

MODEL NO: 19-21VGC/TR8 Device Number: DSE-191-001 REV. 1.3

0.8mm Height Flat Top 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 19-21 SMD Taping is much smaller than lead
- farme 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 Dimension	s :
, (a)———	1.6±0.2 1.1 0 H 80	- + +
	1.2	Polarity For reflow soldering
	1.0 Cathode Mask	0.8 0.7 0.8

Notes:

Tolerances Unless Dimension ± 0.1mm

Angle± 0.5°

Unit = mm

Part NO.	(CHIP	Lens Color	
Tutt 1(0.	Material	Emitted Color		
19-21VGC/TR8	GaP	Green	Water Clear	

Office: NO. 25, Lane 76, Sec. 3, Chung Yang Rd., Tucheng 236, Taipei, Taiwan, R.O.C.

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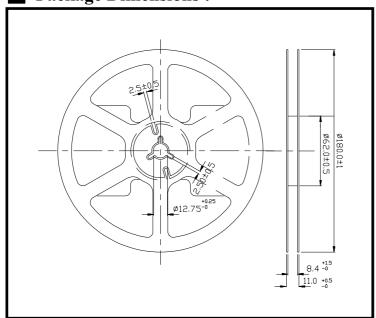


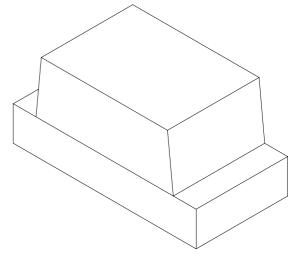
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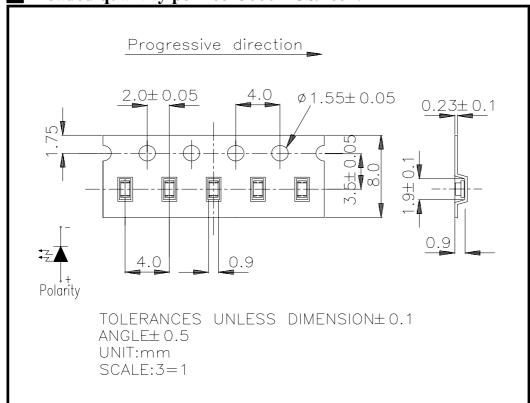
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■ Package Dimensions:





Loaded quantity per reel 3000 PCS/reel:





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Absolute Maximum Ratings at $Ta = 25^{\circ}C$:

Parameter	Symbol	Rating	Unit
Reverse Voltage	Vr	5	V
Forward Current	If	30	mA
Operating Temperature	Topr	-40 ~ +85	$^{\circ}\!\mathbb{C}$
Storage Temperature	Tstg	-40 ~ +90	$^{\circ}\! \mathbb{C}$
Soldering Temperature	Tsol	260 (for 5 second)	$^{\circ}\!\mathbb{C}$
Power Dissipation	Pd	100	mW
Peak Forward Current(Duty 1/10 @ 1KHZ)	If(Peak)	160	mA

■ Electronic Optical Characteristics :

Parameter	Symbol	Min.	Тур.	Max.	Unit	Condition
Luminous Intensity	Iv	7.5	12.5		mcd	If=20mA
Viewing Angle	2 \theta 1/2		100		deg	If=20mA
Peak Wavelength	λр		570		nm	If=20mA
Dominant Wavelength	λd		571		nm	If=20mA
Spectrum Radiation Bandwidth	Δλ		30		nm	If=20mA
Forward Voltage	Vf	1.7	2.1	2.4	V	If=20mA
Reverse Current	Ir			10	μΑ	Vr=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°℃	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% RH	1000 HRS	76 PCS	0/1

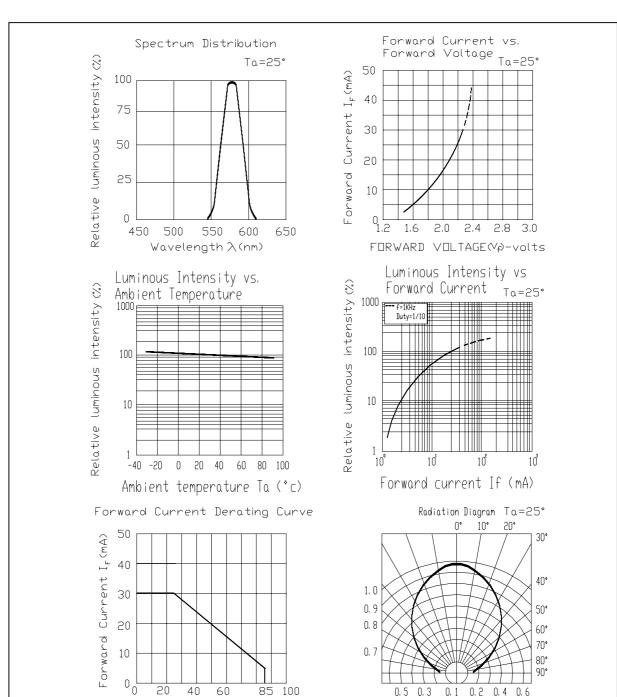


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Typical Electro-Optical Characteristic Curves:



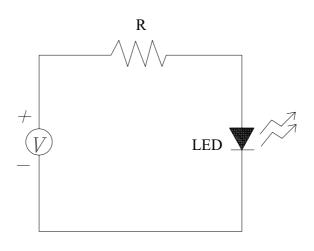
AMBIENT TEMPERATURE T_A (°C)



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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° C ~ 35° C, R.H.60%.
 - 2.2 Once the package is opened, the products should be used within a week. Otherwise, they should be keep in a damp proof box with desiccanting 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.



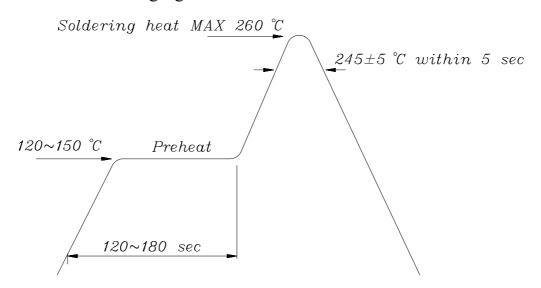
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■ Soldering heat reliability (DIP):

Please refer to the following figure:

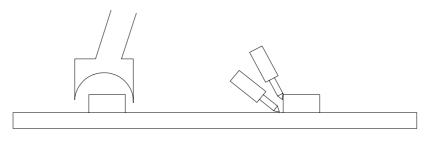


Soldering Iron:

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



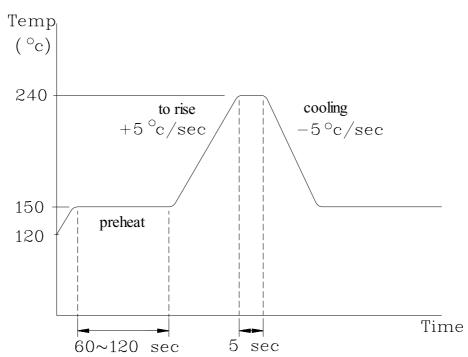


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Reflow Temp / Time :



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