



Technical Data Sheet

Right Angle Lens Chip LEDs with Bi-Color(Multi-Color)

12-22ASDRUGC/S530-A2/TR8

Features

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

Descriptions

- The 12-22 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

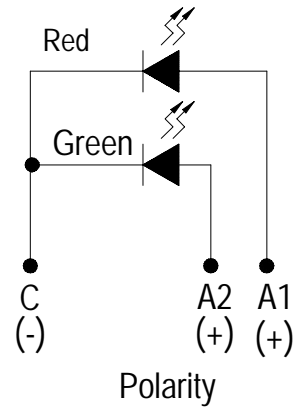
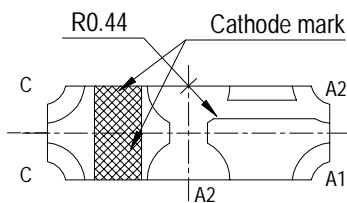
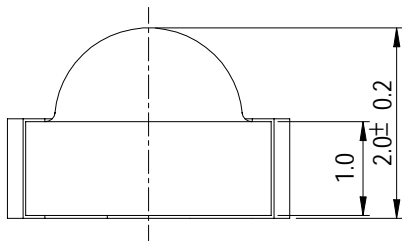
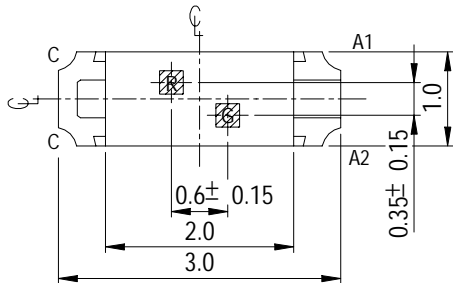
- Automotive: backlighting in dashboard and switch.
- Telecommunication: indicator and backlighting in telephone and fax.
- Flat backlight for LCD, switch and symbol.
- General use.



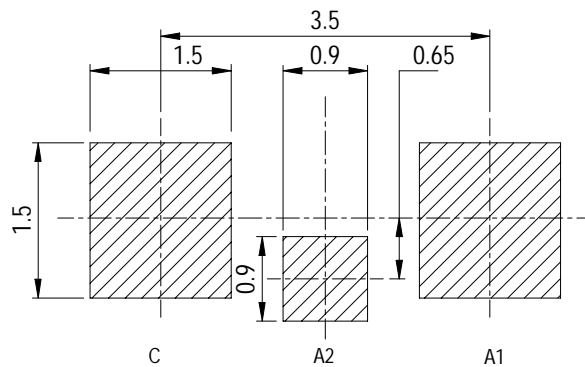
Device Selection Guide

Chip			Lens Color
Type	Material	Emitted Color	
SDR	AlGaInP	Super Deep Red	Water Clear
UG	GaP	Super Green	

Package Outline Dimensions



For reflow soldering (propose)



Note: Tolerances Unless Dimension $\pm 0.1\text{mm}$, Angle $\pm 0.5^\circ$,Unit = mm

Absolute Maximum Ratings (Ta=25°C)

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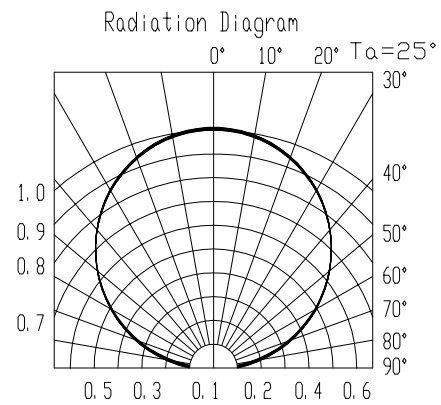
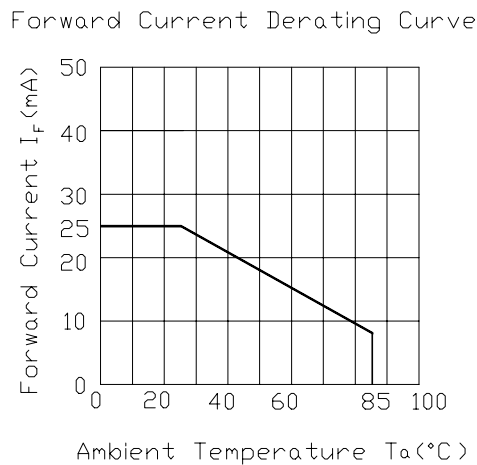
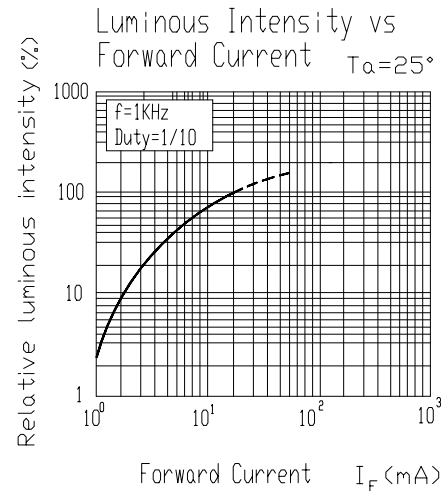
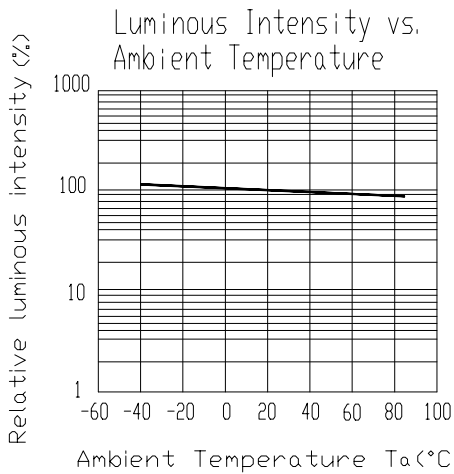
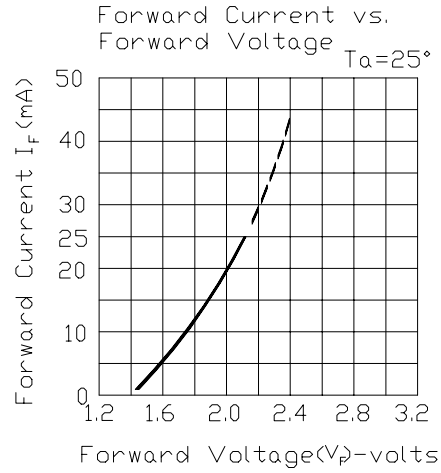
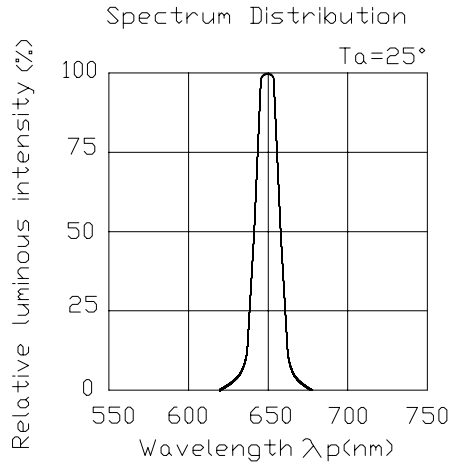
Parameter	Symbol	Rating	Unit
Reverse Voltage	V _R	5	V
Forward Current	I _F	SDR:25 UG:30	mA
Operating Temperature	T _{opr}	-40 ~ +85	°C
Storage Temperature	T _{stg}	-40~ +90	°C
Soldering Temperature	T _{sol}	260 (for 5 second)	°C
Electrostatic Discharge	ESD	2000	V
Power Dissipation	P _d	SDR:60 UG:100	mW
Peak Forward Current (Duty 1/10 @1KHz)	I _F	SDR:60 UG:60	mA

Electro-Optical Characteristics (T_a=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Luminous Intensity	I _v SDR	17	30	-----	mcd	I _F =20mA
	UG	9	16	-----		
Viewing Angle	2θ 1/2	-----	120	-----	deg	I _F =20mA
Peak Wavelength	λ _p SDR	-----	650	-----	nm	I _F =20mA
	UG	-----	570	-----		
Dominant Wavelength	λ _d SDR	-----	639	-----	nm	I _F =20mA
	UG	-----	571	-----		
Spectrum Radiation Bandwidth	Δλ SDR	-----	20	-----	nm	I _F =20mA
	UG	-----	30	-----		
Forward Voltage	V _F SDR	-----	2.0	2.4	V	I _F =20mA
	UG	1.7	2.1	2.4		
Reverse Current	I _R SDR	-----	-----	10	μA	V _R =5V
	UG	-----	-----	10		

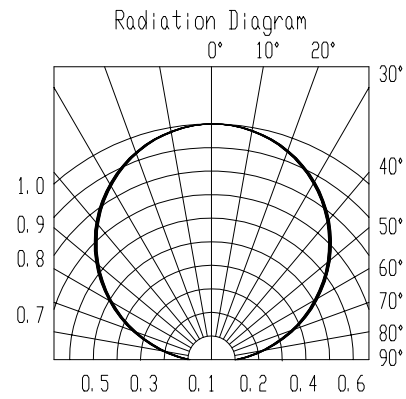
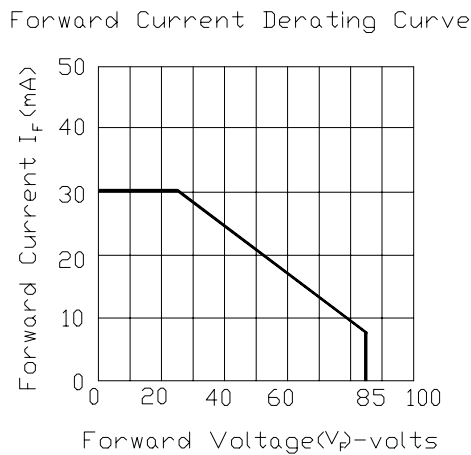
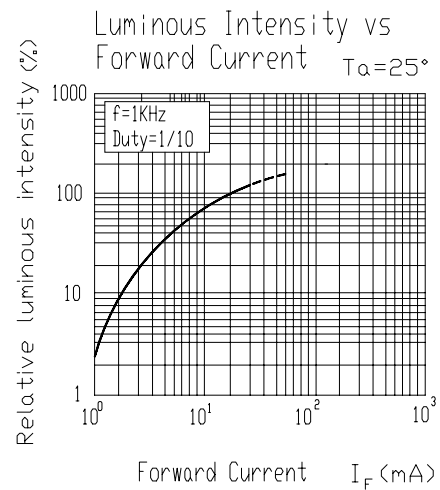
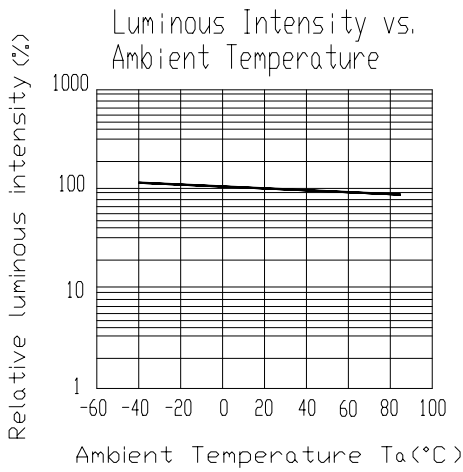
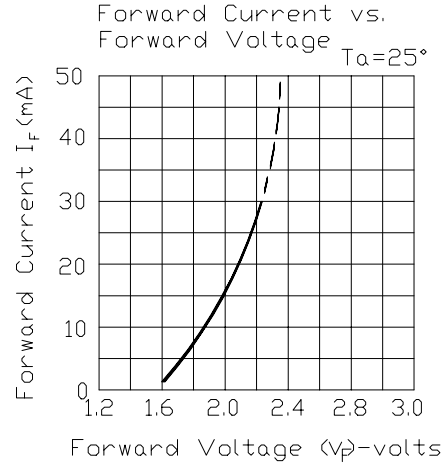
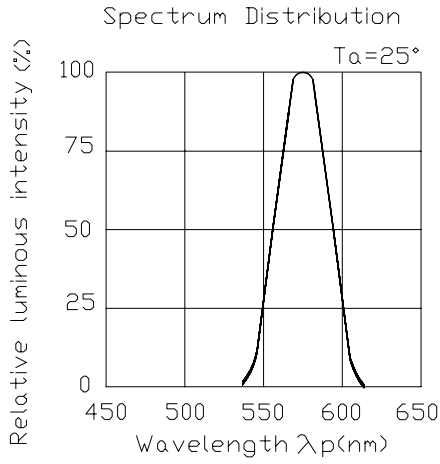
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**Typical Electro-Optical Characteristics Curves
SDR**



12-22ASDRUGC/S530-A2/TR8

Typical Electro-Optical Characteristics Curves
UG



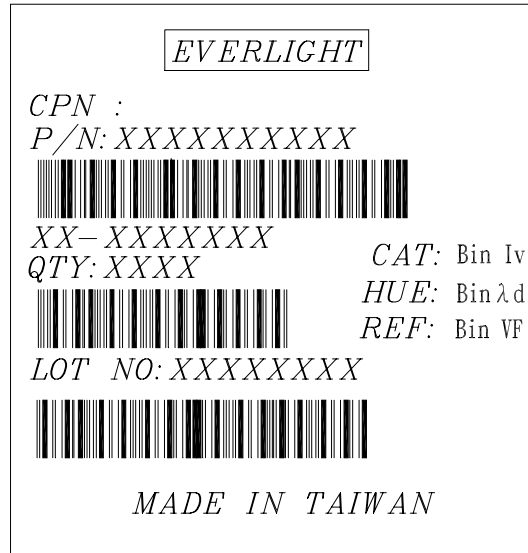
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Label explanation

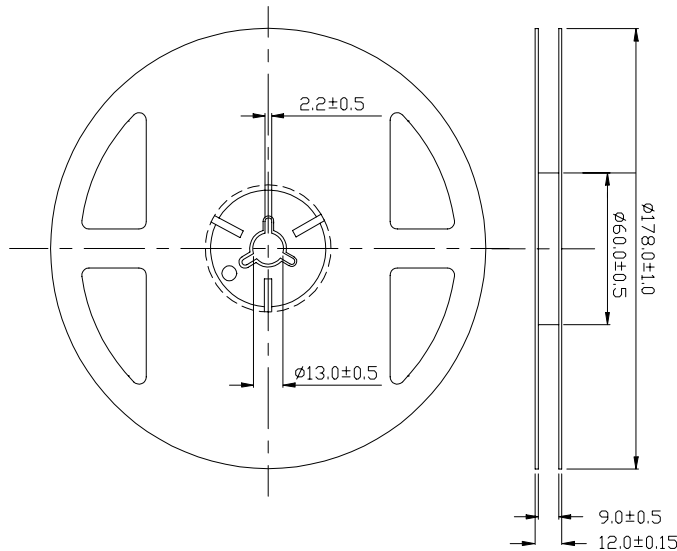
CAT: Luminous Intensity (mcd)

HUE: Dom. Wavelength (nm)

REF: Forward Voltage (V)

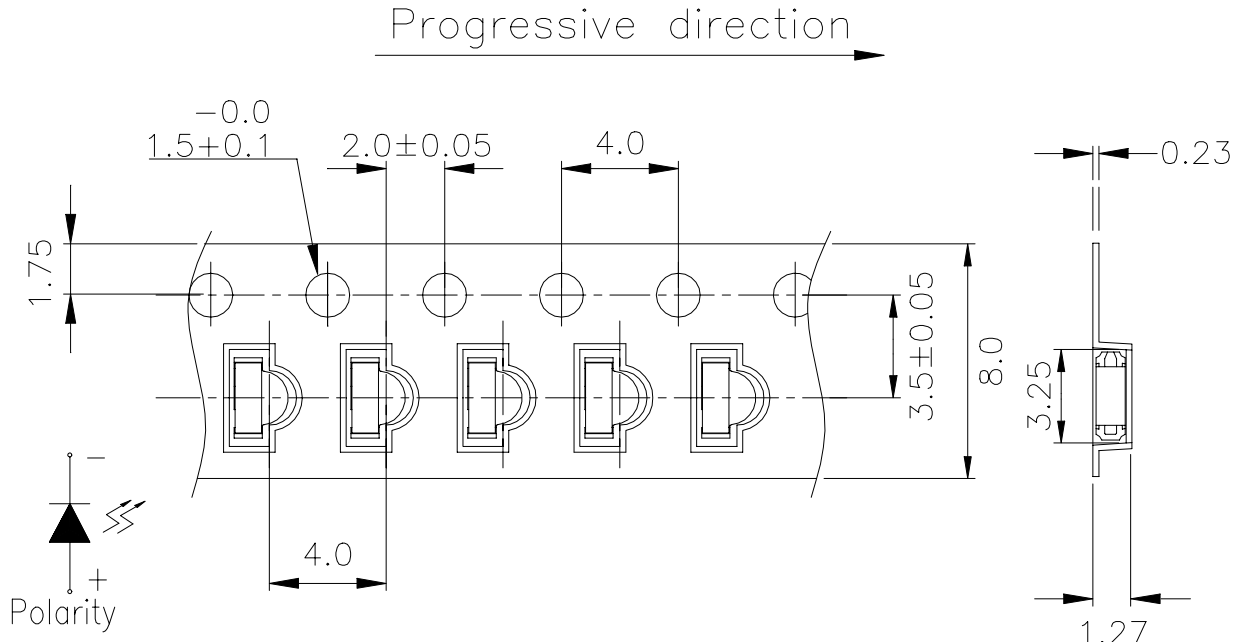


Reel Dimensions



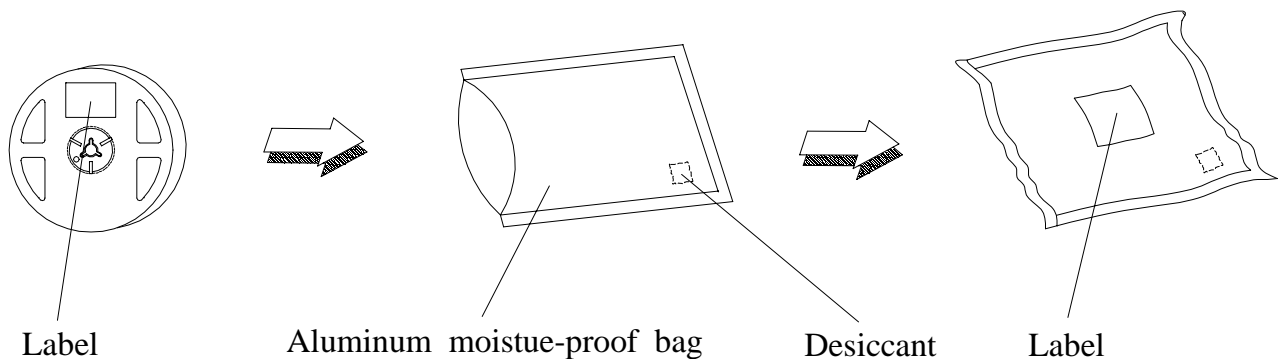
Note: Tolerances Unless Dimension $\pm 0.1\text{mm}$, Angle $\pm 0.5^\circ$,Unit = mm

■ **Carrier Tape Dimensions: Loaded quantity 2000 PCS per reel**



Note: Tolerances Unless Dimension $\pm 0.1\text{mm}$, Angle $\pm 0.5^\circ$,Unit = mm

■ **Moisture Resistant Packaging**



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	Temp. : 240°C ± 5°C Min. 5 sec.	6 min.	22 Pcs.	0/1
2	Temperature Cycle	H : +100°C 15min. ∫ 5 min. L : -40°C 15min.	300 Cycles	22 Pcs.	0/1
3	Thermal Shock	H : +100°C 5min. ∫ 10 sec. L : -10°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. : -55°C	1000 Hrs.	22 Pcs.	0/1
6	DC Operating Life	I _F = 20 mA	1000 Hrs.	22 Pcs.	0/1
7	High Temperature / High Humidity	85°C/R.H85%	1000 Hrs.	22 Pcs.	0/1

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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

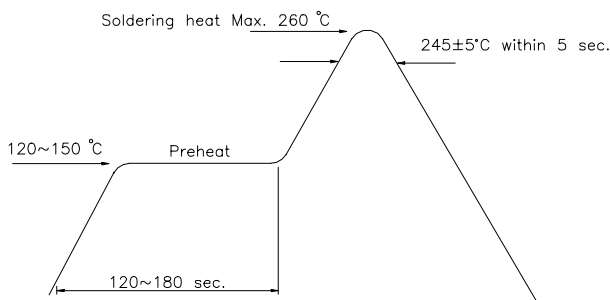
2.1 The operation of Temperature and RH are : 5°C~35°C , RH60%.

2.2 Once the package is opened, the products should be used within a week. Otherwise, they should be kept in a damp proof box with desiccating agent. Considering the tape life , we suggest our customers to use our products within a year(from production date).

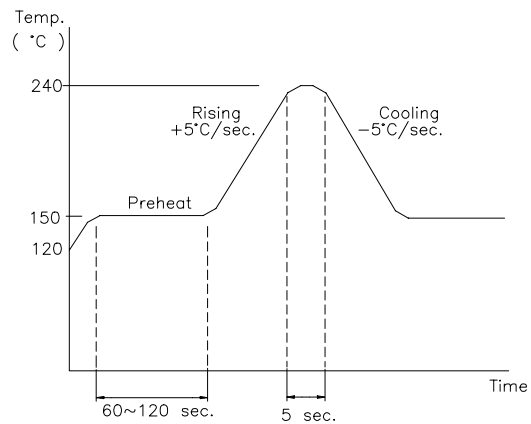
2.3 If opened more than one week in an atmosphere 5°C~35°C , RH 60% , they should be treated at 60°C± 5°C for 15hrs.

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.

Soldering heat



Reflow Temp / Time

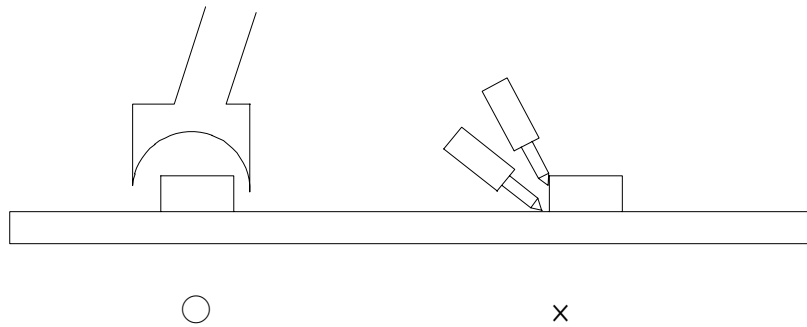


Soldering Iron

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. SDRface temperature of the device should be under 230 °C .

Rework

1. Customer must finish rework within 5 sec under 245°C.
2. The head of iron can not touch copper foil.
3. Twin-head type is preferred.

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