



EVERLIGHT ELECTRONICS CO.,LTD.

PART NO : 31-01SUGC Device Number : DLE-301-006 REV: 1.3
ECN : Page: 1/4

■ Benefits :

- Fewer LEDs Required
- Lowers Lighting System Cost

■ Features :

- High Flux Output.
- Designed for High Current Operation.
- Low Thermal Resistance.
- Low Profile.
- Packaged in Tubes for Use with Automatic Insertion Equipment.

■ Applications :

- Automotive Exterior Lighting
- Electronic Signs and Signals

■ Description :

This revolutionary package design allows the lighting designer to reduce the number of LEDs required and provide a more uniform and unique illuminated appearance than with other LED solutions.

This is possible through the efficient optical package design and high-current capabilities.

The low profile package can be easily coupled with reflectors or lenses to efficiently distribute light and provide the desired lit appearance.



This product family employs the world's brightest red-orange and amber LED materials, which allow designers to match the color of popular lighting applications, such as automotive tail, stop, and turn signal lamps, and electronic signs.

PART NO	Chip		Lens Color
	Material	Emitted Color	
31-01SUGC	GaN	Super Green	Water Clear

OFFICE : NO. 25, Lane 76, Sec. 3, Chung Yang Rd., Tucheng 236, Taipei, Taiwan, R.O.C.

TEL : 886-2-2267-2000, 2267-9936

FAX : 886-2-2267-6244, 22676189, 22676306

<http://www.everlight.com>



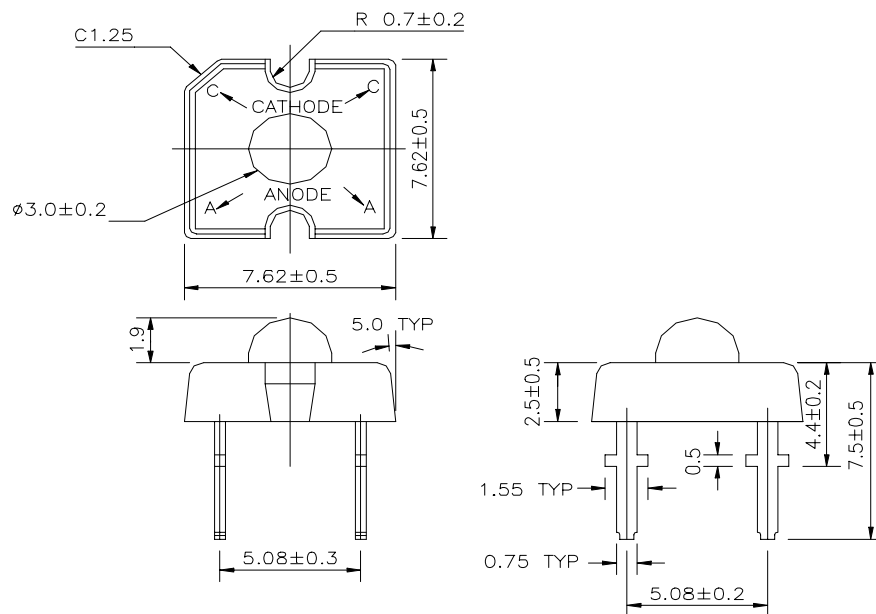
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■ Absolute Maximum Ratings at $T_a = 25^{\circ}\text{C}$

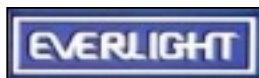
Parameter	Symbol	Rating	Unit
Forward Current	I_F	30	mA
Operating Temperature	T_{opr}	-20 to +80	$^{\circ}\text{C}$
Storage Temperature	T_{opr}	-30 to +100	$^{\circ}\text{C}$
Electrostatic Discharge	ESD	150	V
Soldering Temperature	T_{sol}	260 ± 5	$^{\circ}\text{C}$
Power Dissipation	P_d	120	mW
Peak Forward Current(Duty 1/10 @ 1KHz)	$I_F(\text{Peak})$	100	mA
Reverse Voltage	V_R	5	V

■ Package Dimensions:



Notes :

- 1.All dimensions are millimeter.(inch)
- 2.An epoxy meniscus may extend about 1.5mm(0.059") down the lead.



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■ Electro-Optical Characteristics :

Parameter	Symbol	Min.	Typ.	Max.	Condition	Unit
Total Flux	Φ_v	250	400	----	$I_F=20mA$	mlm
Viewing Angle	$2\theta_{1/2}$	----	30	----	$I_F=20mA$	deg
Peak Wavelength	λ_p	----	525	----	$I_F=20mA$	nm
Dominant Wavelength	λ_d	----	530	----	$I_F=20mA$	nm
Spectrum Radiation Bandwidth	$\Delta\lambda$	----	35	----	$I_F=20mA$	nm
Forward Voltage	V_F	----	3.5	4.3	$I_F=20mA$	V
Reverse Current	I_R	----	----	50	$V_R=5V$	μA
Recommended Operating Current	$I_F(Rec)$	----	----	20		mA
DC Forward Current	$I_F(mA)$	----	----	30		mA

■ Reliability test items and conditions

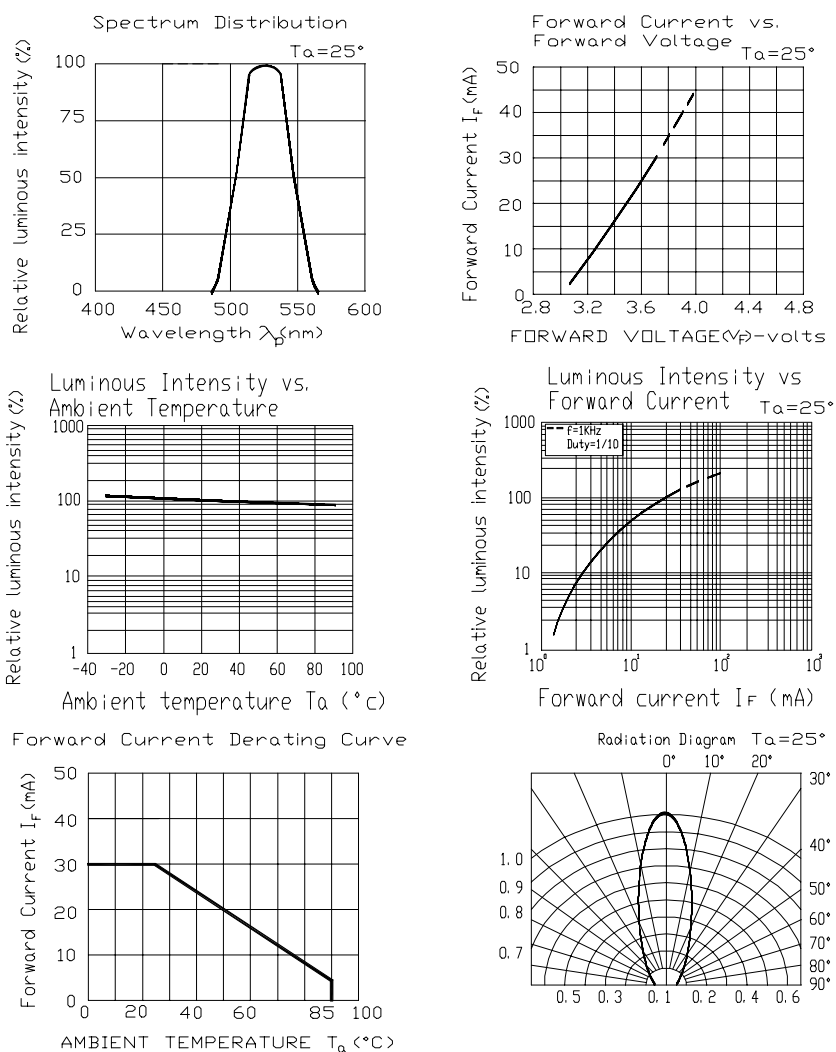
NO	Item	Test Conditions	Test Hours/Cycle	Sample Size		Ac/Re
1	Solder Heat	TEMP:260°C ± 5 °C	5 SEC	76 PCS		0/1
2	Temperature Cycle	H : +85°C 30min ↓ 5 min L : -55°C 30min	50 CYCLES	76 PCS		0/1
3	Thermal Shock	H : +100°C 5min ↓ 10 sec L : -10°C 5min	50 CYCLES	76 PCS		0/1
4	High Temperature Storage	TEMP : 100°C	1000 HRS	76 PCS		0/1
5	Low Temperature Storage	TEMP : -55°C	1000 HRS	76 PCS		0/1
6	Operating Life	$I_F(max)$ mA	1000 HRS	76 PCS		0/1
7	High Temperature / High Humidity	85°C/85% RH	1000 HRS	76 PCS		0/1



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Typical Electro-Optical Characteristic Curves



Specifications for Bin Grading

31-01SUGC- ☐ ☐ ☐
① ② ③

① VF(v)			② λ d(nm)			③ Φ v(mlm)		
Bin	Min	Max	Bin	Min	Max	Bin	Min	Max
1	3.0	3.2	0	520	526	T	250	500
2	3.2	3.4	1	525	531	U	400	800
3	3.4	3.6	2	530	536	V	630	1250
4	3.6	3.8	3	535	540	W	1000	2000
5	3.8	4.3						