



# EVERLIGHT ELECTRONICS CO.,LTD.

DEVICE NUMBER : DLE-912-127  
ECN : \_\_\_\_\_

REV : 1.2  
PAGE : 1/5

## 1.8mm Round Subminiature "Z-Bend" Lead LEDs

PART NO. : 91-21SRC/TR10

### Features :

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

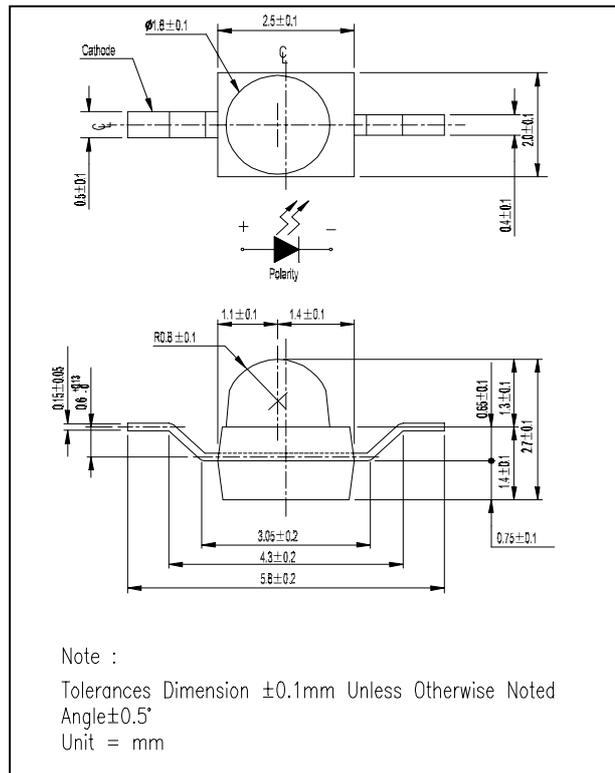
### Descriptions :

- The 91-21 SMD taping is much smaller than leaded components. Thusenable smaller board size.Higher packing density. Reduced storage space and finally smaller equipment to be obtained.
- Besides, light weight makes them ideal for miniature application, etc.
- Furthermore by automation assembly machines the accuracy is anticipated.

### Applications :

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

### Package Dimensions :



PART NO.	Chip		Lens Color
	Material	Emitted Color	
91-21SRC/TR10	GaAlAs	Super Red	Water Clear

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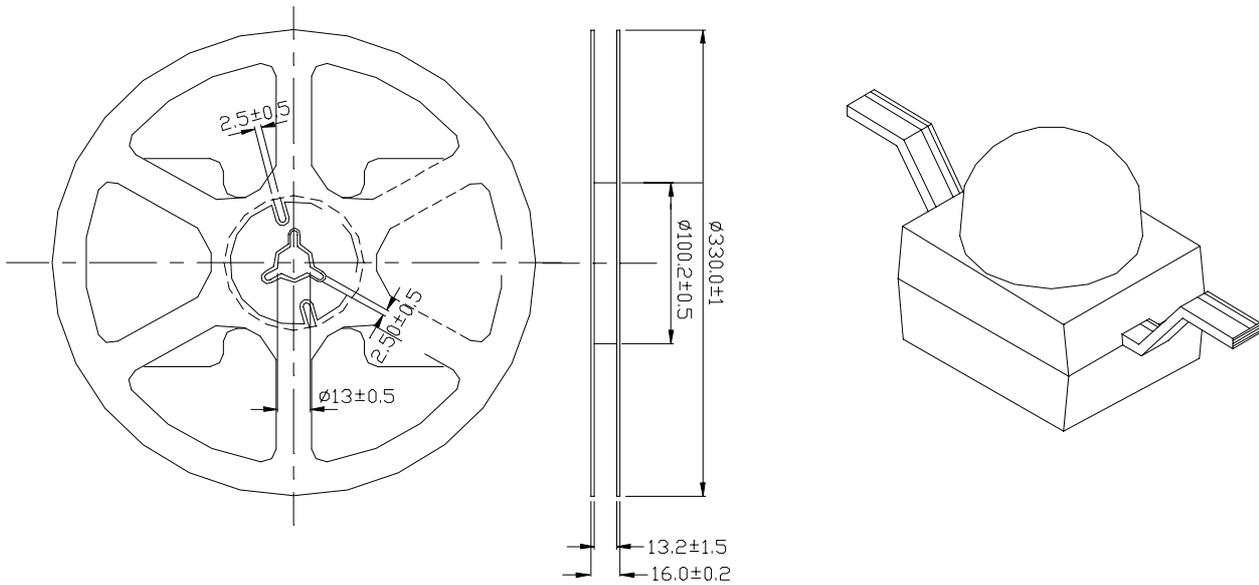
<http://www.everlight.com>



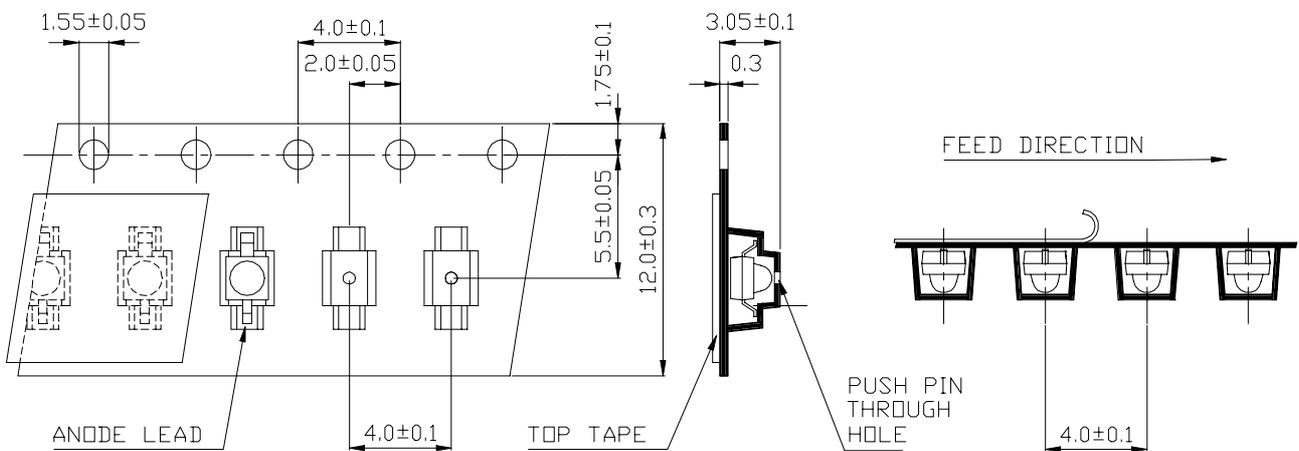
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■ Package Dimensions



■ Loaded Quantity Per Reel 1000 Pcs/Reel



1. All dimensions are in millimeters.
2. Lead spacing is measured where the lead emerge from the package
3. Protruded resin under flange 1.5 mm (0.59") max.



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### ■ Absolute Maximum Ratings at Ta = 25°C

Parameter	Symbol	Rating	Unit
Reverse Voltage	V <sub>R</sub>	5	V
Forward Current	I <sub>F</sub>	40	mA
Operating Temperature	T <sub>opr</sub>	-40 ~ +85	°C
Storage Temperature	T <sub>stg</sub>	-40 ~ +100	°C
Soldering Temperature	T <sub>sol</sub>	260 ± 5 for 5 sec	°C
Power Dissipation	P <sub>d</sub>	110	mW
Peak Forward Current(Duty 1/10 @ 1KHZ)	I <sub>F</sub> (Peak)	180	mA

### ■ Electronic Optical Characteristics :

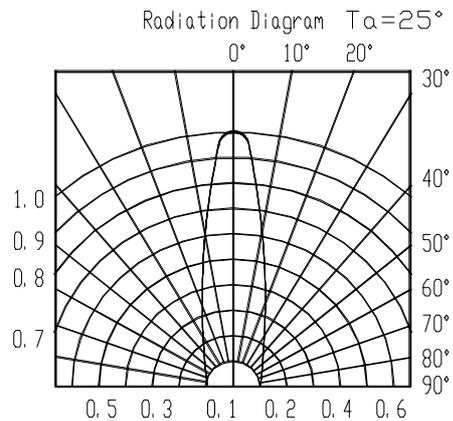
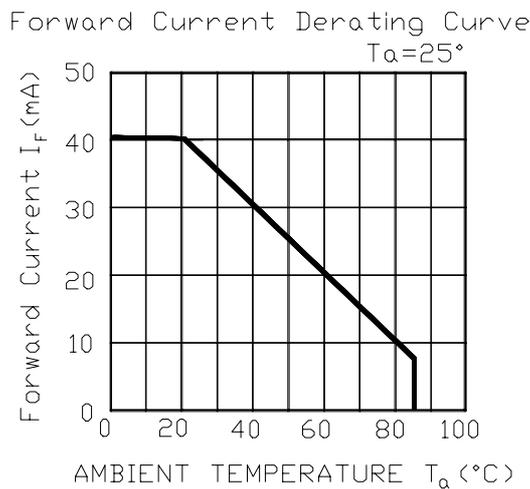
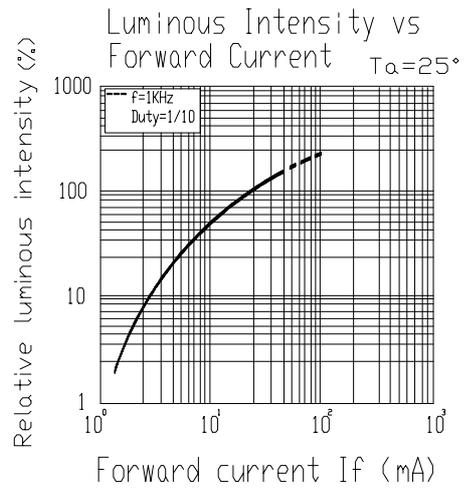
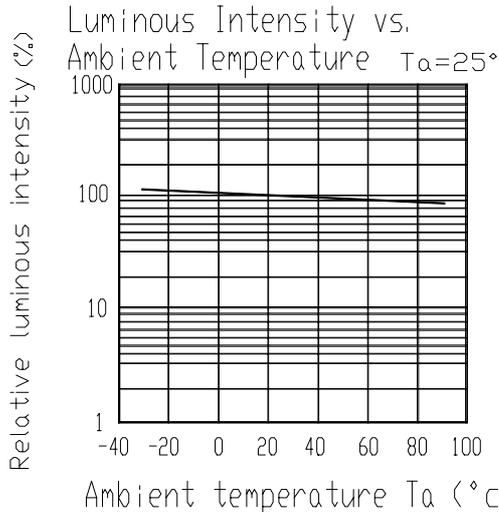
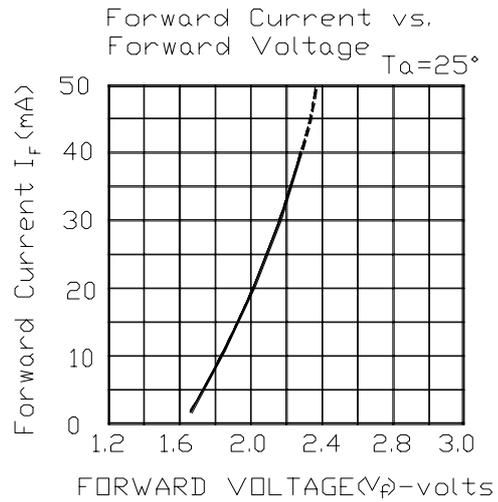
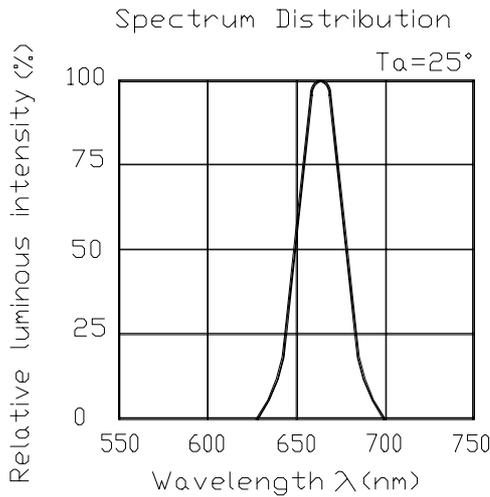
Parameter	Symbol	MIN.	TYP.	MAX.	Unit	Condition
Luminous Intensity	I <sub>v</sub>	70	110	----	mcd	I <sub>f</sub> = 20mA
Viewing Angle	2θ 1/2	----	25	----	deg	
Peak Wavelength	λ <sub>p</sub>	----	660	----	nm	
Dominant Wavelength	λ <sub>d</sub>	----	643	----	nm	
Spectrum Radiation Bandwidth	△λ	----	20	----	nm	
Forward Voltage	V <sub>F</sub>	1.5	1.7	2.4	V	
Reverse Current	I <sub>R</sub>	----	----	10	μA	V <sub>r</sub> =5V



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#### Typical Electro-Optical Characteristic Curves





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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°C ± 5 °C	5 SEC.	76 PCS	0/1
2	Temperature Cycle	H : +85°C 30 min. § 5 min. L : -55°C 30 min.	50 CYCLES	76 PCS	0/1
3	Thermal Shock	H : +100°C 5 min. § 10 sec. L : -10°C 30 min.	50 CYCLES	76 PCS	0/1
4	High Temperature Storage	TEMP. : +100°C	1000 HR.	76 PCS	0/1
5	Low Temperature Storage	TEMP. : -55°C	1000 HR.	76 PCS	0/1
6	DC Operating Life	IF = 20 mA	1000 HR.	76 PCS	0/1
7	High Temperature / High Humidity	85°C / 85% R H	1000 HR.	76 PCS	0/1