



EVERLIGHT ELECTRONICS CO., LTD.

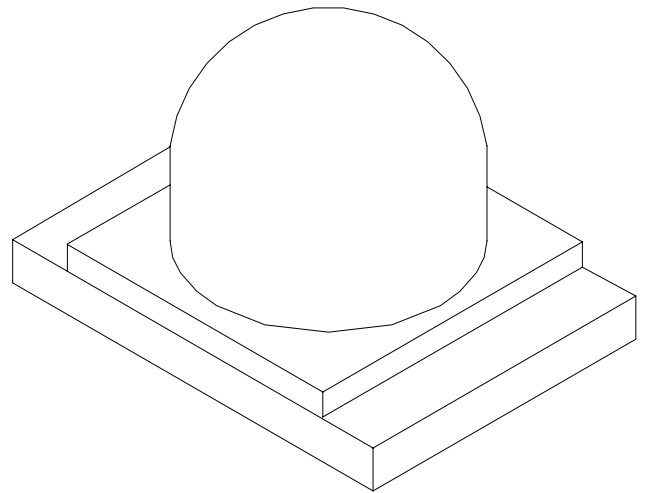
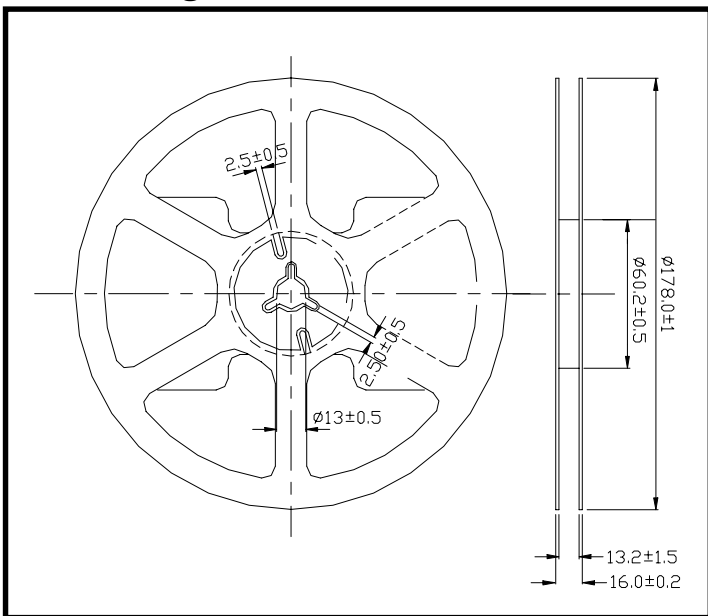
PART NO.: 42-21 VGC/TR8

Device Number : DSE-421-001 REV. 1.1

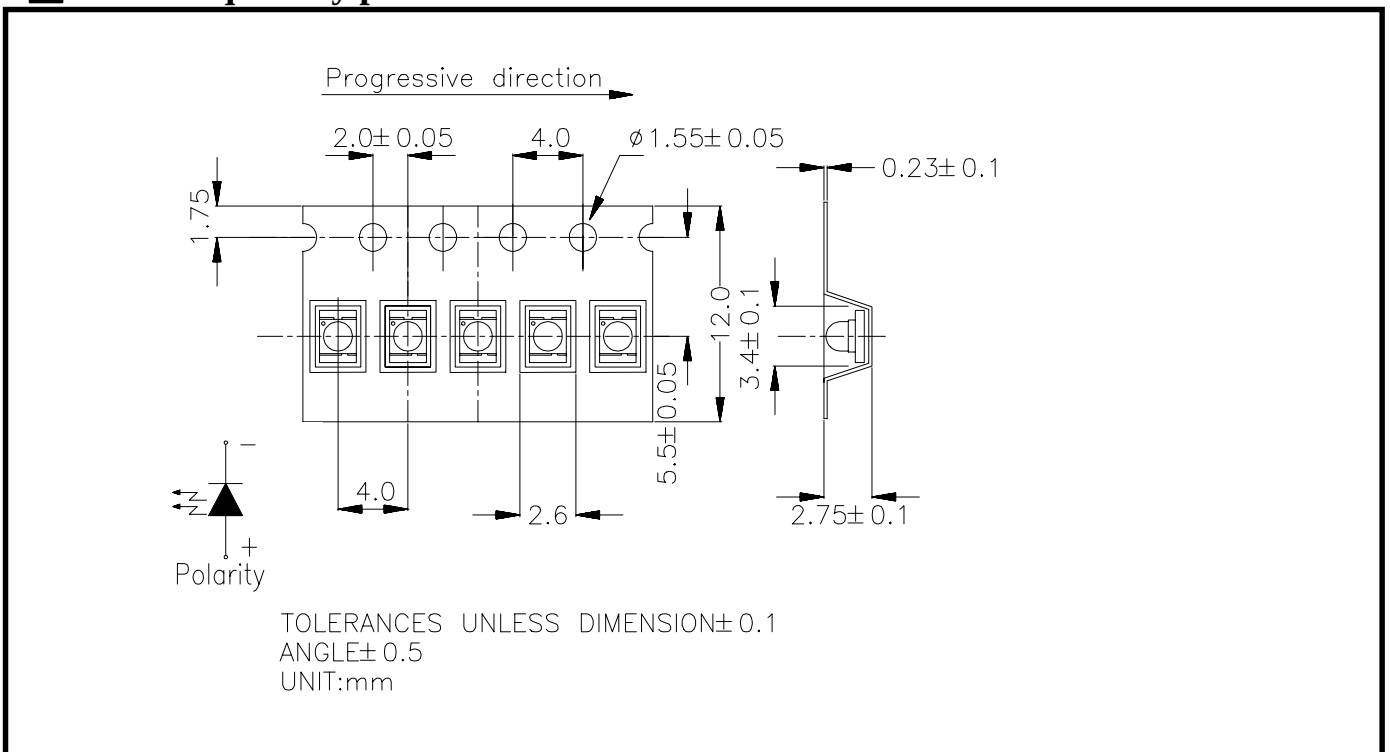
1.8mm Round Subminiature LEDs

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Package Dimensions :



Loaded quantity per reel 1000 PCS/reel :





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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	30	mA
Operating Temperature	T _{opr}	-40 ~ +85	°C
Storage Temperature	T _{stg}	-40 ~ +90	°C
Soldering Temperature	T _{sol}	260 (for 5 second)	°C
Power Dissipation	P _d	100	mW
Peak Forward Current(Duty 1/10 @ 1KHz)	I _F (Peak)	160	mA

■ Electronic Optical Characteristics :

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Luminous Intensity	I _v	73	122	-----	mcd	I _F =20mA
Viewing Angle	2 θ 1/2	-----	30	-----	deg	I _F =20mA
Peak Wavelength	λ _p	-----	570	-----	nm	I _F =20mA
Dominant Wavelength	λ _d	-----	571	-----	nm	I _F =20mA
Spectrum Radiation Bandwidth	△ λ	-----	30	-----	nm	I _F =20mA
Forward Voltage	V _F	1.7	2.1	2.4	V	I _F =20mA
Reverse Current	I _R	-----	-----	10	μ A	V _R =5V



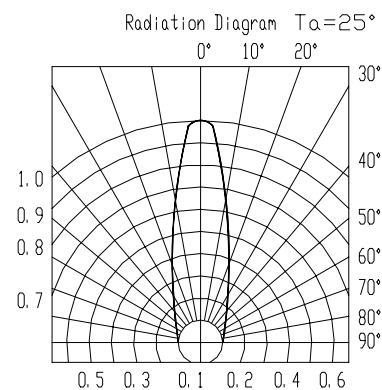
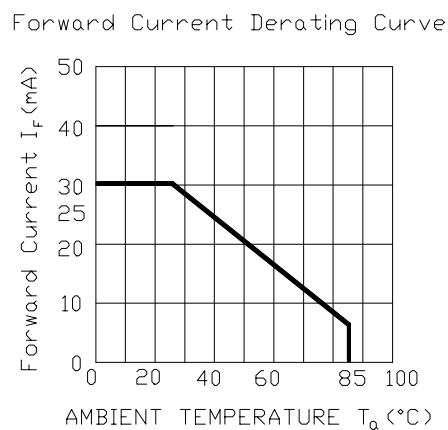
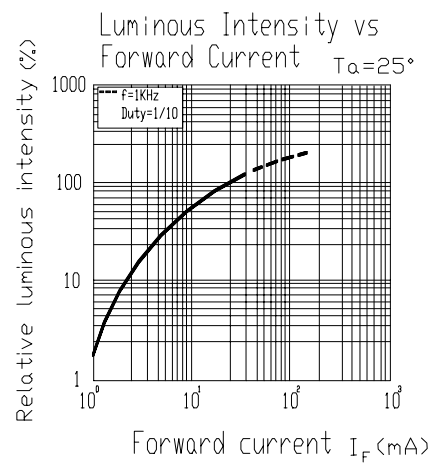
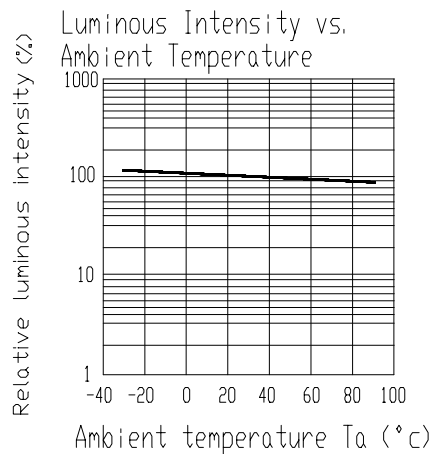
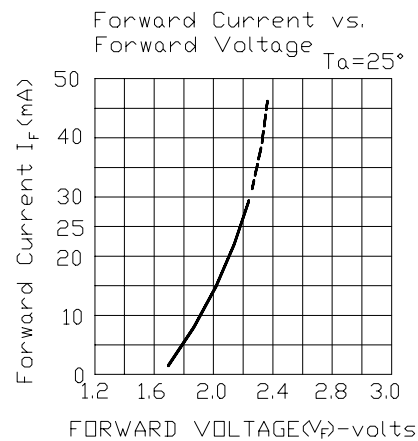
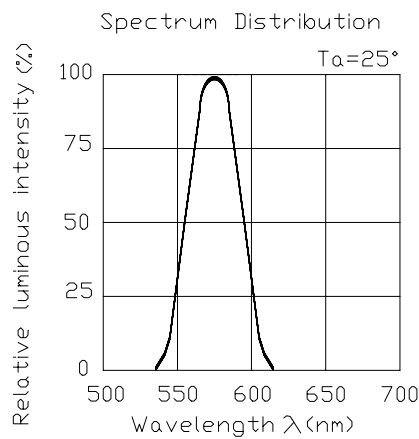
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■ Typical Electro-Optical Characteristic Curves :





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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°C ± 5 °C	5 SEC.	76 PCS	0/1
2	Temperature Cycle	H : +85°C 30min. ∫ 5 min. L : -55°C 30min.	50 CYCLES	76 PCS	0/1
3	Thermal Shock	H : +100°C 5min. ∫ 10 sec. L : -10°C 5min.	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	I _F = 20 mA	1000 HR.	76 PCS	0/1
7	High Temperature / High Humidity	85°C/RH85%	1000 HR.	76 PCS	0/1



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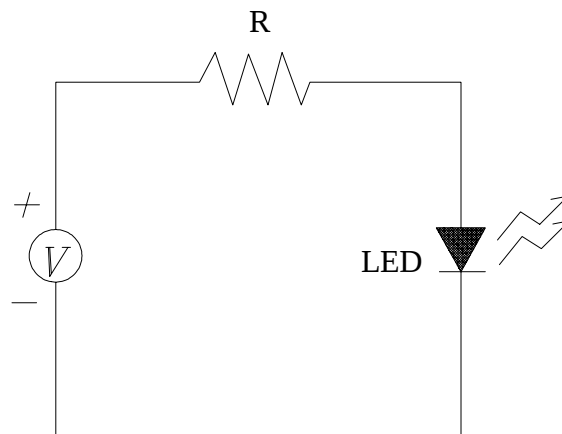
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■ **Test Circuit :**



■ **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 RH are : $5^{\circ}\text{C} \sim 35^{\circ}\text{C}$, RH60%.

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

Otherwise, they should be keeping in a dampproof box with desiccants.

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 $5^{\circ}\text{C} \sim 35^{\circ}\text{C}$, RH60%, 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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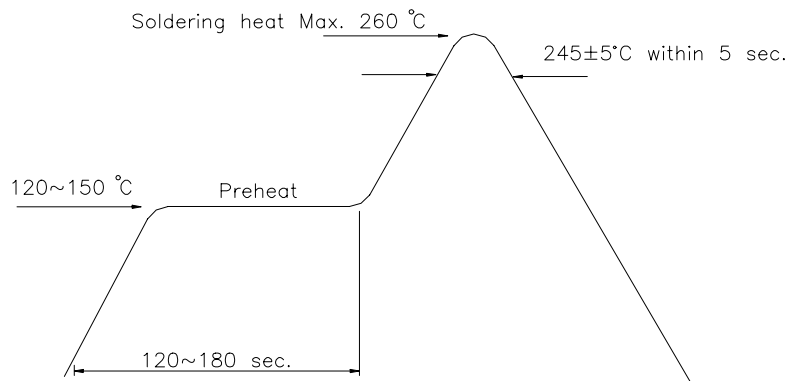
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■ Soldering heat reliability (DIP)

Please refer to the following figure :

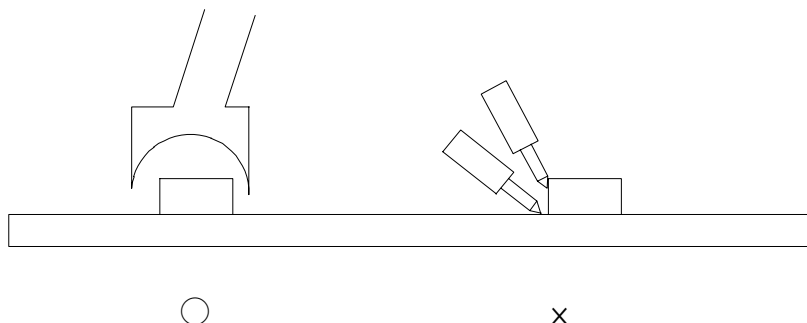


■ Soldering Iron

Basic spec is ≤ 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. Copper foil can not be touched by the head of iron.
3. Twin-head type is preferred.





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■ Reflow Temp./Time :

