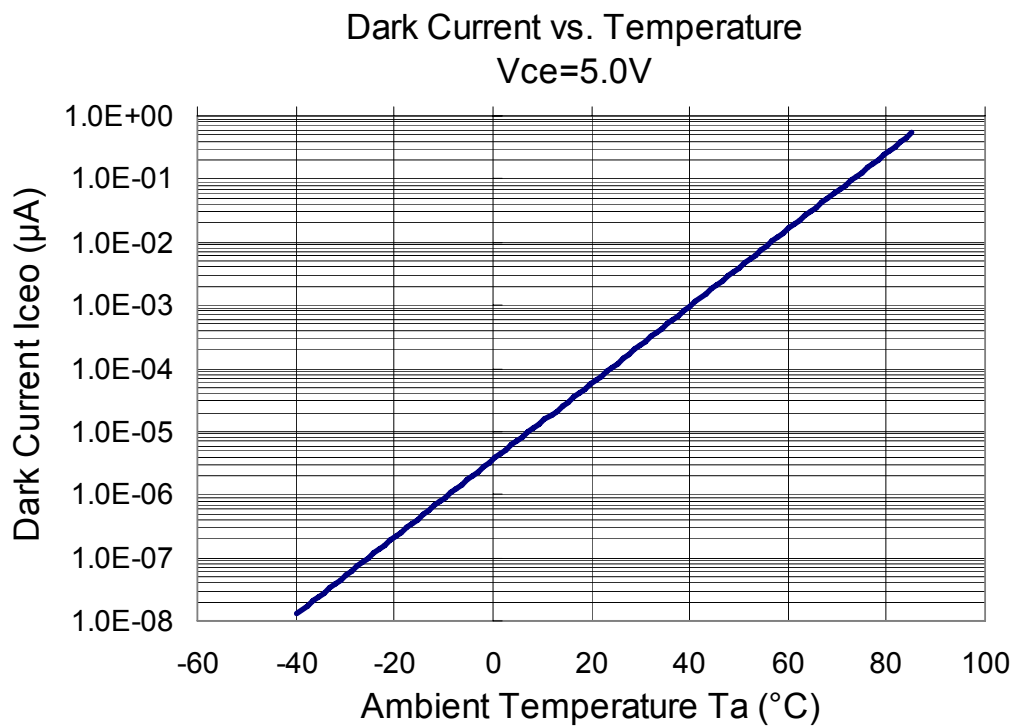
■ TYPICAL CHARACTERISTICS

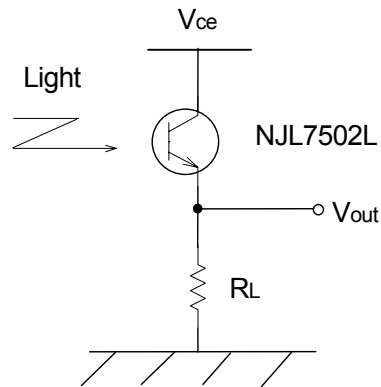
Spectral Response ($T_a=25^\circ\text{C}$)



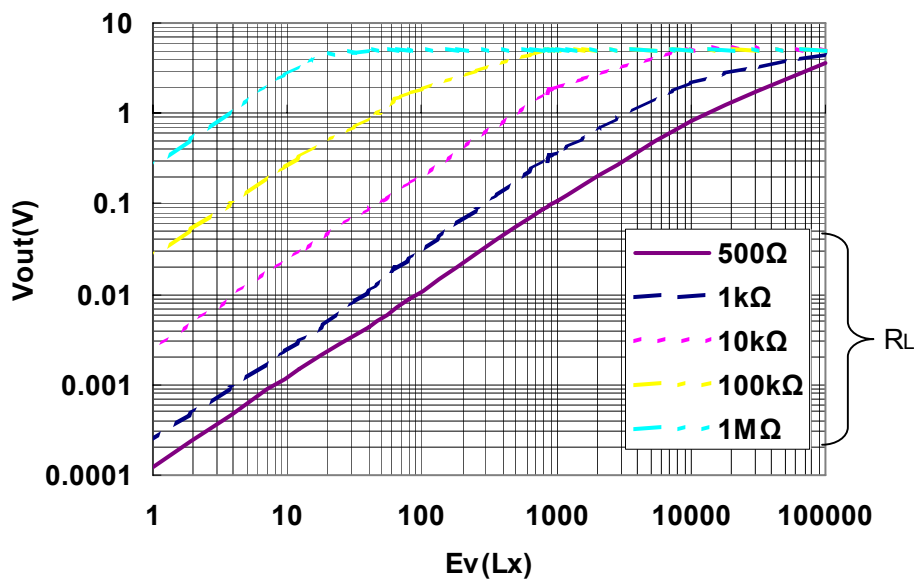




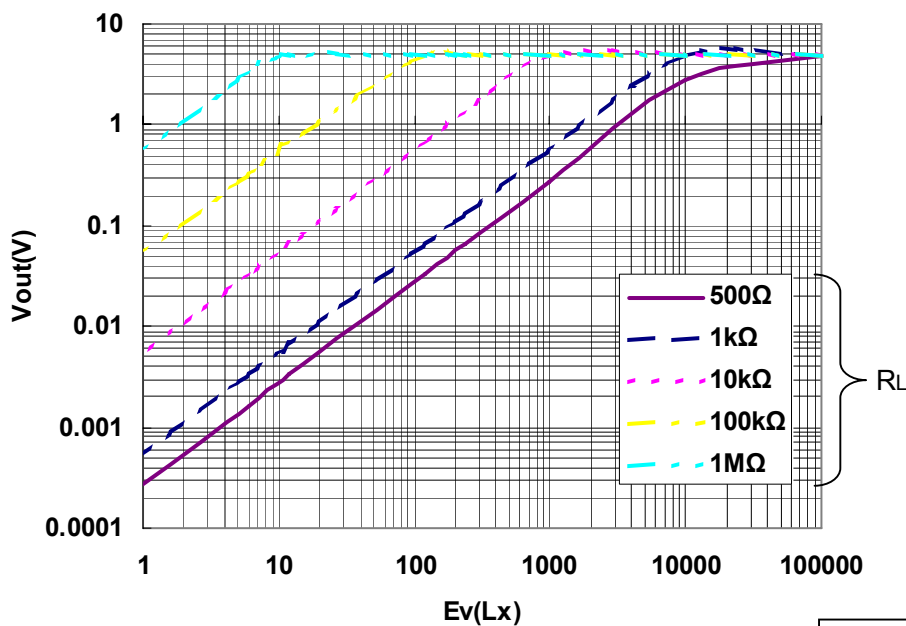




NJL7502L White LED Vce=5.0V



NJL7502L Light Source A Vce=5.0V



[CAUTION]
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