EVERLIGHT ELECTRONICS CO.,LTD.

DEVICE NUMBER : DLE-912-072 REV : 1.1

ECN : PAGE : 1/5

1.8mm Round Subminiature Axial LED

MODEL NO : 91-21VRD/TR10

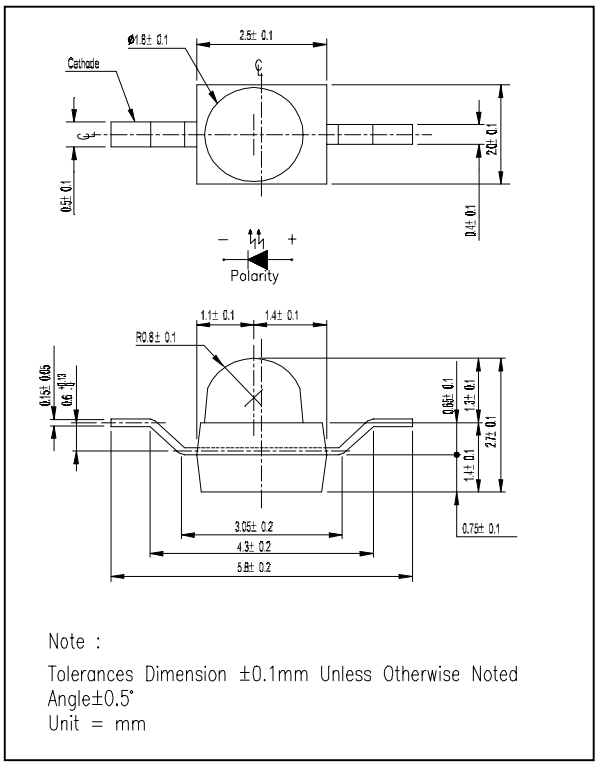
Features :

- 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.
- I.C. COMPATIBLE.
- MONO-COLOR TYPE.

Description :

- THE 91-21 SMD TAPING IS MUCH SMALLER THAN LEADED COMPOMENTS. 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, ECT.
- FURTHERMORE BY AUTOMATION ASSEMBLY MACHINES THE ACCURACY IS ANTICIPATED.

Package Dimension :



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 OFFIC EQUIPMENT.
- FLAT BACKLIGHT FOR LCD, SWITCH AND SYMBOL.
- GENERAL USE.

PART NO.	CHIP		LENS COLOR
	MATERIAL	EMITTED COLOR	
91-21VRD/TR10	GaAsP/GaP	Hi-Eff Red	Collor Diffused

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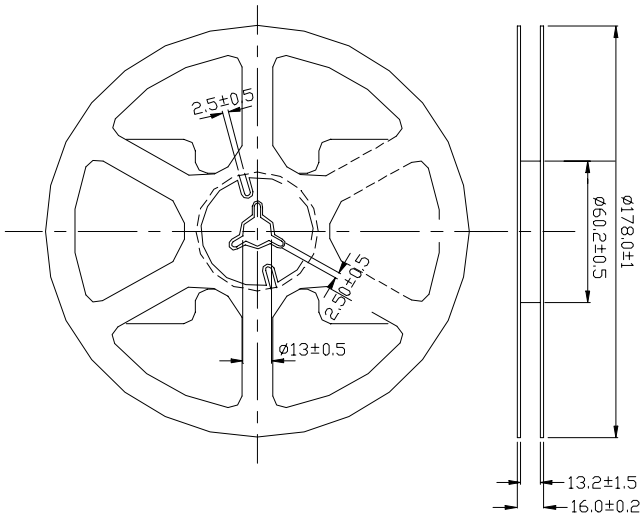
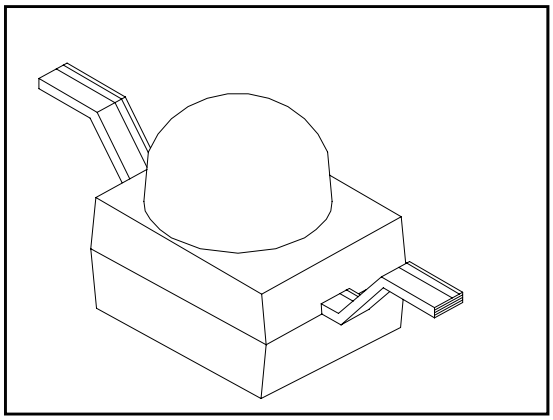
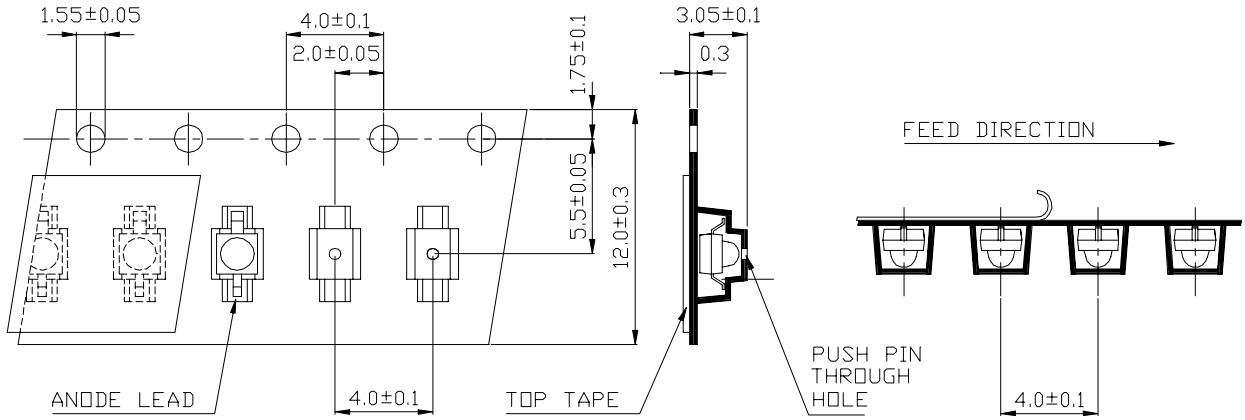
■ Package Dimensions





■ 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 T_A = 25℃

Parameter	Symbol	Rating	Unit
Reverse Voltage	Vr	5	V
Forward Current	If	30	mA
Operating Temperature	Topr	-40 ~ +85	℃
Storage Temperature	Tstg	-40 ~ +100	℃
Soldering Temperature	Tsol	260 ± 5 for 5 sec	℃
Power Dissipation	Pd	100	mW
Peak Forward Current(Duty 1/10 @ 1KHZ)	If(Peak)	160	mA

■ Electronic Optical Characteristics :

Parameter	Symbol	MIN.	TYP.	MAX.	Unit	Condition
Luminous intensity	Iv	10.2	15.3	----	mcd	If = 20mA
Viewing Angle	2 θ 1/2	----	50	----	deg	
Peak Wavelength	λ p	----	640	----	nm	
Dominant Wavelength	λ d	----	625	----	nm	
Spectrum Rediation Bandwidth	$\triangle \lambda$	----	45	----	nm	
Forward Voltage	Vf	1.7	2.0	2.6	V	
Reverse Current	Ir	----	----	10	μ A	Vr=5V

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■ Reliability Test Item And Condition

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℃ 30 min ↕ 5 min L : -55℃ 30 min	50 cycle	76 pcs	0/1
3	Thermal Shock	H : +100℃ 5 min ↕ 10 sec L : -10℃ 30 min	50 cycle	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	If = 20 mA	1000 hrs	76 pcs	0/1
7	High Temperature / High Humidity	85℃ / 85% R.H.	1000 hrs	76 pcs	0/1

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■ Typical Electro-Optical Characteristic Curres