



EVERLIGHT ELECTRONICS CO., LTD.

PART NO. : 93-21SUGC/C525/TR8

Device Number : DSE-931-064 REV. 1.0

High Performance SMD LED with Reflector

ECN :

Page: 1/7

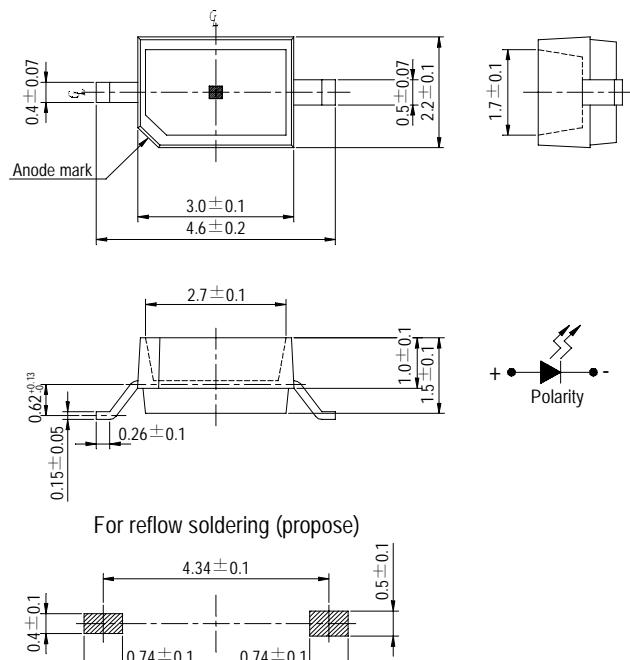
■ Features :

- Package in 12mm tape on 7" diameter reels.
- Compatible with automatic placement equipment.
- Compatible with infrared and vapor phase reflow solder process.
- Eia std. package.
- IC compatible.

■ Applications :

- Automotive: backlighting in dashboard and switch,
- Telecommunication: indicator and backlighting in telephone and fax.
- Indicator and backlight for audio and video equipment.
- Indicator and backlight for battery driven equipment.
- Small indicator for outdoor applications.
- Indicator and backlight in office equipment.
- Flat backlight for LED, switches and symbol.
- General use.

■ Package Dimensions :



■ Notes :

Tolerances Unless Dimension ± 0.1 mm

Angle $\pm 0.5^\circ$

Unit = mm

Part NO.	Chip		Lens Color
	Material	Emitted Color	
93-21SUGC/C525/TR8	InGaN/SiC	Super Green	Water Clear

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

TEL : 886-2-2267-2000, 2266-9936(22 Lines)

FAX : 886-2-2267-6189

<http://www.everlight.com>

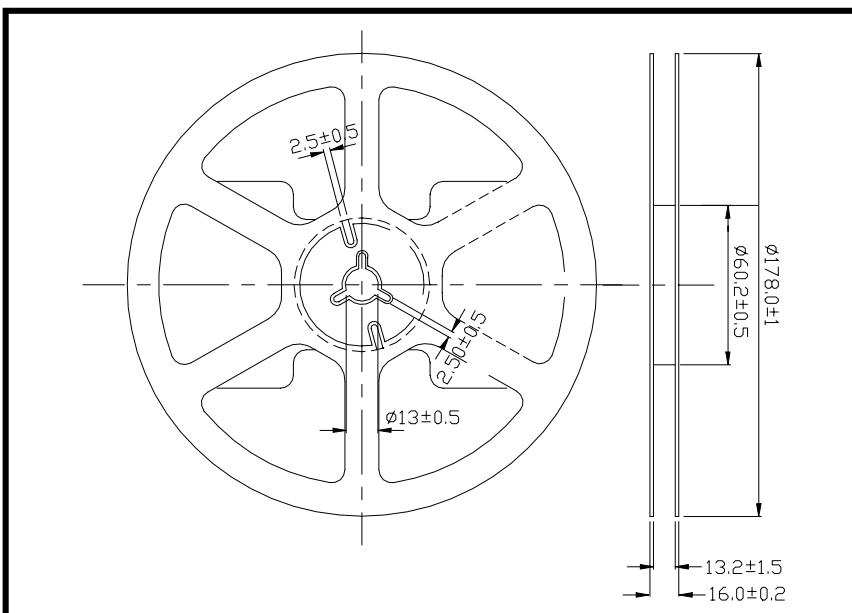
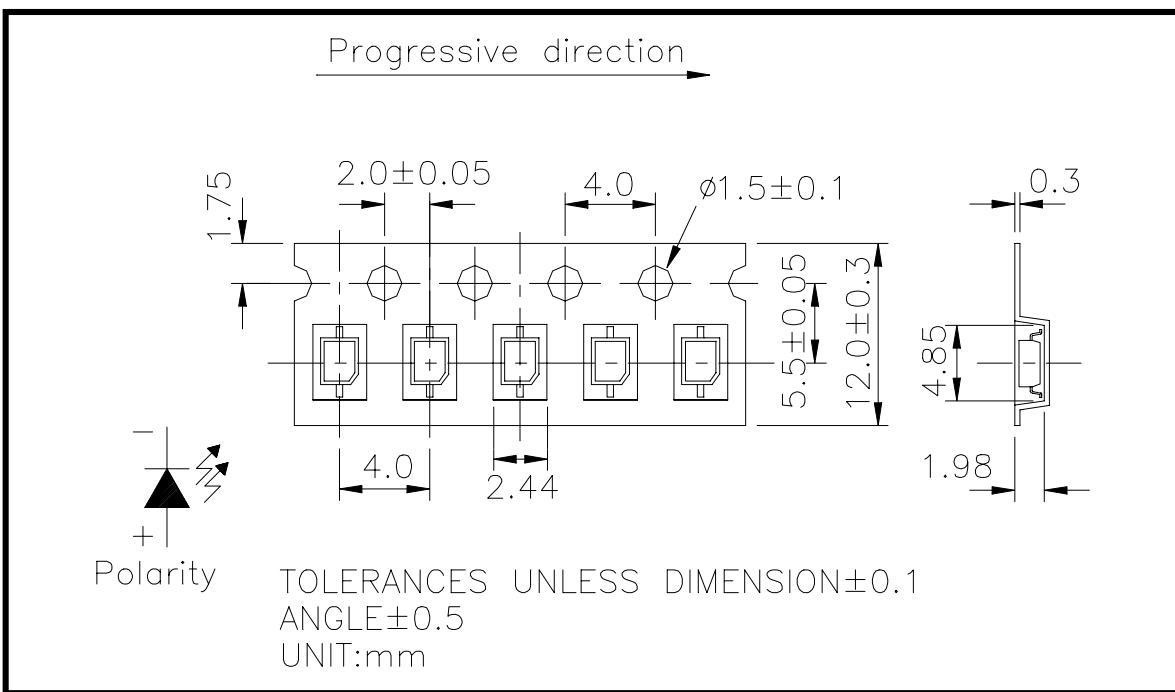
PART NO. : 93-21SUGC/C525/TR8

Device Number : DSE-931-064 REV. 1.0

High Performance SMD LED with Reflector

ECN :

Page: 2/7

■ Package Dimensions :**■ Loaded quantity per reel 2000 PCS/reel :**



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PART NO. : 93-21SUGC/C525/TR8

Device Number : DSE-931-064 REV. 1.0

High Performance SMD LED with Reflector

ECN :

Page: 3/7

■ Absolute Maximum Ratings at Ta = 25°C :

Parameter	Symbol	Rating	Unit
Reverse Voltage	V _R	5	V
Forward Current	I _F	30	mA
Operating Temperature	T _{opr}	-40 ~ +85	°C
Storage Temperature	T _{stg}	-40 ~ +100	°C
Soldering Temperature	T _{sol}	260(for 5second)	°C
Electrostatic Discharge	ESD	1000	V
Power Dissipation	P _d	120	mW
Peak Forward Current(Duty 1/10 @ 1KHz)	I _F (Peak)	100	mA

■ Electronic Optical Characteristics :

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Luminous intensity	I _v	50	83	-----	mcd	I _F =20mA
Viewing Angle	2θ 1/2	-----	130	-----	deg	I _F =20mA
Peak Wavelength	λ _p	-----	518	-----	nm	I _F =20mA
Dominant Wavelength	λ _d	-----	525	-----	nm	I _F =20mA
Spectrum Radiation Bandwidth	△λ	-----	30	-----	nm	I _F =20mA
Forward Voltage	V _F	-----	3.5	4.3	V	I _F =20mA
Reverse Current	I _R	-----	-----	10	μA	V _R =5V



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PART NO. : 93-21SUGC/C525/TR8

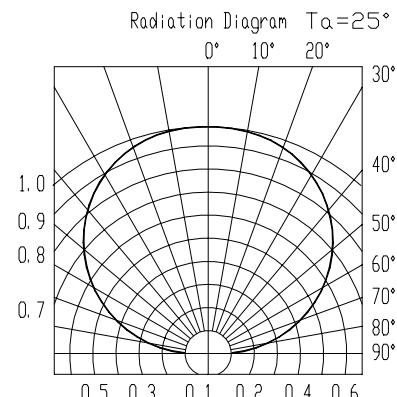
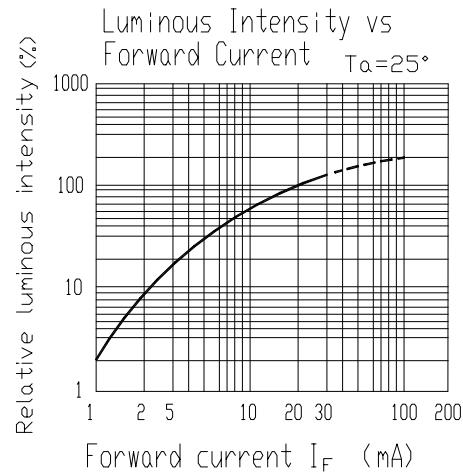
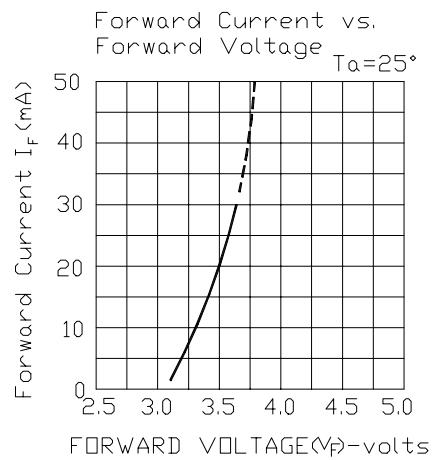
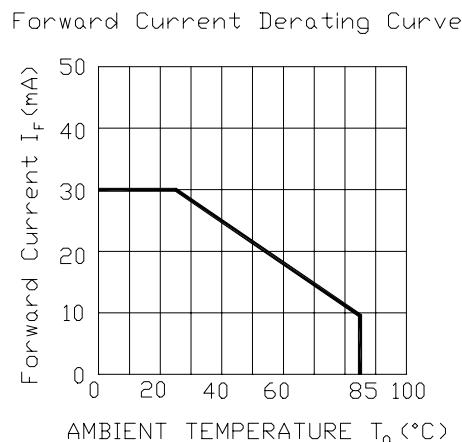
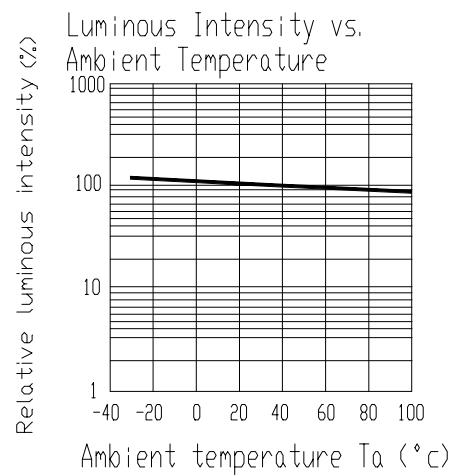
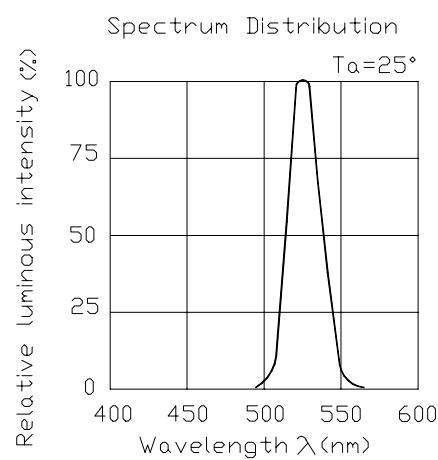
Device Number : DSE-931-064 REV. 1.0

High Performance SMD LED with Reflector

ECN :

Page: 4/7

■ Typical Electro-Optical Characteristic Curves :



PART NO. : 93-21SUGC/C525/TR8Device Number : DSE-931-064 REV. 1.0***High Performance SMD LED with Reflector***

ECN :

Page: 5/7**■ 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	DC Operating Life	I _F = 20 mA	1000 HRS	76 PCS	0/1
7	High Temperature / High Humidity	85°C/85% RH	1000 HRS	76 PCS	0/1

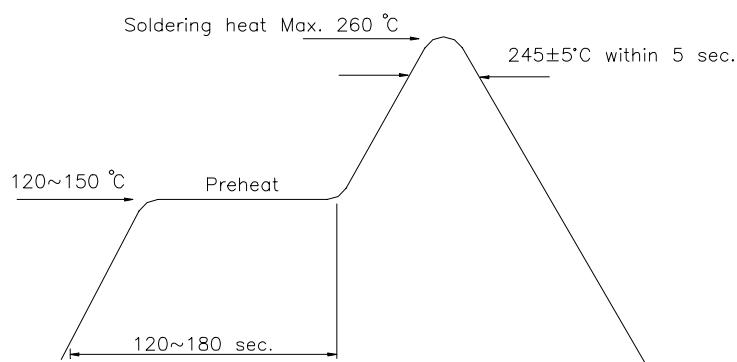
Products evaluated according to the above standard reliability criteria.

PART NO. : 93-21SUGC/C525/TR8Device Number : DSE-931-064 REV. 1.0***High Performance SMD LED with Reflector***

ECN :

Page: 6/7**■ Soldering heat reliability (DIP) :**

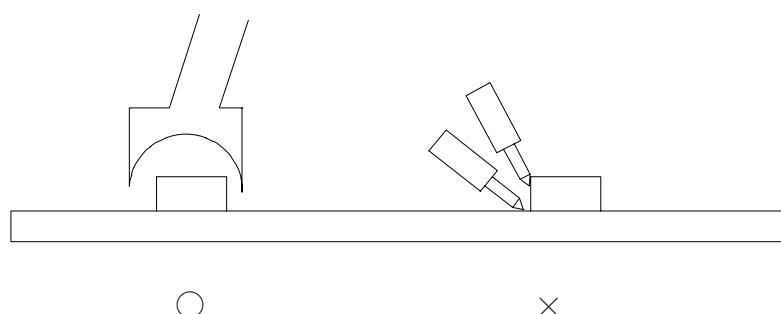
Please refer to the following figure :

**■ Soldering Iron :**

Basic spec is ≤ 5 sec when 245°C. If temperature is higher, time should be shorter (+10°C \rightarrow -1sec). Power dissipation of Iron should be smaller than 15 W, and temperature should be controllable. Surface temperature of the device should be under 230 °C.

■ Rework :

1. Customer must finish rework within 5 sec under 245°C.
2. The head of iron can not touch copper foil.
3. Twin-head type is preferred.





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ECN :

Page: 7/7

■ Reflow Temp. / Time :

