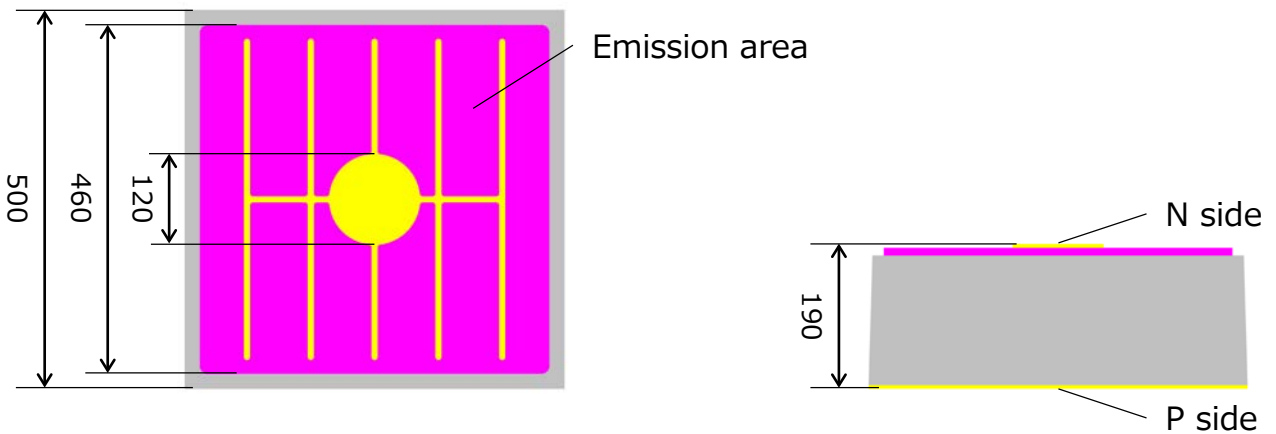


# R85-52GSE

1. Color	Infrared
2. Material	AlGaAs / Ge
3. Electrode	N side (cathode) : Au / P side (anode) : Au
4. Electrode pattern	(Figure 1)
5. Chip size	500 $\mu$ m $\times$ 500 $\mu$ m $\times$ 190 $\mu$ m (Figure 1)
6. Electro-Optical characteristics (Ta=25 $^{\circ}$ C)	(Table 1)
7. Absolute maximum rating	(Table 2, Figure 2)
8. Characteristic curves	(Figure 3~9)
9. Features	
	- High power
	- Good temperature characteristics

**Figure 1. Electrode pattern and Chip size (Unit :  $\mu$ m)**



**Table 1. Electro-Optical characteristics (Ta=25 $^{\circ}$ C)**

Parameters	Symbol	Condition	Min.	Typ.	Max.	Unit
Power*	Po	IF=20mA	6.3	7.5	9.4	mW
Forward Voltage	VF	IF=20mA	1.15	1.40	1.65	V
Peak Wavelength	$\lambda$ p	IF=20mA	820	850	880	nm
Reverse Current	IR	VR=5V	-	-	10	$\mu$ A

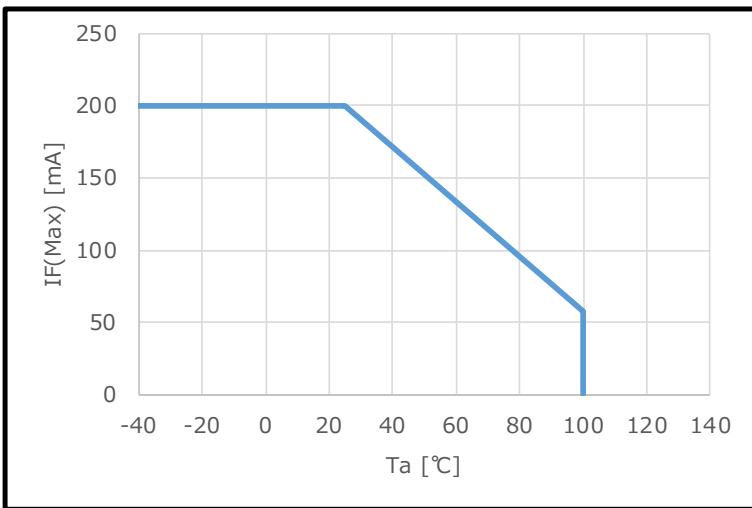
\* Power : Measurement at SHOWA DENKO PHOTONICS.

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**Table 2. Absolute maximum rating**

Item	Symbol	Rating	Unit
Forward Current	IF	200	mA
Reverse Voltage	VR	5	V
Junction Temperature	Tj	130	°C

**Figure 2. Ta-Absolute maximum rated current**



SHOWA DENKO PHOTONICS' standard condition : LED chip mounted on TO-18 gold header, without resin coating.

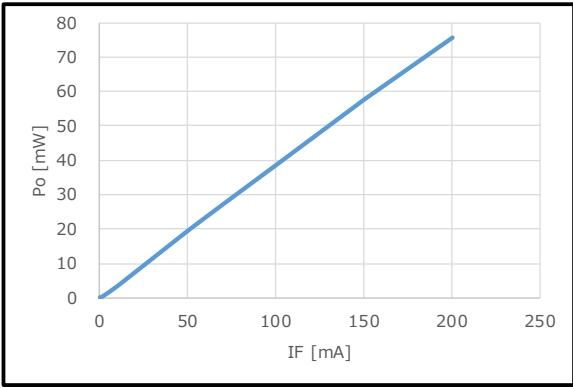
- \* The absolute Maximum Rating means that there is a possibility to break down if exceeded momentarily, and does not guarantee to use on this condition considering reliability.
- \* You should establish the absolute Maximum Ratings of device after packaging under your responsibility, as those largely depend on the design of package and packaging condition.

The information contained herein is believed to be reliable. However, no representations, guaranties or warranties of any kind are made as to accuracy and suitability of the Product for particular applications or the results of its use. SHOWA DENKO PHOTONICS reserves the right to introduce changes without notice.

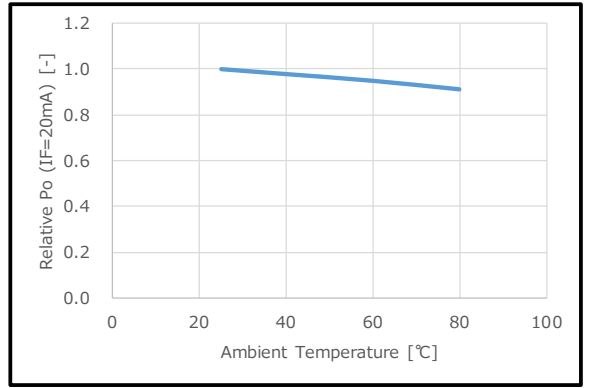
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**Characteristic curves (TO-18 stem without resin)**

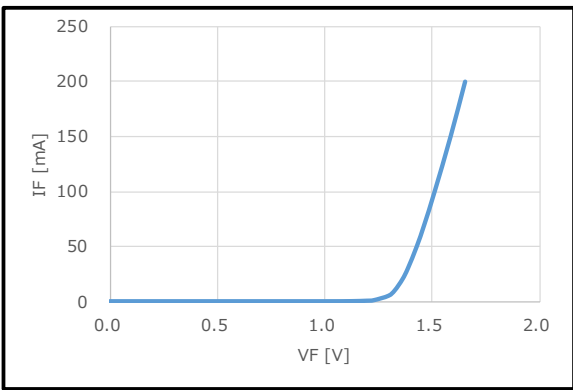
**Figure 3. IF-Po (Ta=25°C)**



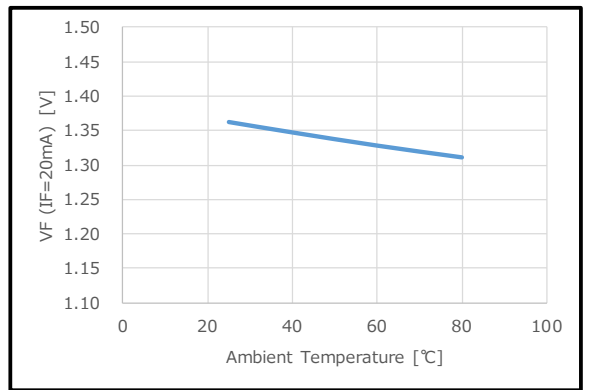
**Figure 7. Ta-Relative Po**



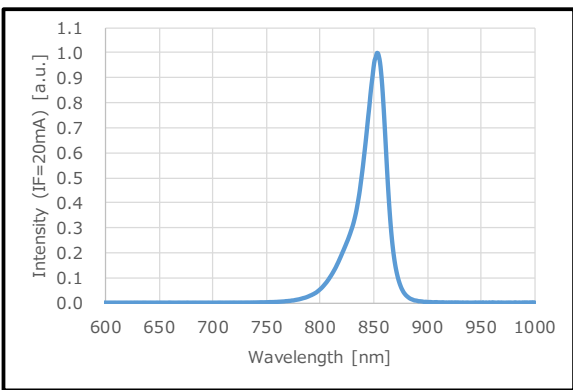
**Figure 4. VF-IF (Ta=25°C)**



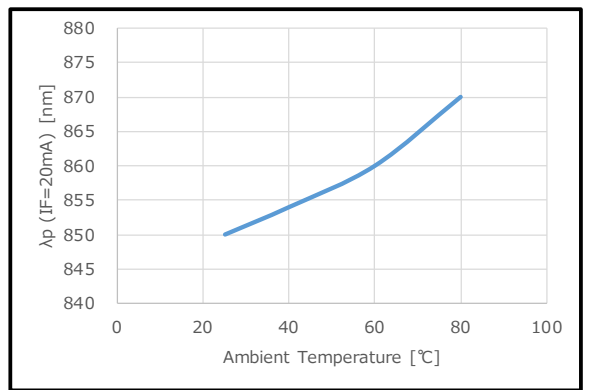
**Figure 8. Ta-VF**



**Figure 5. Emission spectrum (Ta=25°C)**



**Figure 9. Ta-λp**



**Figure 6. Emission distribution (Ta=25°C)**

