EVERLIGHT ELECTRONICS CO.,LTD.

Technical Data Sheet

1206 Package Chip LED (1.1 mm Height)

15-21/Y2C-AN1P2/2T

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.
- Pb-free.
- The product itself will remain within RoHS complaint version.



- The 15-21 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

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

Device Selection Guide

DA DE N	C	I a con Callan	
PART No.	Material	Emitted Color	Lens Color
15-21/Y2C-AN1P2/2T	AlGaInP	Brilliant Yellow	Water Clear

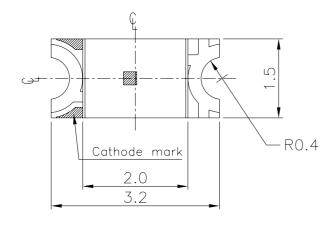
Rev 1

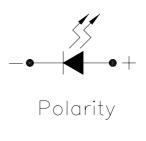
Page: 1 of 10

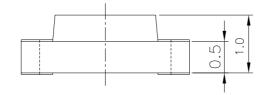
Everlight Electronics Co., Ltd. http://www.everlight.com

Device No: SZDSE-151-Y14 Prepared date:26-Dec.-2006 Prepared by: Zhifang Pan

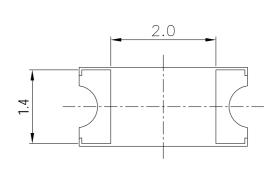
Package Outline Dimensions

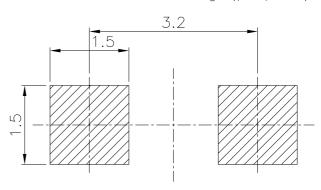






For reflow soldering (propose)





Note: The tolerances unless mentioned is ± 0.1 mm, Unit = mm

Everlight Electronics Co., Ltd.

Device No: SZDSE-151-Y14

http://www.everlight.com

Prepared date:26-Dec.-2006

Rev 1

Page: 2 of 10



Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Rating	Unit	
Reverse Voltage	VR	5	V	
Forward Current	IF	25	mA	
Peak Forward Current (Duty 1/10 @1KHz)	Ifp	60	mA	
Power Dissipation	Pd	60	mW	
Electrostatic Discharge(HBM)	ESD	2000	V	
Operating Temperature	Topr	-40 ~ +85	$^{\circ}\!\mathbb{C}$	
Storage Temperature	Tstg	-40 ~ +90	$^{\circ}\!\mathbb{C}$	
Soldering Temperature	Tsol	Reflow Soldering: 260 °C for 10 sec. Hand Soldering: 350 °C for 3 sec.		

Electro-Optical Characteristics (Ta=25°C)

ļ						
Parameter	Symbol	Min.	Тур.	Max.	Unit	Condition
Luminous Intensity	I_{V}	28.5		72.0	mcd	
Viewing Angle	2 0 1/2		130		deg	
Peak Wavelength	λр		591		nm	
Dominant Wavelength	λd	585.5		594.5	nm	I _F =20mA
Spectrum Radiation Bandwidth	Δλ		15		nm	
Forward Voltage	V_{F}	1.7	2.0	2.4	V	
Reverse Current	I_R			10	μΑ	V _R =5V

Notes:

- 1.Tolerance of Luminous Intensity ±10%
- 2.Tolerance of Dominant Wavelength ±1nm

Everlight Electronics Co., Ltd. http://www.everlight.com Rev 1 Page: 3 of 10

Device No: SZDSE-151-Y14 Prepared date:26-Dec.-2006 Prepared by: Zhifang Pan



Bin Range Of Dom. Wavelength

Group	Bin	Min	Max	Unit	Condition
	D3	585.5	588.5	nm	I _F =20mA
A	D4	588.5	591.5		
	D5	591.5	594.5		

Bin Range Of Luminous Intensity

Bin	Min	Max	Unit	Condition	
N1	28.5	36.0	mcd		
N2	36.0	45.0		I _F =20mA	
P1	45.0	57.0			
P2	57.0	72.0			

Notes:

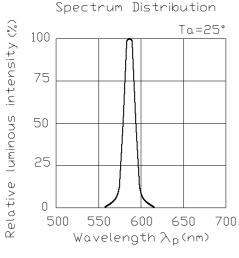
- 1.Tolerance of Luminous Intensity ±10%
- 2.Tolerance of Dominant Wavelength ±1nm

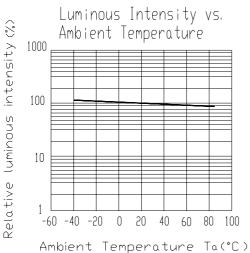
Everlight Electronics Co., Ltd. Device No: SZDSE-151-Y14

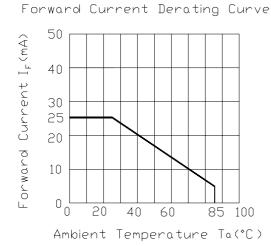
http://www.everlight.com Prepared date:26-Dec.-2006 Rev 1

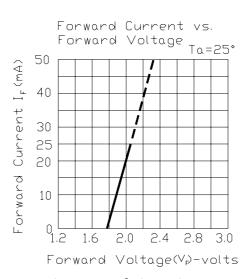
Page: 4 of 10

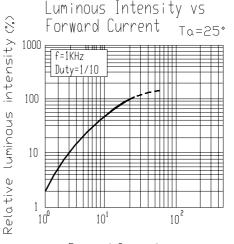
Electro-Optical Characteristics (Ta=25°C)

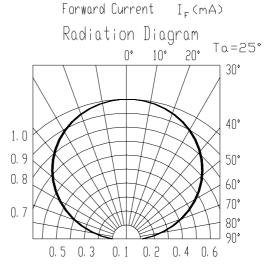












Label explanation

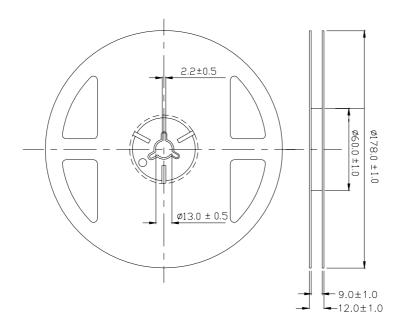
CAT: Luminous Intensity Rank

HUE: Dom. Wavelength Rank

REF: Forward Voltage Rank



Reel Dimensions



Note: The tolerances unless mentioned is ± 0.1 mm, Unit = mm

Everlight Electronics Co., Ltd. Device No: SZDSE-151-Y14

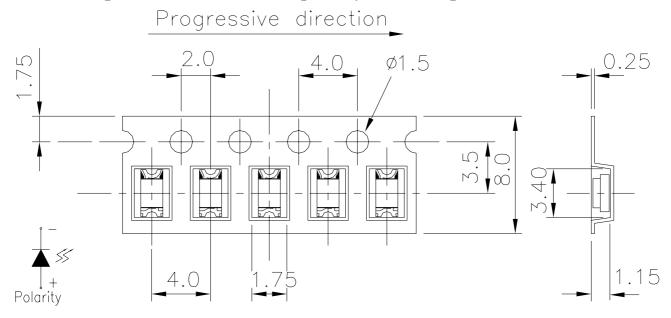
http://www.everlight.com

Prepared date:26-Dec.-2006

Rev 1

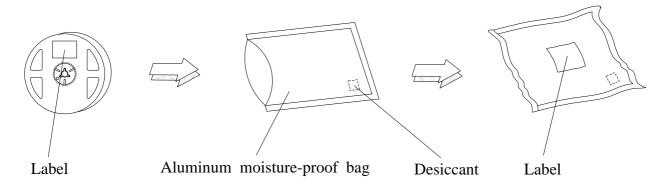
Page: 6 of 10

Carrier Tape Dimensions: Loaded quantity 2000 PCS per reel



Note: The tolerances unless mentioned is ± 0.1 mm, Unit = mm

Moisture Resistant Packaging



Everlight Electronics Co., Ltd. Device No: SZDSE-151-Y14

http://www.everlight.com

Prepared date:26-Dec.-2006

Rev 1

Page: 7 of 10



Reliability Test Items And Conditions

The reliability of products shall be satisfied with items listed below.

Confidence level: 90%

LTPD: 10%

No.	Items	Test Condition	Test Hours/Cycles	Sample Size	Ac/Re
1	Reflow Soldering	Temp. : 260°C±5°C Min.5 sec.	6 Min.	22 Pcs.	0/1
2	Temperature Cycle	$H: +100^{\circ}\mathbb{C}$ 15min \int 5 min $L: -40^{\circ}\mathbb{C}$ 15min	300 Cycles	22 PCS.	0/1
3	Thermal Shock	$H: +100^{\circ}\mathbb{C}$ 5min $\int 10 \sec$ $L: -10^{\circ}\mathbb{C}$ 5min	300 Cycles	22 PCS.	0/1
4	High Temperature Storage	Temp. : 100°C	1000 Hrs.	22 PCS.	0/1
5	Low Temperature Storage	Temp. : -40°℃	1000 Hrs.	22 PCS.	0/1
6	DC Operating Life	$I_F = 20 \text{ mA}$	1000 Hrs.	22 PCS.	0/1
7	High Temperature / High Humidity	85°C/85%RH	1000 Hrs.	22 PCS.	0/1

Precautions For Use

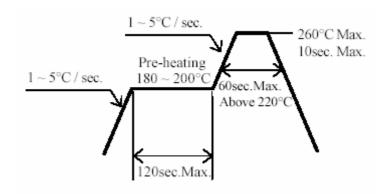
1. Over-current-proof

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

2. Storage

- 2.1 Do not open moisture proof bag before the products are ready to use.
- 2.2 Before opening the package: The LEDs should be kept at 30°C or less and 90%RH or less.
- 2.3 After opening the package: The LED's floor life is 1 year under 30 °C or less and 60% RH or less. If unused LEDs remain, it should be stored in moisture proof packages.
- 2.4 If the moisture absorbent material (silica gel) has faded away or the LEDs have exceeded the storage time, baking treatment should be performed using the following conditions.

 Baking treatment: 60±5°C for 24 hours.
- 3. Soldering Condition
- 3.1 Pb-free solder temperature profile



- 3.2 Reflow soldering should not be done more than two times.
- 3.3 When soldering, do not put stress on the LEDs during heating.
- 3.4 After soldering, do not warp the circuit board.

Everlight Electronics Co., Ltd. Device No: SZDSE-151-Y14

http://www.everlight.com

Rev 1

Page: 9 of 10

Prepared date:26-Dec.-2006

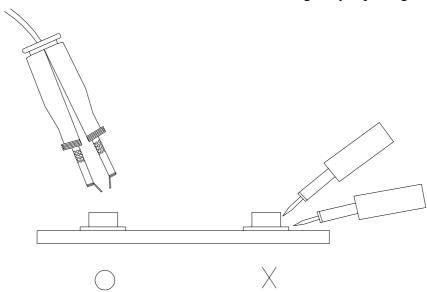


4. Soldering Iron

Each terminal is to go to the tip of soldering iron temperature less than 350°C for 3 seconds within once in less than the soldering iron capacity 25W. Leave two seconds and more intervals, and do soldering of each terminal. Be careful because the damage of the product is often started at the time of the hand solder.

5.Repairing

Repair should not be done after the LEDs have been soldered. When repairing is unavoidable, a double-head soldering iron should be used (as below figure). It should be confirmed beforehand whether the characteristics of the LEDs will or will not be damaged by repairing.



EVERLIGHT ELECTRONICS CO., LTD.

Office: No 25, Lane 76, Sec 3, Chung Yang Rd, Tucheng, Taipei 236, Taiwan, R.O.C Tel: 886-2-2267-2000, 2267-9936

Fax: 886-2267-6244, 2267-6189, 2267-6306

http://www.everlight.com

Everlight Electronics Co., Ltd. http://www.everlight.com Rev 1 Page: 10 of 10

Device No: SZDSE-151-Y14 Prepared date:26-Dec.-2006 Prepared by: Zhifang Pan