



PART NO. : 93-22SRUGC/TR8

Device Number : DSE-932-012 REV. 1.2

High performance SMD LED with Reflector

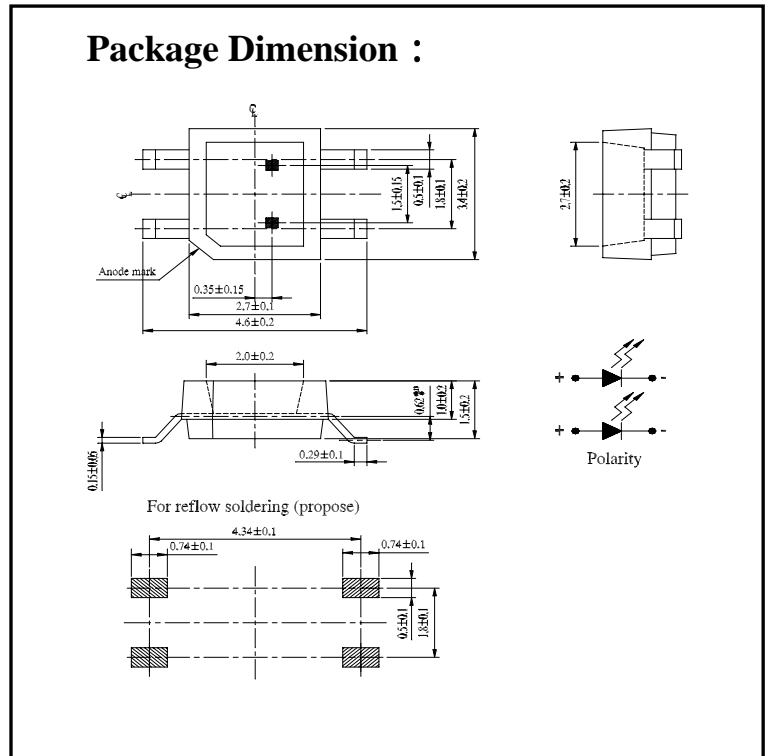
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Features :

- 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.



Notes :

Tolerances Unless Dimension ±0.1mm
Angle±0.5°
Unit = mm

Table with 5 columns: Part No., SR/UG, Material, Emitted Color, Lens Color. Rows include 93-22SRUGC/TR8 with GaAlAs Super Red and GaP Super Green options.

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, 2267-6189, 2267-6306
http://www.everlight.com



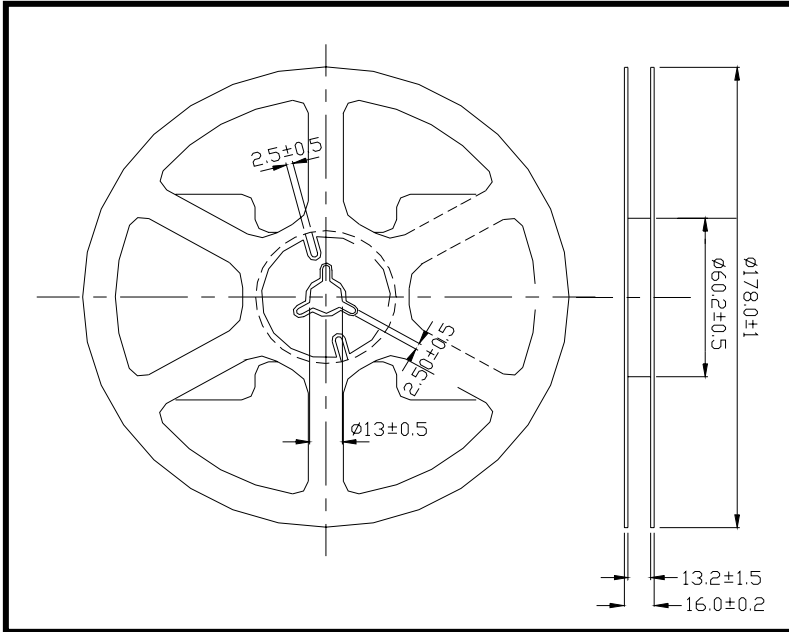
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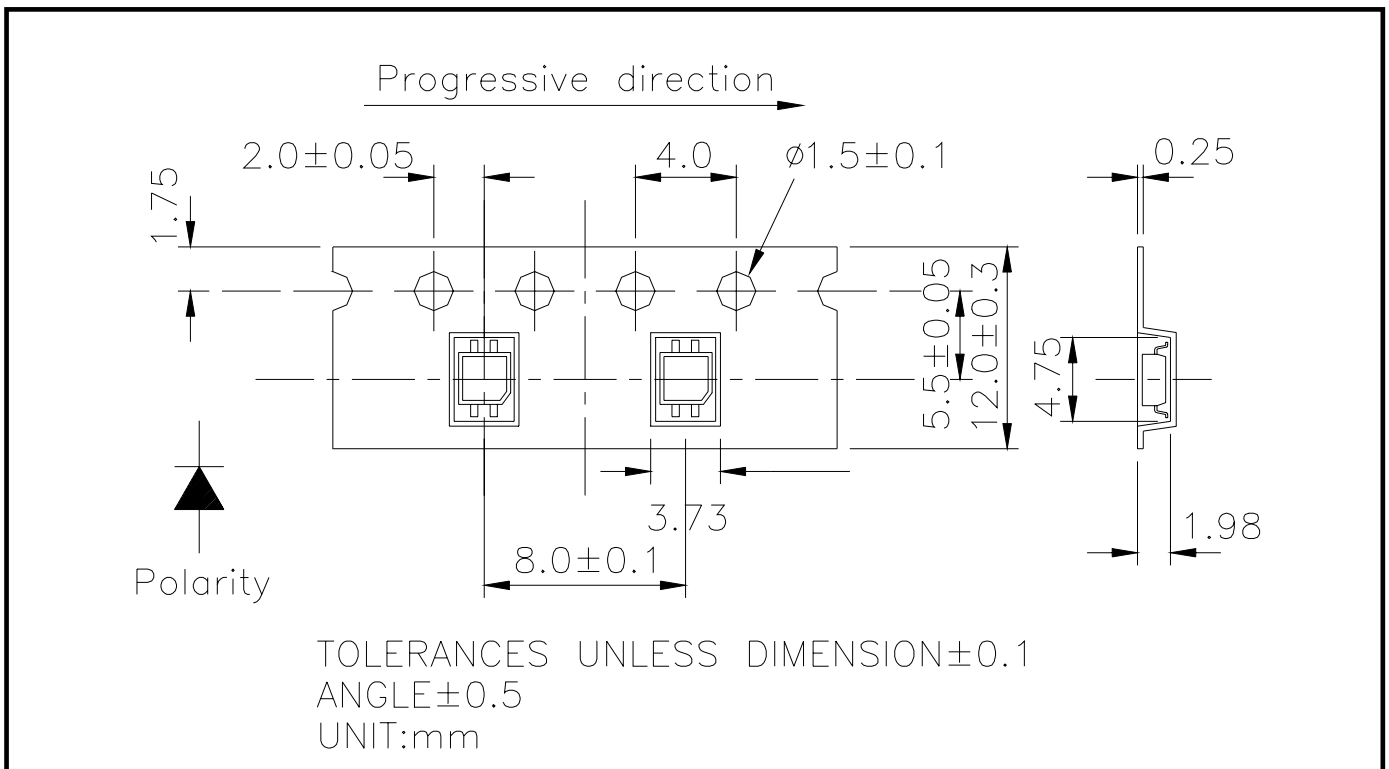
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Loaded quantity per reel 1000 PCS/reel :





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Absolute Maximum Ratings at Ta = 25

Parameter	Symbol	Rating	Unit
Reverse Voltage	V _R	5	V
Forward Current	I _F	SR: 40 UG: 30	mA
Operating Temperature	T _{opr}	-40 ~ +85	
Storage Temperature	T _{stg}	-40 ~ +90	
Soldering Temperature	T _{sol}	260 (for 5 second)	
Power Dissipation	P _d	SR: 110 UG: 100	mW
Peak Forward Current(Duty 1/10 @ 1KHz)	I _{F(Peak)}	SR: 160 UG: 160	mA



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Electronic Optical Characteristics :

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Luminous intensity	I _v SR: UG:	24.0	40	-----	mcd	I _F =20mA
		17.0	28			
Viewing Angle	2 1/2	-----	130	-----	deg	I _F =20mA
Peak Wavelength	p SR: UG:	-----	660	-----	nm	I _F =20mA
		-----	570			
Dominant Wavelength	d SR: UG:	-----	643	-----	nm	I _F =20mA
		-----	571			
Spectrum Radiation Bandwidth	SR: UG:	-----	20	-----	nm	I _F =20mA
		-----	30			
Forward Voltage	V _F SR: UG:	1.5	1.7	2.4	V	I _F =20mA
		1.7	2.1	2.4		
Reverse Current	I _F	-----	-----	10	μA	V _R =5V



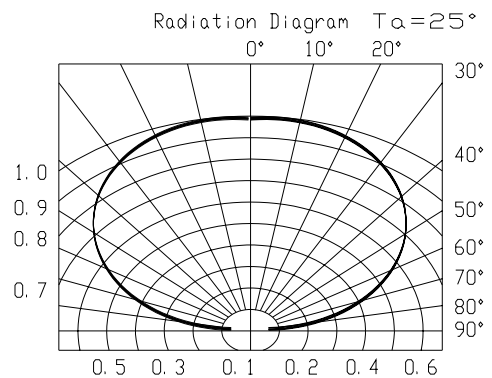
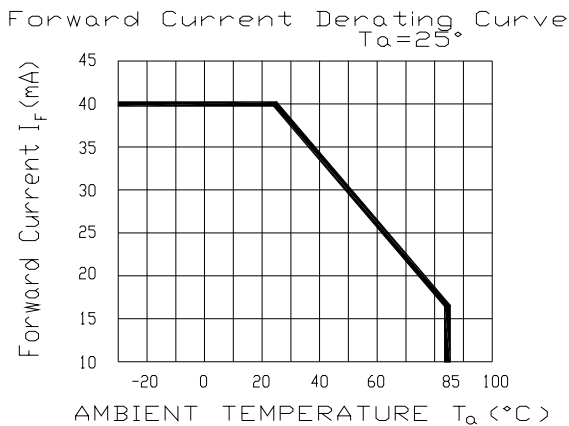
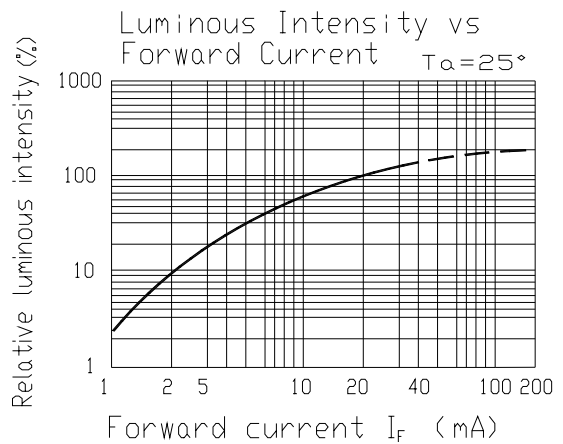
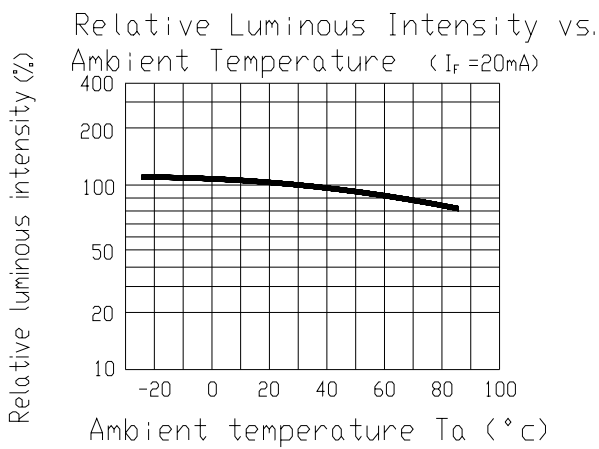
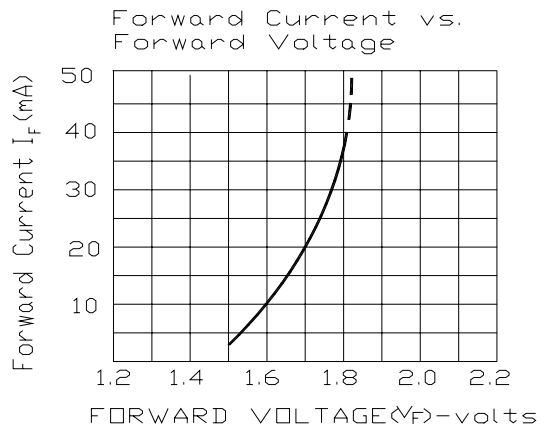
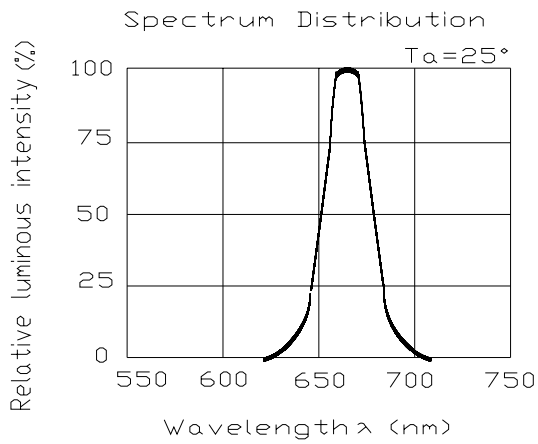
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Typical Electro-Optical Characteristic Curves(SR)





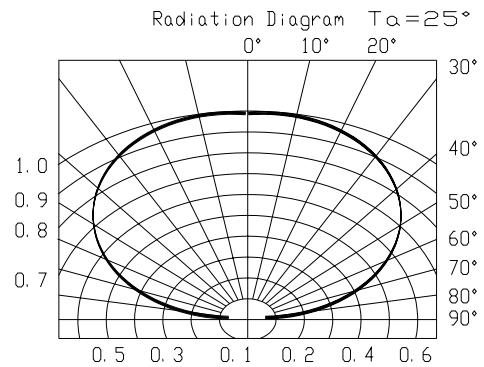
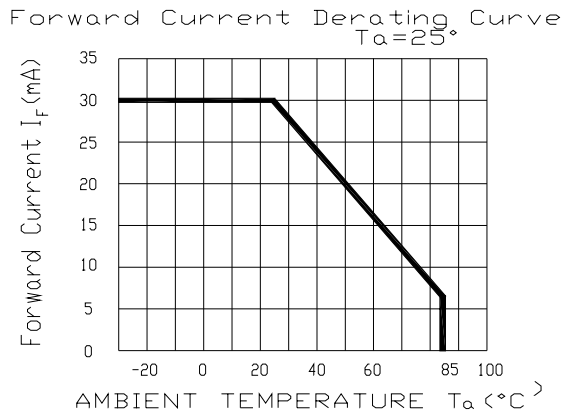
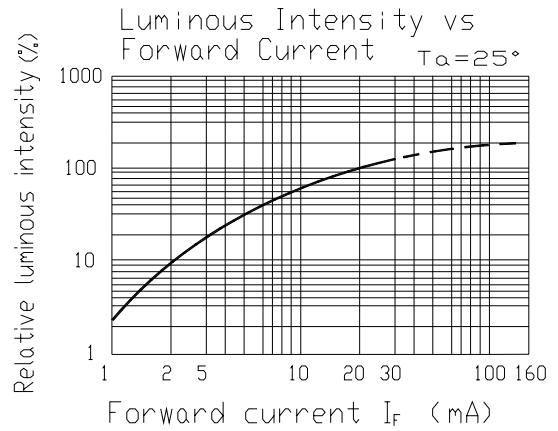
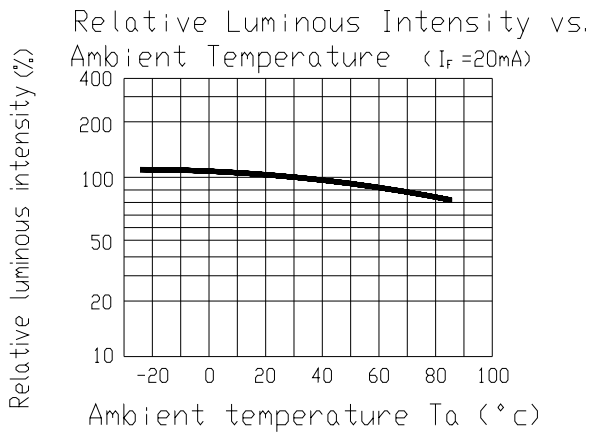
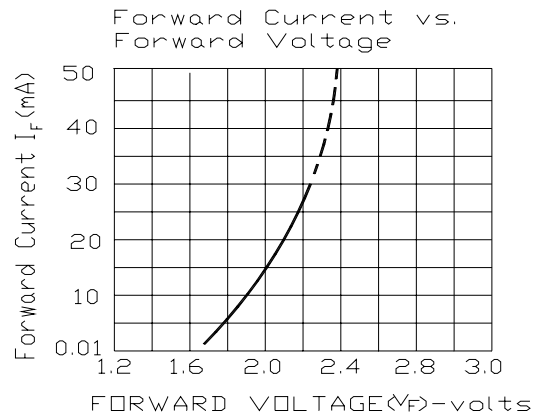
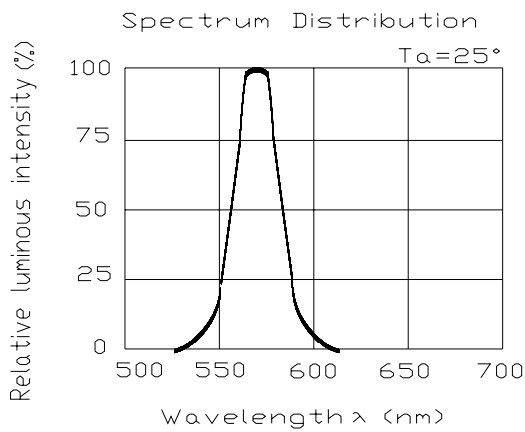
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Typical Electro-Optical Characteristic Curves(UG)





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Reliability Test Items And Conditions

NO	Item	Test Conditions	Test Hours/Cycle	Sample Size	Ac/Re
1	Solder Heat	TEMP : 260 ± 5	5 SEC	76 PCS	0/1
2	Temperature Cycle	H : +85 30min 5 min L : -55 30min	50 CYCLES	76 PCS	0/1
3	Thermal Shock	H : +100 5min 10 sec L : -10 5min	50 CYCLES	76 PCS	0/1
4	High Temperature Storage	TEMP : 100	1000 HRS	76 PCS	0/1
5	Low Temperature Storage	TEMP : -55	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 /85% RH	1000 HRS	76 PCS	0/1



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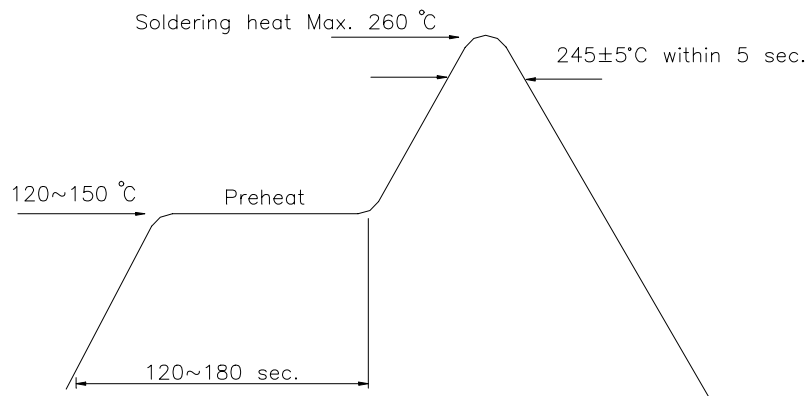
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Soldering heat reliability (DIP)

Please refer to the following figure :

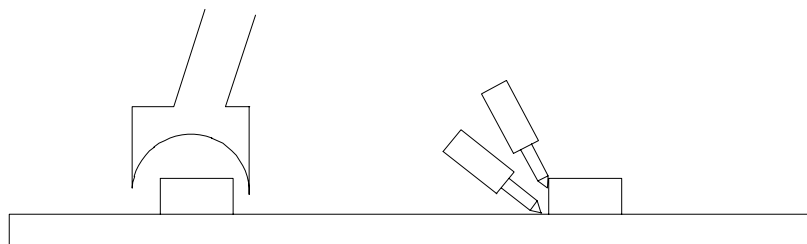


Soldering Iron

Basic spec is 5 sec when 260 . If temperature is higher, time should be shorter (+10 -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 .

Rework

1. Customer must finish rework within 5 sec under 260 .
2. The head of iron can not touch copper foil.
3. Twin-head type is preferred.



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Reflow Temp. / Time :

