



MODEL NO: 15-22SURUBC/S530-A2/TR8

Device Number : DSE-152-057 REV. 1.0

Chip LEDs with Bi-Color(Multi-Color)

ECN : _____ Page: 1/10

Features :

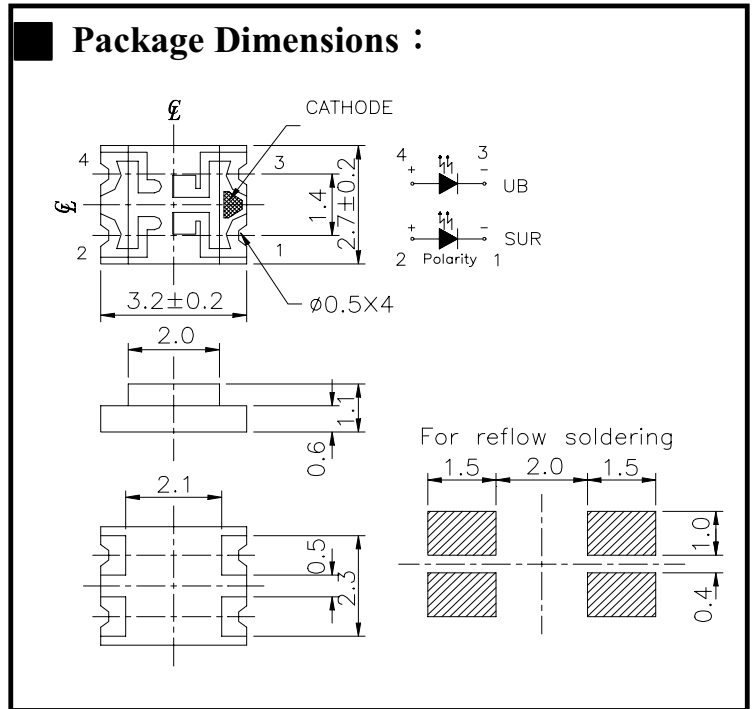
- Package in 8mm tape on 7" diameter reel.
- Compatible with automatic placement equipment.
- Compatible with infrared and vapor phase reflow solder process.
- Multi-color type.

Descriptions :

- The 15-22 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.



Notes :

Tolerances Unless Dimension ± 0.1mm
 Angle± 0.5°
 Unit=mm

PART NO	Chip		Lens Color
	Material	Emitted Color	
15-22SURUBC/S530-A2/TR8	SUR	AlGaInP	Water Clear
	UB	GaN/SiC	

Office: NO. 25, Lane 76, Sec.3, Chung Yang Rd., Tucheng 236, Taipei, Taiwan, R.O.C.
 TEL: 886-2-2267-2000, 2267-9936
 FAX: 886-2-2267-6244, 2267-6189, 2267-6306
<http://www.everlight.com>



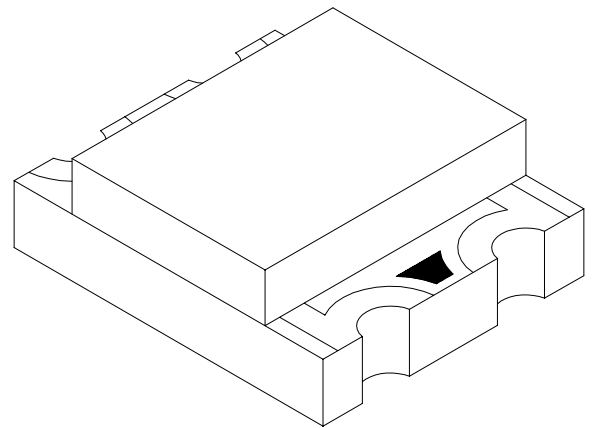
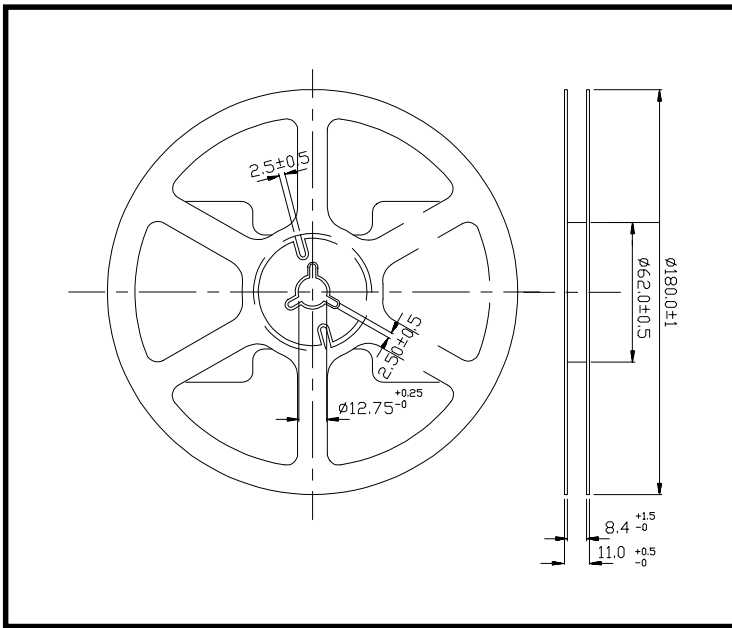
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Device Number : DSE-152-057 REV. 1.0

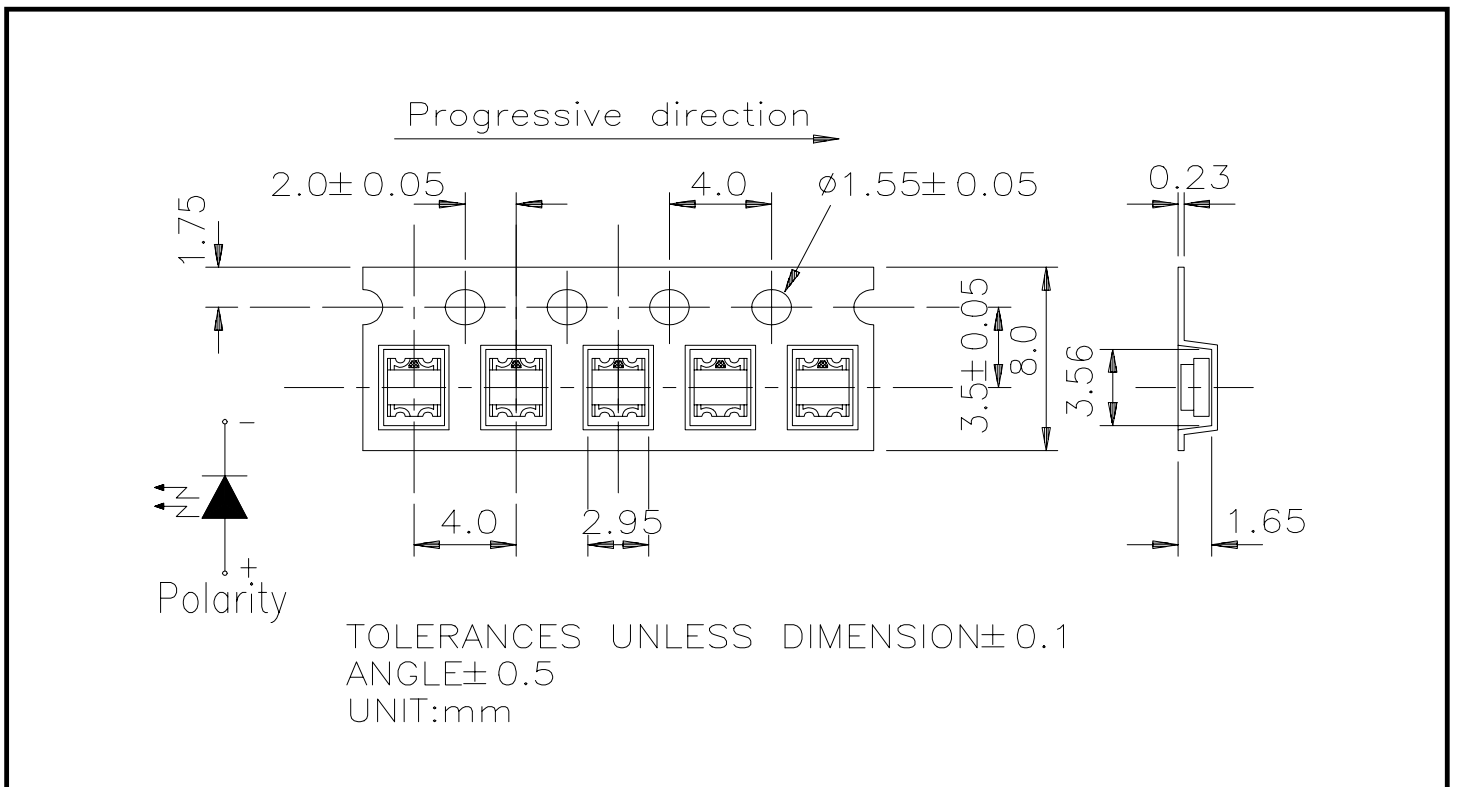
Chip LEDs with Bi-Color(Multi-Color)

ECN : Page: 2/10

■ Package Dimensions :



■ Loaded quantity per reel 2000 PCS/reel :





MODEL NO: 15-22SURUBC/S530-A2/TR8

Device Number : DSE-152-057 REV. 1.0

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ECN : Page: 3/10

■ **Absolute Maximum Ratings at Ta = 25°C**

Parameter	Symbol	Rating	Unit
Reverse Voltage	V _R	5	V
Forward Current	I _F	SUR : 25 UB: 25	mA
Operating Temperature	T _{opr}	-20~ +80	°C
Storage Temperature	T _{stg}	-30 ~ +90	°C
Soldering Temperature	T _{sol}	260 (for 5 second)	°C
Electrostatic Discharge	ESD	1000	V
Power Dissipation	P _d	SUR:60 UB:140	mW
Peak Forward Current(Duty 1/10 @ 1KHZ)	I _{F(Peak)}	SUR : 160 UB: 70	mA



MODEL NO: 15-22SURUBC/S530-A2/TR8

Device Number : DSE-152-057 REV. 1.0

Chip LEDs with Bi-Color(Multi-Color)

ECN : Page: 4/10

Electronic Optical Characteristics :

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Luminous Intensity	SUR :	15	39	-----	mcd	I _F =20mA
	I _v UB:	12	18			
Viewing Angle	2θ 1/2	-----	140	-----	deg	I _F =20mA
Peak Wavelength	λ _p SUR :	-----	632	-----	nm	I _F =20mA
	UB:		428			
Dominant Wavelength	λ _d SUR :	-----	624	-----	nm	I _F =20mA
	UB:		466			
Spectrum Radiation Bandwidth	Δλ SUR :	-----	20	-----	nm	I _F =20mA
	UB:		65			
Forward Voltage	V _F SUR :		2.0	2.4	V	I _F =20mA
	UB:		3.8	4.5		
Reverse Current	I _R	-----	-----	10	μA	V _R =5V



MODEL NO: 15-22SURUBC/S530-A2/TR8

Device Number : DSE-152-057 REV. 1.0

Chip LEDs with Bi-Color(Multi-Color)

ECN : Page: 5/10

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 _F = 20 mA	1000 HRS	76 PCS	0/1
7	High Temperature / High Humidity	85°C /85% RH	1000 HRS	76 PCS	0/1



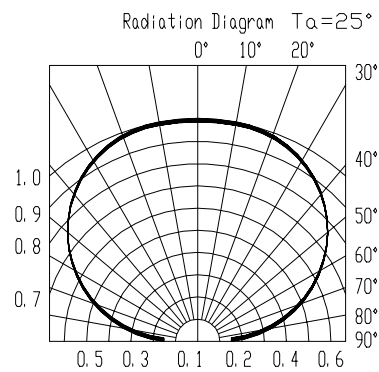
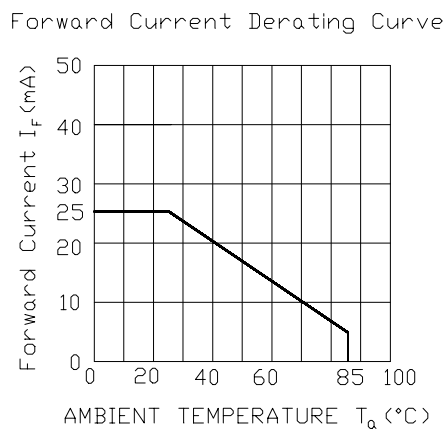
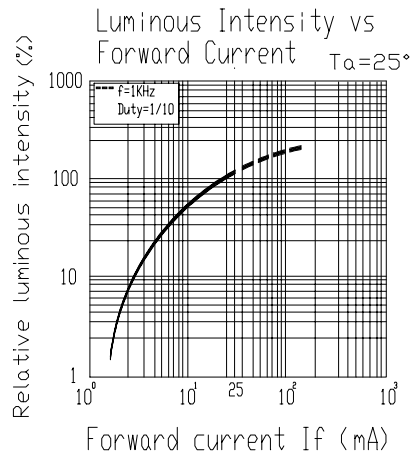
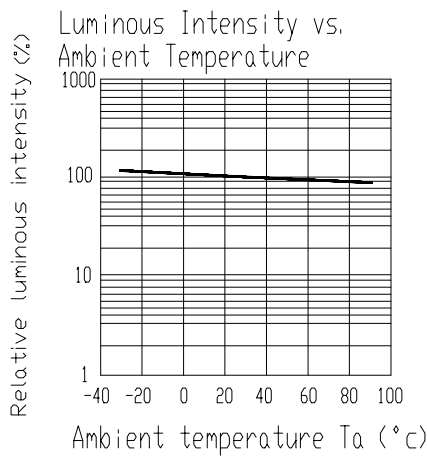
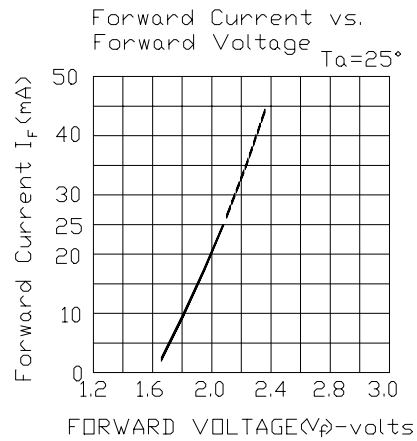
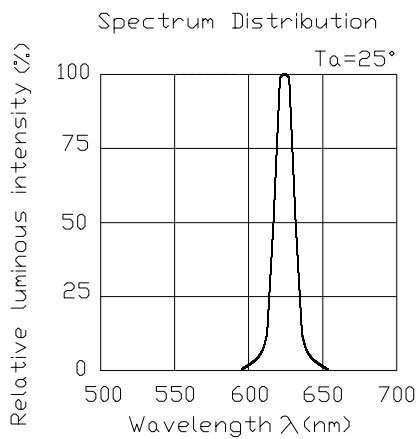
MODEL NO: 15-22SURUBC/S530-A2/TR8
Chip LEDs with Bi-Color(Multi-Color)

Device Number : DSE-152-057 REV. 1.0

ECN : Page: 6/10

Typical Electro-Optical Characteristic Curves

SUR





MODEL NO: 15-22SURUBC/S530-A2/TR8

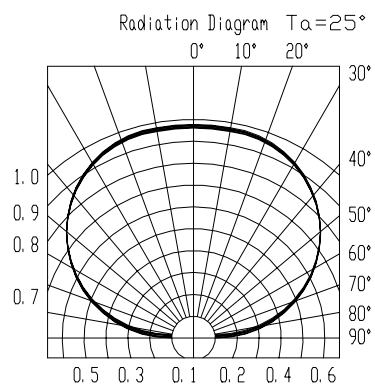
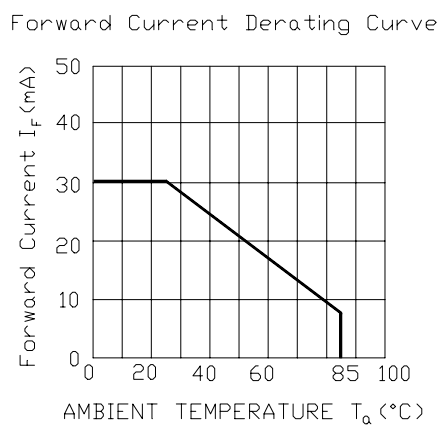
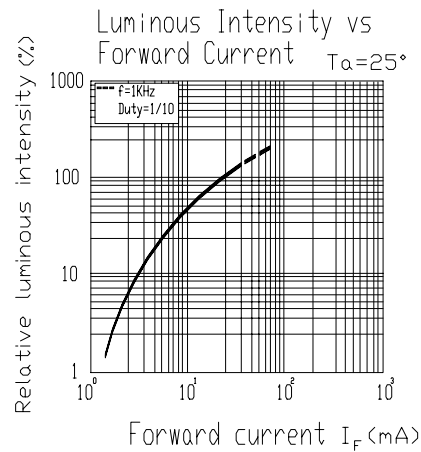
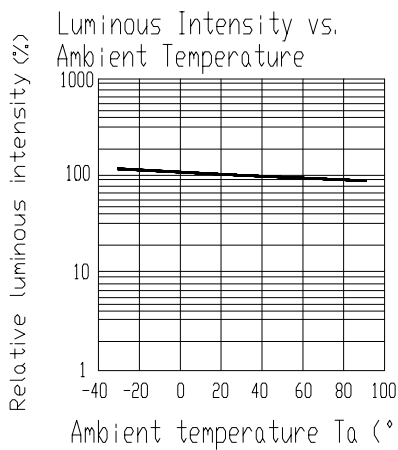
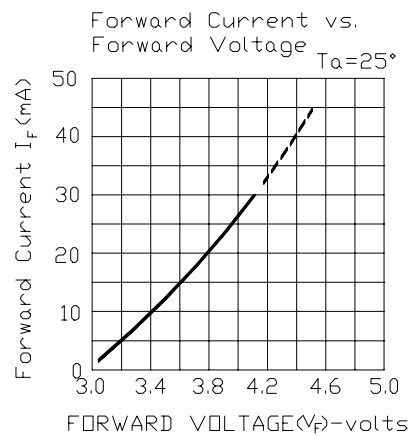
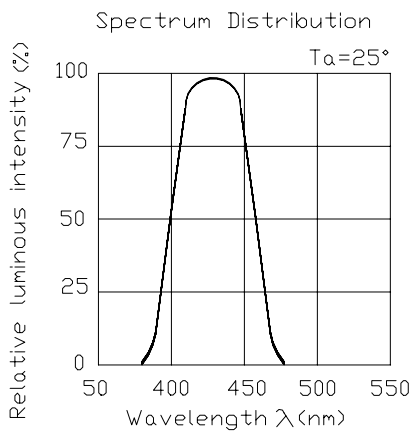
Device Number : DSE-152-057 REV. 1.0

Chip LEDs with Bi-Color(Multi-Color)

ECN : Page: 7/10

Typical Electro-Optical Characteristic Curves

UB

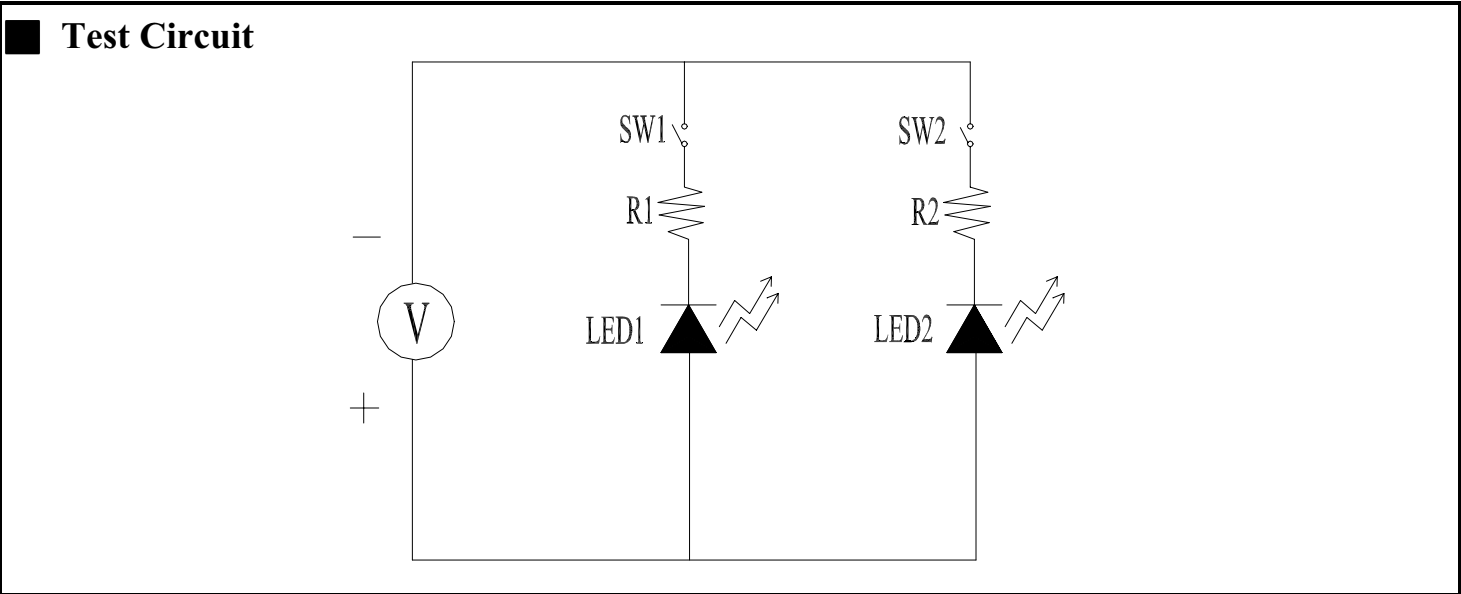




MODEL NO: 15-22SURUBC/S530-A2/TR8
Chip LEDs with Bi-Color(Multi-Color)

Device Number : DSE-152-057 REV. 1.0

ECN : Page: 8/10



■ **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 keep 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 $5^{\circ}\text{C}\sim 35^{\circ}\text{C}$, 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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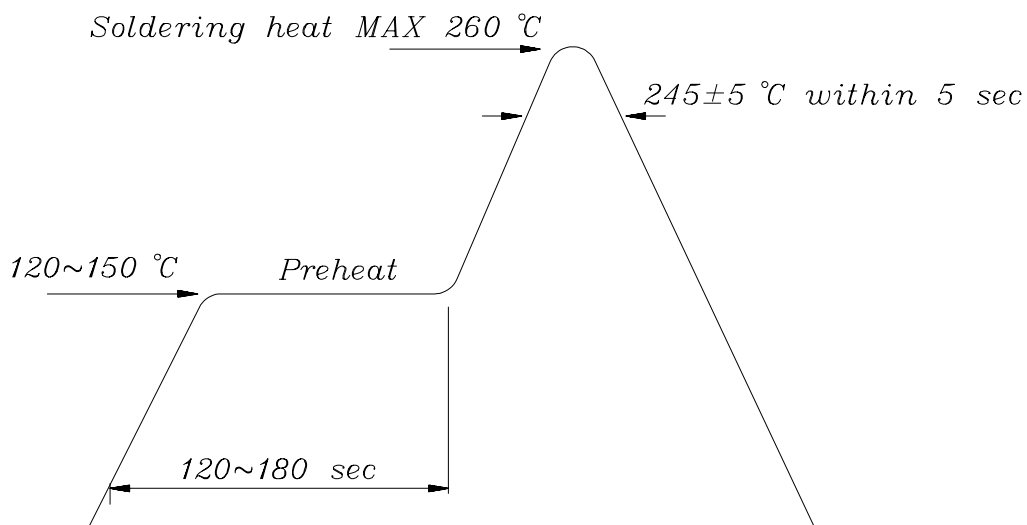
Device Number : DSE-152-057 REV. 1.0

Chip LEDs with Bi-Color(Multi-Color)

ECN : _____ Page: 9/10

■ **Soldering heat reliability (DIP)**

Please refer to the following figure :

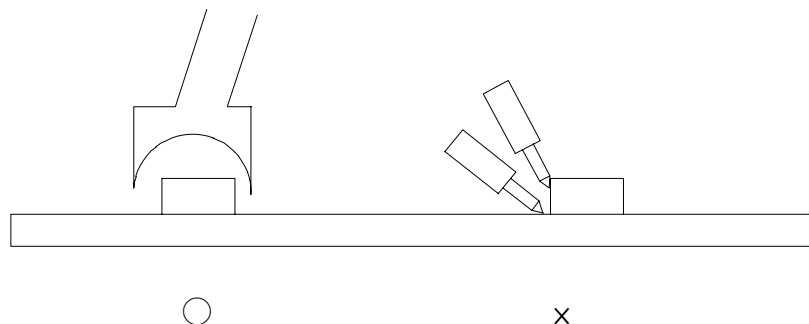


■ **Soldering Iron**

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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ECN : Page: 10/10

■ Reflow Temp / Time :

