



EVERLIGHT ELECTRONICS CO.,LTD.

DEVICE NUMBER : DLE-912-075

REV : 1.2

ECN :

PAGE : 1/4

1.8mm Round Subminiature Axial LEDs

PART NO : 91-21HC

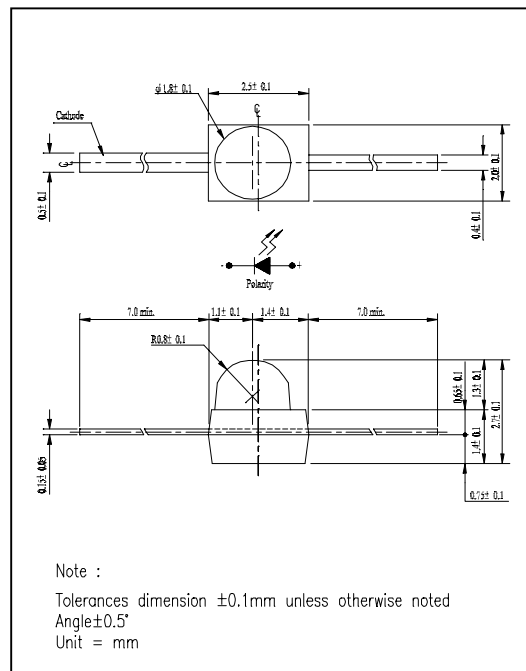
Features :

- 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 :

- Besides, light weight makes them ideal for miniature applications, etc.
- Furthermore by automation assembly machines the accuracy is anticipated.

Package Dimensions :



Applications :

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

PART NO.	Chip		Lens Color
	Material	Emitted Color	
91-21HC	GaP	Bright Red	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 Ta = 25°C

Parameter	Symbol	Rating	Unit
Reverse Voltage	V _R	5	V
Forward Current	I _F	15	mA
Operating Temperature	T _{opr}	-40 ~ +85	°C
Storage Temperature	T _{stg}	-40 ~ +100	°C
Soldering Temperature	T _{sol}	260 ± 5 for 5 sec	°C
Power Dissipation	P _d	45	mW
Peak Forward Current(Duty 1/10 @ 1KHZ)	I _F (Peak)	50	mA

■ Electronic Optical Characteristics :

Parameter	Symbol	MIN.	TYP.	MAX.	Unit	Condition
Luminous Intensity	I _v	2.5	4.0	----	mcd	I _F = 10mA
Viewing Angle	2 θ 1/2	----	25	----	deg	I _F = 10mA
Peak Wavelength	λ _p	----	697	----	nm	
Dominant Wavelength	λ _d	----	650	----	nm	
Spectrum Radiation Bandwidth	△ λ	----	90	----	nm	
Forward Voltage	V _F	1.5	2.0	2.4	V	
Reverse Current	I _R	----	----	10	μ A	V _R =5V



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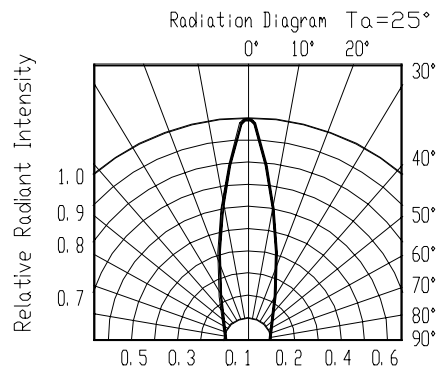
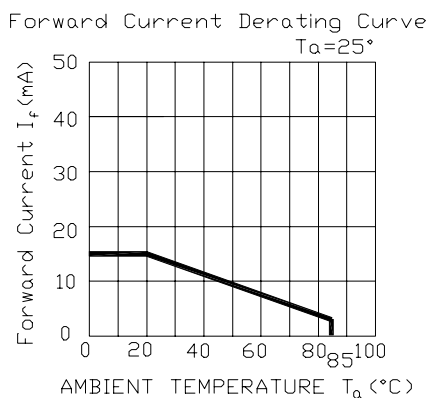
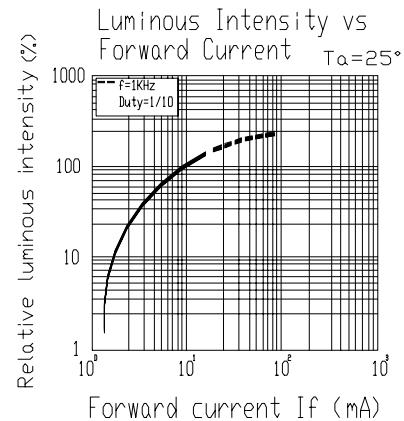
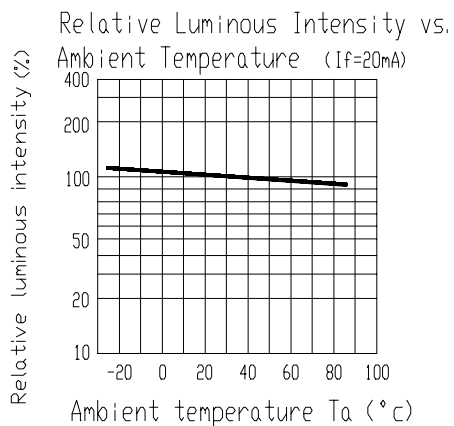
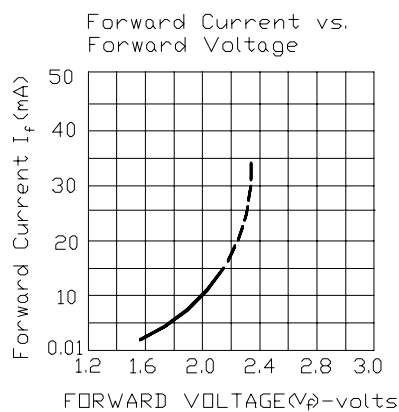
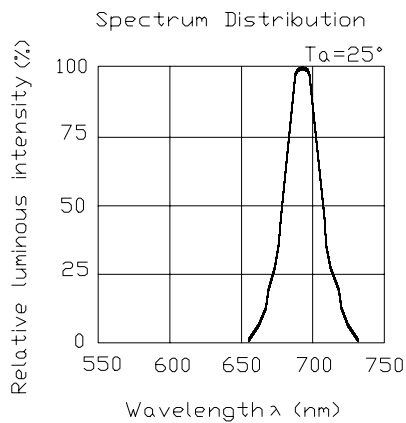
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■ Typical Electro-Optical Characteristic Curves





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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 HRS	76 PCS	0/1
5	Low Temperature Storage	TEMP. : -55°C	1000 HRS	76 PCS	0/1
6	DC Operating Life	IF = 20 mA	1000 HRS	76 PCS	0/1
7	High Temperature / High Humidity	85°C / 85% R H	1000 HRS	76 PCS	0/1