

PHOTO REFLECTOR

■ GENERAL DESCRIPTION

The NJL5265K is super miniature, and super thin type photo reflector, which consist of high output red LED and high sensitve Si photo transistor.

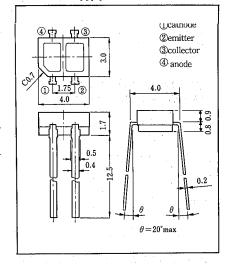
■ FEATURES

- Super miniature type
- High sensitivity, High S/N Ratio.
- Peak emitting wave length 660nm: It can detect even black ink which is permeated by the infrared light.

■ ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

PARAMETER	SYMBOL	RATINGS	UNIT
Emitter			
Forward Current (Continuous)	IF	30	mA
Reverse Voltage (Continuous)	V _R	4	v
Power Dissipation	PD	75	mW
Detector			
Collector-Emitter Voltage	VCEO	10	v
Emitter-Collector Voltage	VECO	6	. v
Collector Current	Ic	20	mA
Collector Dissipation	Pc	75	mW
Coupler			
Total Power Dissipation	Ptot	100	mW
Operating Temperature	Topr	$-20\sim +85$	°C
Storage Temperature	Tstg	$-30\sim +100$	°C
Soldering Temperature	T _{sol}	260	°C
<u> </u>		(10sec. 1.5mm from body)	

■ OUTLINE (typ.) Unit: mm



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

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Emitter				. '		
Forward Voltage	V _F	$I_F = 4mA$	_	1.7	2.2	v
Reverse Current	I_R	$V_R = 4V$	_		100	μA
Peak Wavelength	λp	$I_F = 20 \text{mA}$	_	660		nm
Detector			140			
Dark Current	I _{CEO}	V _{CE} =20V	-	—	100	nA
Collector-Emitter Voltage	V _{CEO}	$I_C = 100 \mu A$.10			v
Emitter-Collector Current	I _{ECO}	V _{ECO} =6V			100	μA
Coupled						
Output Current	Io	$I_F = 4mA$, $V_{CE} = 2V$, $d = 0.7mm$	8	—	50	μΑ
Operating Dark Current	I _{CEOD}	$I_F = 4mA$, $V_{CE} = 2V$	-	—	100	nA

■ RANK OF OUTPUT CURRENT

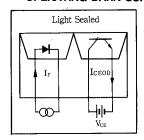
RANK	Α	В	С
Ι _Ο (μΑ)	50~23	29~13	17~8

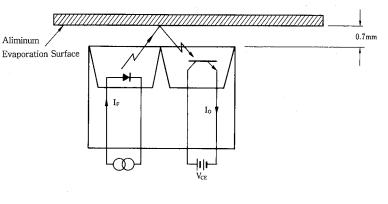
(note): For quality improvement, this product is made on special specification. Please make an inquiry in advance in regard to desired long life in application, as there might be cases of restrictions for applicating condition.

■ MEASURING SPECIFICATION FOR OUTPUT CURRENT

The Output Current can be measured when reflected at the aluminum. evaporation mirror Aluminum

 MEASURING CIRCUIT FOR OPERATING DARK CURRENT



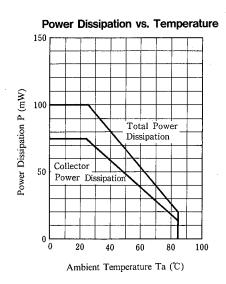


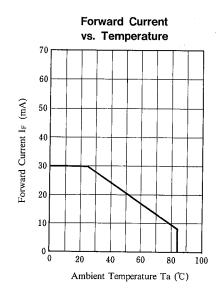
■ MEASURING CIRCUIT FOR RESPONSE TIME

Aluminum Evaporation Surface

| Output | Output

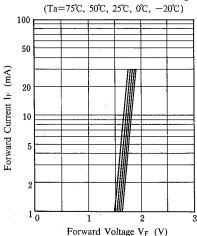
■ MAXIMUM RATING CURVES

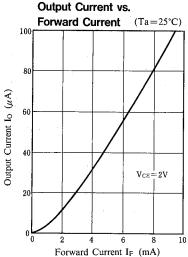




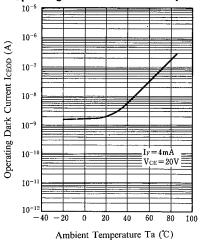
TYPICAL CHARACTERISTICS

Forward Current vs. Forward Voltage

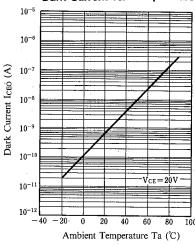




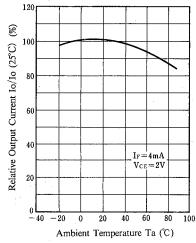
Operating Dark Current vs. Temperature

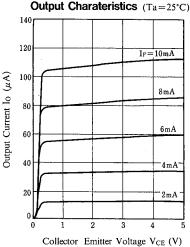


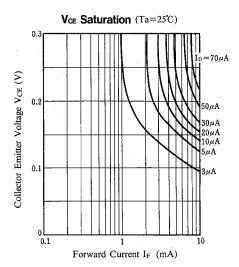
Dark Current vs. Temperature

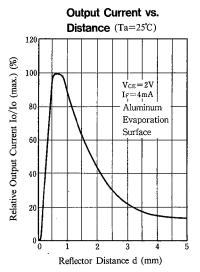


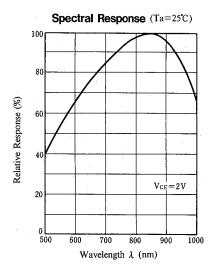
Output Current vs. Temperature

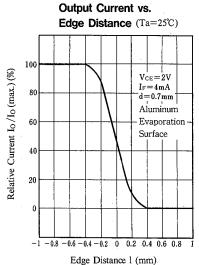




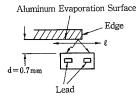




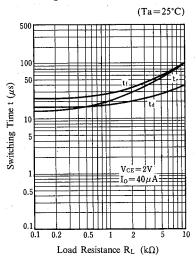




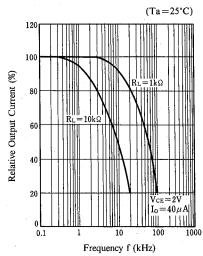
■ MEASURING SPECIFICATION FOR EDGE RESPONSE



Switching Time vs. Load Resistance



Output Current vs. Frequency



PRECAUTION FOR HANDLING

1. Soldering

 Avoid the reflow method and the solder to touch the body of the device during wave soldering. This is to prevent changes in optical characteristics of the device.

2) Recommended in Soldering

Temperature Time Lead

Soldering Position

260°C maximum less than 5 seconds At least 1.5mm from body

- 3) Soldering is recommended to be done in as short period of the time as possible by controlling the temperature of the soldering iron or by the iron of less than 15 watts.
- 4) The resin gets softened right after soldered, so, the following care has to be taken.
 - Not to contact the lens surface to anything
 - Not to dip the device into water or any solvents
- 5) It is recommended not to solder when the leads or between the lead get pulled, depressed or twisted.
- 6) In the case of using rosin flux, be careful to avoid contact with the lens surface. If the lens is covered with the flux, the specified characteristics cannot be achieved.

2. Post Solder Cleaning

- 1) Organic solvents for flux removal like trichloroethlene, acetone, thinner etc, might attack the lens surface. It is preferable to use less reactive solvents, Methyl Alcohol, Isopropyle Alcohol.
- 2) Cleaning Operation

Cleaning Solvent Temperature: 35°C maximum

Dipping Time

: 3 minute maximum

3. Attention in handling

- 1) Treat not to touch the lens surface.
- 2) Avoid dust and any other foreign materials(flux, paint, bonding material, etc)on the lens surface.
- Never to apply reverse voltage(V_{EC}) of more than 6V on the photo transistor when measuring the characteristics or adjusting the system.
 If applied, it causes to lower the sensitivity.
- 4) When mounting, special care has to be taken on the mounting position and tilting of the device because it is very important to place the device to the optimum position to the object.

4. Storage

The leads are silver plated and they are discolored if the device is left open to the air for long after taken out of the envelope. It causes deterioration of soldering characteristics. Mount the device as short as possible after opening the envelope.

NJL5265K

MEMO

[CAUTION]
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