

# BS Elektronik Service GmbH

Part Number: SE-5-9520GC-ZD

Rev:00

## ■ Absolute Maximum Rating

Item	Symbol	Absolute Maximum Rating	Unit
Forward Current	$I_F$	20	mA
Peak Forward Current*	$I_{FP}$	160	mA
Reverse Voltage	$V_R$	5	V
Power Dissipation	$P_D$	60	mW
Operation Temperature	$T_{opr}$	-25°C+80°C	°C
Storage Temperature	$T_{stg}$	-40°C+80°C	°C
Lead Soldering Temperature*	$T_{sol}$	Max. 230°C for 5sec Max.	

\* $I_{FP}$  Conditions: Pulse Width $\leq$ 10msec duty $\leq$ 1/10

\* $T_{sol}$  Conditions: 3mm from the base of the epoxy bulb

\*ESD: When reverse voltage is over 6.2V, the zener diode will be protective and makes the current through.

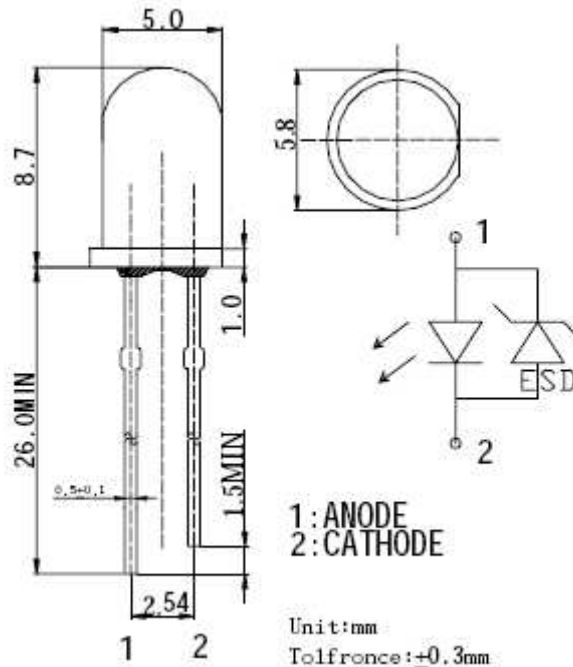
## ■ Typical Optical/ Electrical Characteristics

Item	Symbol	Condition	Min.	Typ.	Max.	Unit
Forward Voltage	$V_F$	$I_F=20mA$	3.0	3.3	3.8	V
Reverse Current	$I_R$	$V_R=5V$	--	--	10	$\mu A$
50% Power Angle	$2\theta_{1/2}$	$I_F=20mA$	--	15	--	deg
Luminous Intensity	$I_v$	$I_F=20mA$	10000	13000	--	mcd
Peak Wavelength	$\lambda_P$	$I_F=20mA$	515	--	520	nm
Recommend Forward Current	$I_F(rec)$	--	--	10~20	--	mA

Notes:

1. Absolute maximum ratings  $T_a=25^\circ C$ .
2. Tolerance of measurement of forward voltage  $\pm 0.1V$ .
3. Tolerance of measurement of peak Wavelength  $\pm 2.0nm$ .
4. Tolerance of measurement of luminous intensity  $\pm 15\%$ .

■ Package Dimensions And Materials



Tolerance Grade	Dimension Tolerance (UNIT:mm)			
	0.5~3	>3~6	>6~30	>30~120
Medium (m)	±0.1	±0.1	±0.2	±0.3
Chip			Lens Color	
Material	Emitting Color			
InGaN/Sic	GREEN		Water clear	

## ■ Reliability Performance

### 1. Test Items And Result

Test Classification	Test Item	Test Conditions	Test Duration	Sample Size	AC/RE
Life Test	Room Temperature DC Operating Life Test	Ta=25°C ±5°C IF=20mA	1000 hrs	30pcs	0/1
Environment Test	Thermal Shock Test	-10°C ±5°C ↔ +100°C ±5°C 5min. 10sec. 5min.	50 cycles	30 pcs	0/1
	Temperature Cycle Test	-40°C ±5°C ↔ +85°C ±5°C 30min. 5min. 30min.	50 cycles	30 pcs	0/1
	High Temperature & High Humidity Test	Ta=85°C ±5°C RH =85%±0.5 %RH	1000 hrs	30 pcs	0/1
	High Temperature Storage	Ta=100°C ±5°C	1000 hrs	30 pcs	0/1
	Low Temperature Storage	Ta=-55°C ±5°C	1000 hrs	30 pcs	0/1
Mechanical Test	Resistance to Soldering Heat	Ta=230°C ±5°C	5sec.	30 pcs	0/1
	Lead Integrity	Load 2.5N(0.25kgf) 0° ~ 90° ~0°	3times	30 pcs	0/1

### 2. Criteria for Judging The Damage

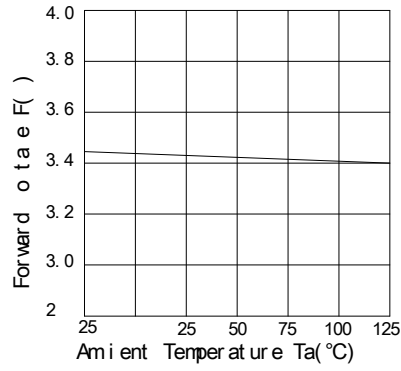
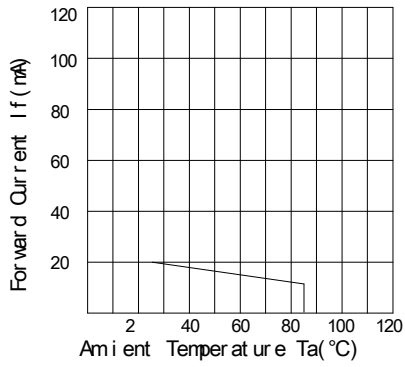
Item	Symbol	Test Conditions	Criteria for Judgment	
			Min.	Max.
Forward Voltage	V <sub>F</sub>	I <sub>F</sub> =20mA		U.S.L.*1.2
Reverse Current	I <sub>R</sub>	V <sub>R</sub> =5V		U.S.L.*2.2
Luminous Intensity	I <sub>V</sub>	I <sub>F</sub> =20mA	L.S.L.**x0.7	

U.S.L.\* : Upper Standard Level

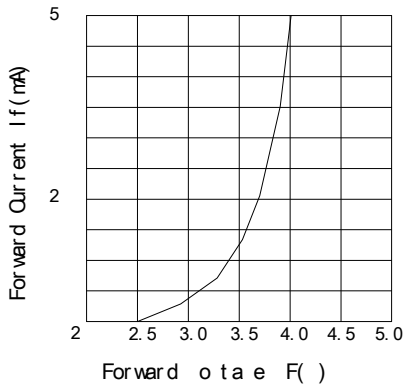
L.S.L.\*\* : Lower Standard Level

■ Typical Optical/Electrical Characteristics Curves  
(Ta=25°C Unless Otherwise Noted )

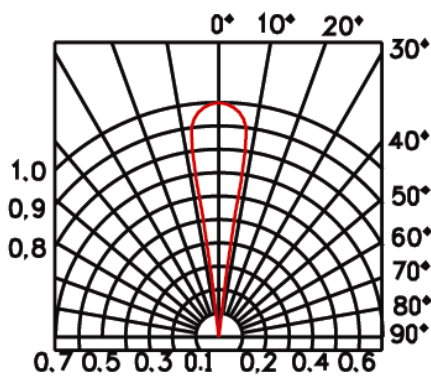
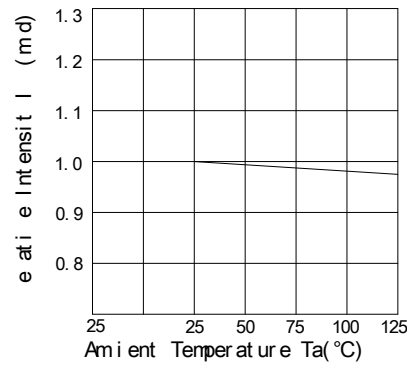
Forward Current vs Ambient Temperature      Forward Voltage vs Ambient Temperature



Forward Current vs Forward Voltage



Beam Intensity vs Ambient Temperature



Luminous Spectrum (Ta=25°C)      S C T A L A I A C

