



EVERLIGHT ELECTRONICS CO., LTD.

MODEL NO: 17-21VGC/TR8

Device Number : DSE-171-022 REV. 1.3

0805 Package Chip LEDs

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### Features :

- Package in 8mm tape on 7" diameter reel.
- Compatible with automatic placement equipment.
- Compatible with infrared and vapor phase reflow solder process.
- Mono-color type.

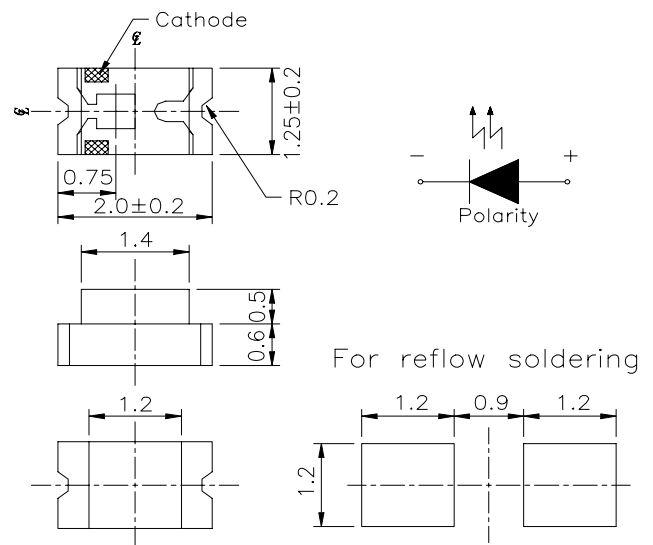
### Descriptions :

- The 17-21 SMD Taping is much smaller than lead frame type components, thus enable smaller board size, higher packing density, reduced storage space and finally smaller equipment to be obtained.
- Besides, lightweight makes them ideal for miniature applications, etc.

### Applications :

- Automotive: backlighting in dashboard and switch.
- Telecommunication: indicator and backlighting in telephone and fax.
- Flat backlight for LCD, switch and symbol.
- General use.

### Package Dimensions :



### Notes :

Tolerances Unless Dimension  $\pm 0.1\text{mm}$

Angle  $\pm 0.5^\circ$

Unit = mm

PART NO	Chip		Lens Color
	Material	Emitted Color	
17-21VGC/TR8	GaP	Green	Water Clear

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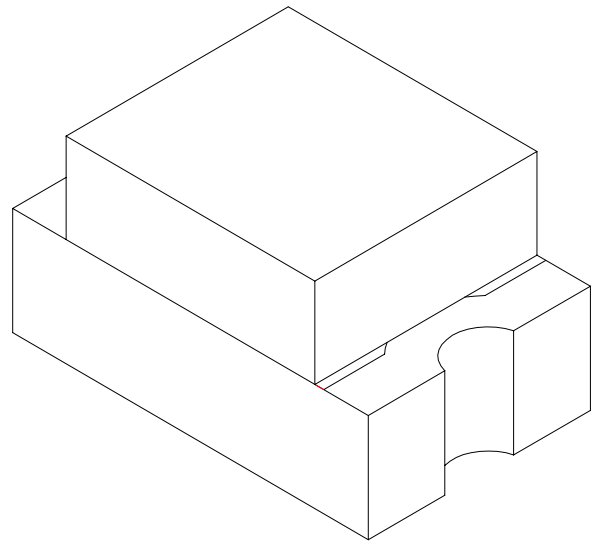
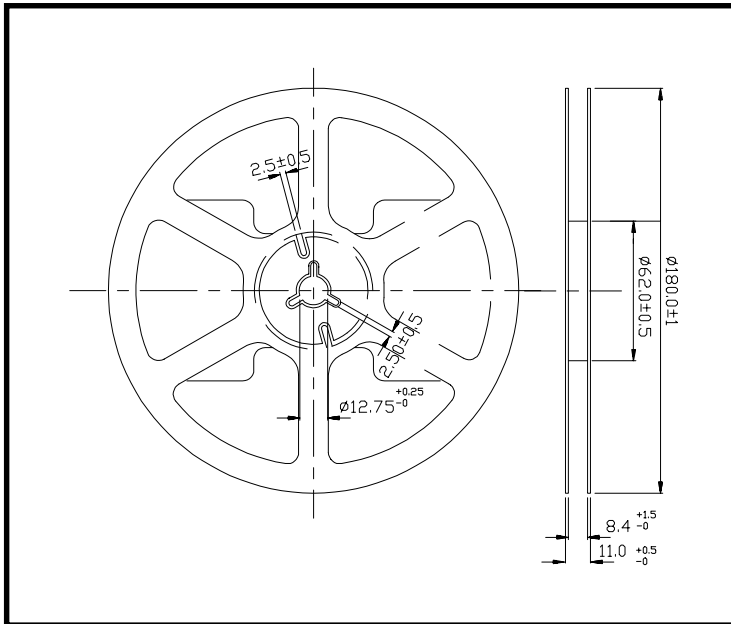
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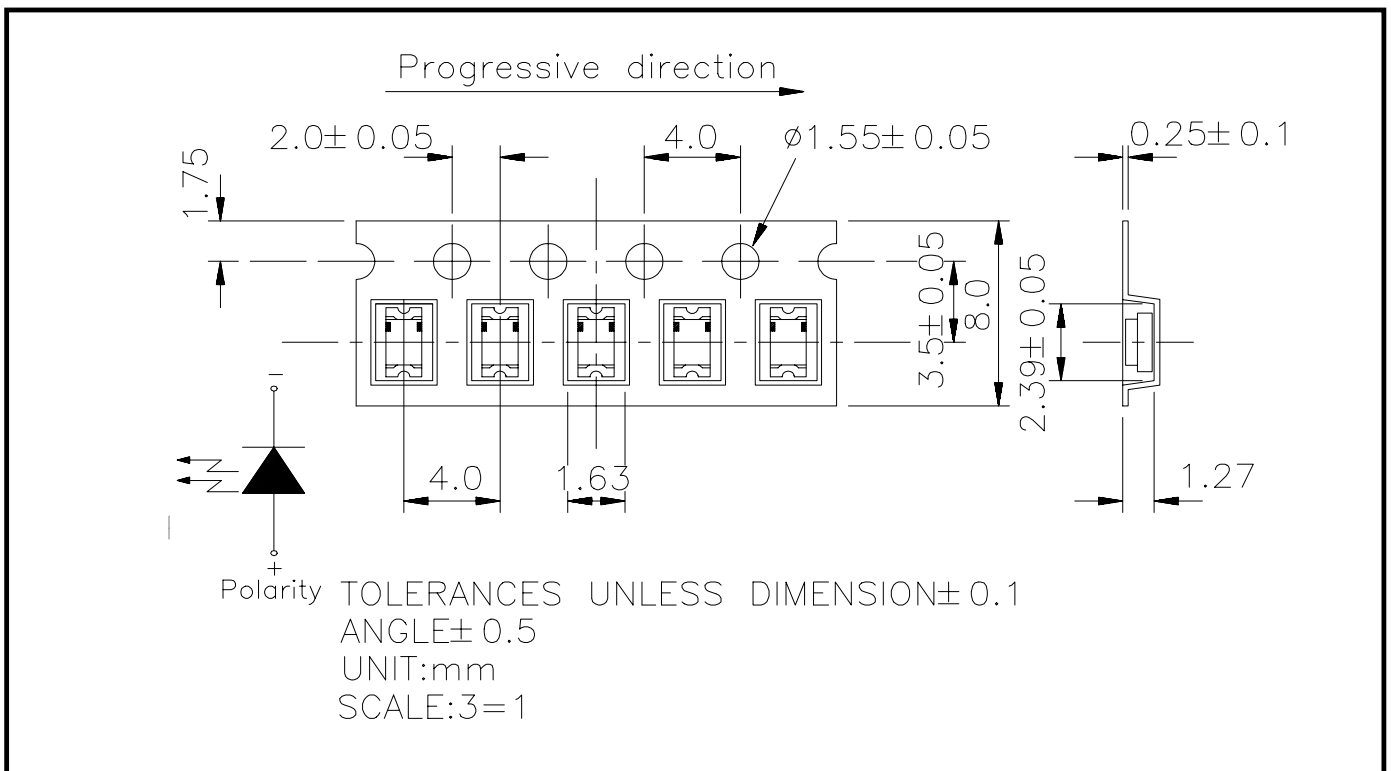
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### Package Dimensions :



### Loaded quantity per reel 3000 PCS/reel :





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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>	30	mA
Operating Temperature	T <sub>opr</sub>	-40~ +85	°C
Storage Temperature	T <sub>stg</sub>	-40 ~ +90	°C
Soldering Temperature	T <sub>sol</sub>	260 (for 5 second)	°C
Power Dissipation	P <sub>d</sub>	100	mW
Peak Forward Current(Duty 1/10 @ 1KHZ)	I <sub>F</sub> (Peak)	160	mA

### ■ Electronic Optical Characteristics :

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Luminous Intensity	I <sub>v</sub>	6.0	10	-----	mcd	I <sub>F</sub> =20mA
Viewing Angle	2 θ 1/2	-----	140	-----	deg	I <sub>F</sub> =20mA
Peak Wavelength	λ <sub>p</sub>	-----	570	-----	nm	I <sub>F</sub> =20mA
Dominant Wavelength	λ <sub>d</sub>	-----	571	-----	nm	I <sub>F</sub> =20mA
Spectrum Radiation Bandwidth	△ λ	-----	30	-----	nm	I <sub>F</sub> =20mA
Forward Voltage	V <sub>F</sub>	1.7	2.1	2.4	V	I <sub>F</sub> =20mA
Reverse Current	I <sub>R</sub>	-----	-----	10	μ A	V <sub>R</sub> =5V



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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 30min ∫ 5 min L : -55°C 30min	50 CYCLE	76 PCS	0/1
3	Thermal Shock	H : +100°C 5min ∫ 10 sec L : -10°C 5min	50 CYCLE	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 <sub>F</sub> = 20 mA	1000 HRS	76 PCS	0/1
7	High Temperature / High Humidity	85°C/85% RH	1000 HRS	76 PCS	0/1



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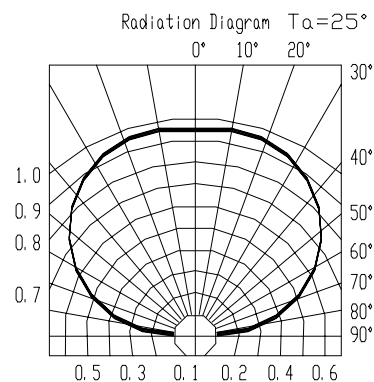
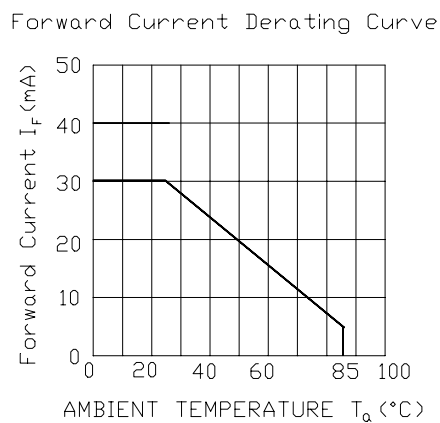
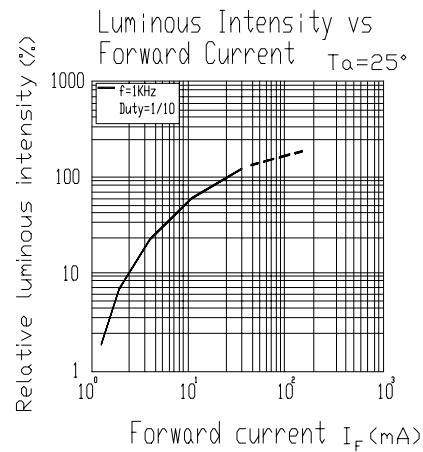
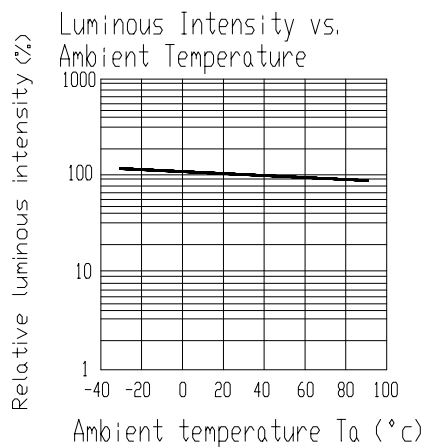
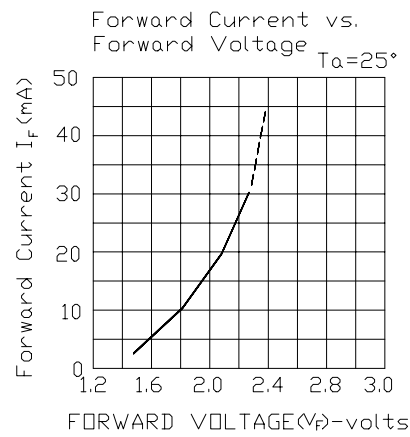
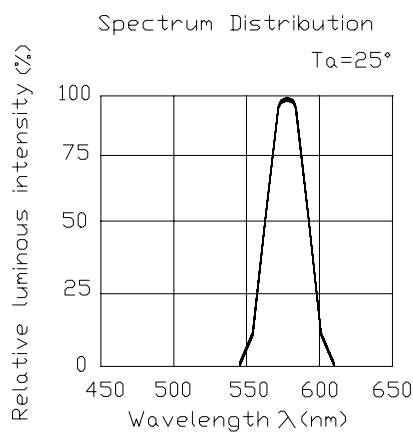
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## Typical Electro-Optical Characteristic Curves :





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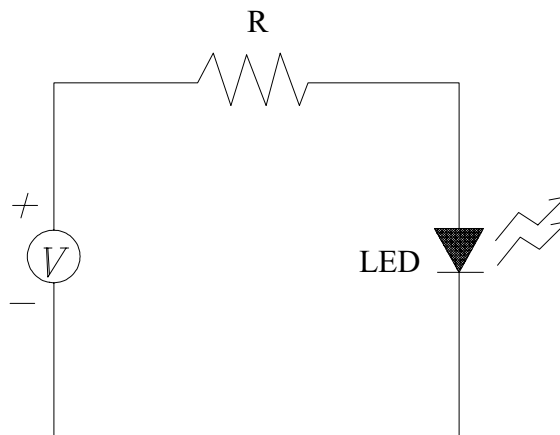
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■ **Test Circuit :**



■ **Precautions For Use :**

1. Over-current-proof

Customer must apply resistors for protection , otherwise slight voltage shift will cause big current change ( Burn out will happen ).

2. Storage time

2.1 The operation of temperature and R.H. are :  $5^{\circ}\text{C}\sim 35^{\circ}\text{C}$  , R.H.60%.

2.2 Once the package is opened, the products should be used within a week.

Otherwise, they should be keeping in a damp proof box with descanting agent.  
Considering the tape life , we suggest our customers to use our products within a year(from production date).

2.3 If opened more than one week in an atmosphere  $5^{\circ}\text{C}\sim 35^{\circ}\text{C}$  , R.H.60%, they should be treated at  $60^{\circ}\text{C}\pm 5^{\circ}\text{C}$  for 15hrs.

2.4 When you discover that the desiccant in the package has a pink color (Normal = blue), you should treat them in the same conditions as 2.3.



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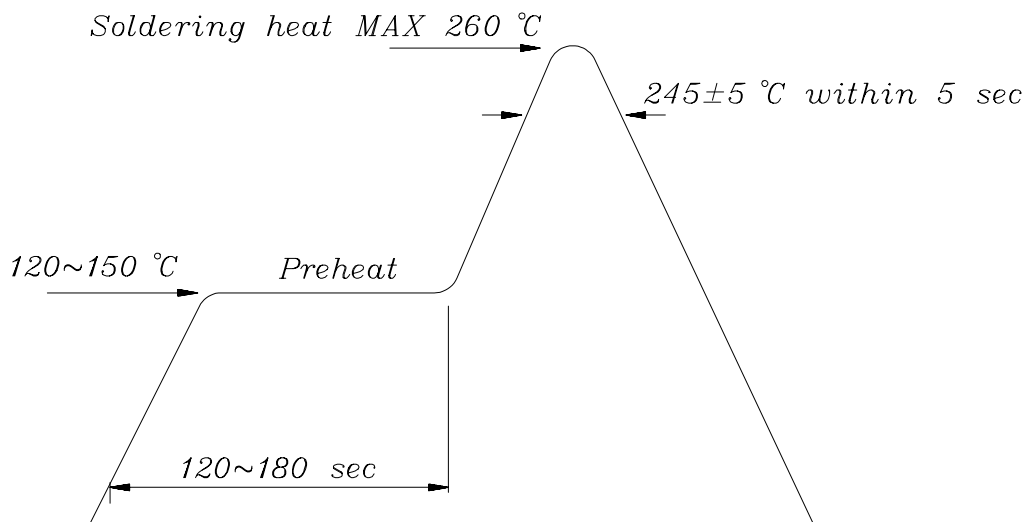
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### ■ Soldering heat reliability ( DIP ) :

Please refer to the following figure :

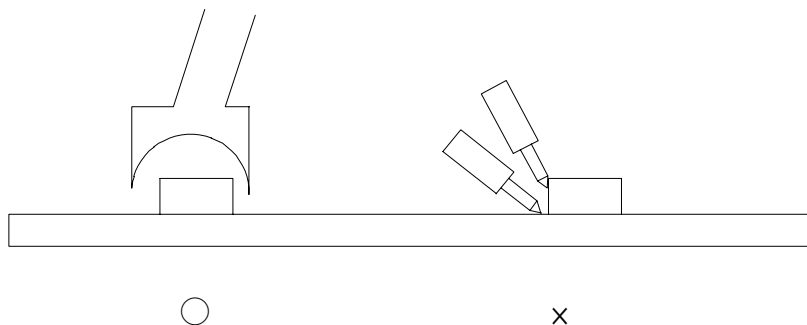


### ■ Soldering Iron

Basic spec is  $\leq 5$  sec when 260°C. If temperature is higher, time should be shorter (+10°C → -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 260°C .
2. The head of iron can not touch copper foil.
3. Twin-head type is preferred.





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■ Reflow Temp / Time :

