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Technical Data Sheet

MODEL NO : 190SR4

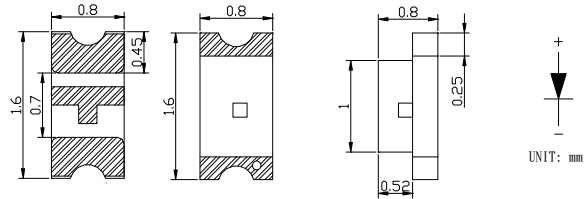
0603Package 1.6*0.8mm Chip LEDs

Features :

- Package in 8mm tape on 7" diameter reel
- Compatible with automatic placement equipment
- Compatible with reflow solder process

Applications :

- Indicators
- Automotive : backlighting in dashboard and switch
- Backlight for LCD



Dice material	Emitted color	Lens Color
AlGaInP	Red	Water Clear

Electrical/Optical Characteristics(Ta=25°C)

Parameter	Test Condition	Symbol	Value			Unit
			Min	Typ	Max	
Wavelength at peak emission	If=20mA	λ peak		650		nm
Spectral half bandwidth	If=20mA	$\Delta \lambda$				nm
Dominant wavelength	If=20mA	λ dom		660		nm
Forward voltage	If=20mA	Vf		1.8	2.0	V
Luminous intensity	If=20mA	Iv	13	20		mcd
Viewing angle at 50% Iv	If=10mA	$2 \theta 1/2$		130		Deg
Reverse current	Vr=5V	Ir			10	μ A

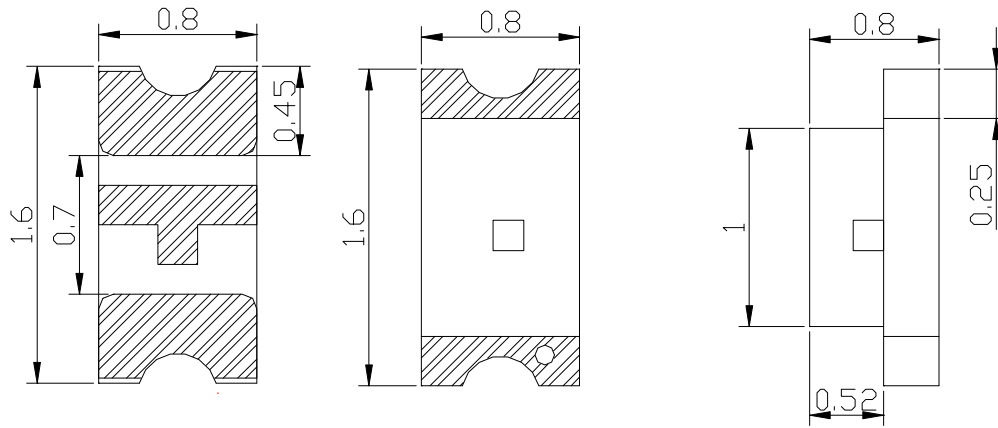
Absolute Maximum Ratings(Ta=25°C)

Parameter	Symbol	Value	Unit
Power dissipation	Pd	75	mW
Forward current	If	30	mA
Reverse voltage	Vr	5	V
Operating temperature range	Top	-40 ~+80	°C
Storage temperature range	Tstg	-40 ~+85	°C
Peak pulsing current (1/8 duty f=1kHz)	Ifp	125	mA



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PACKAGING DIMENSIONS



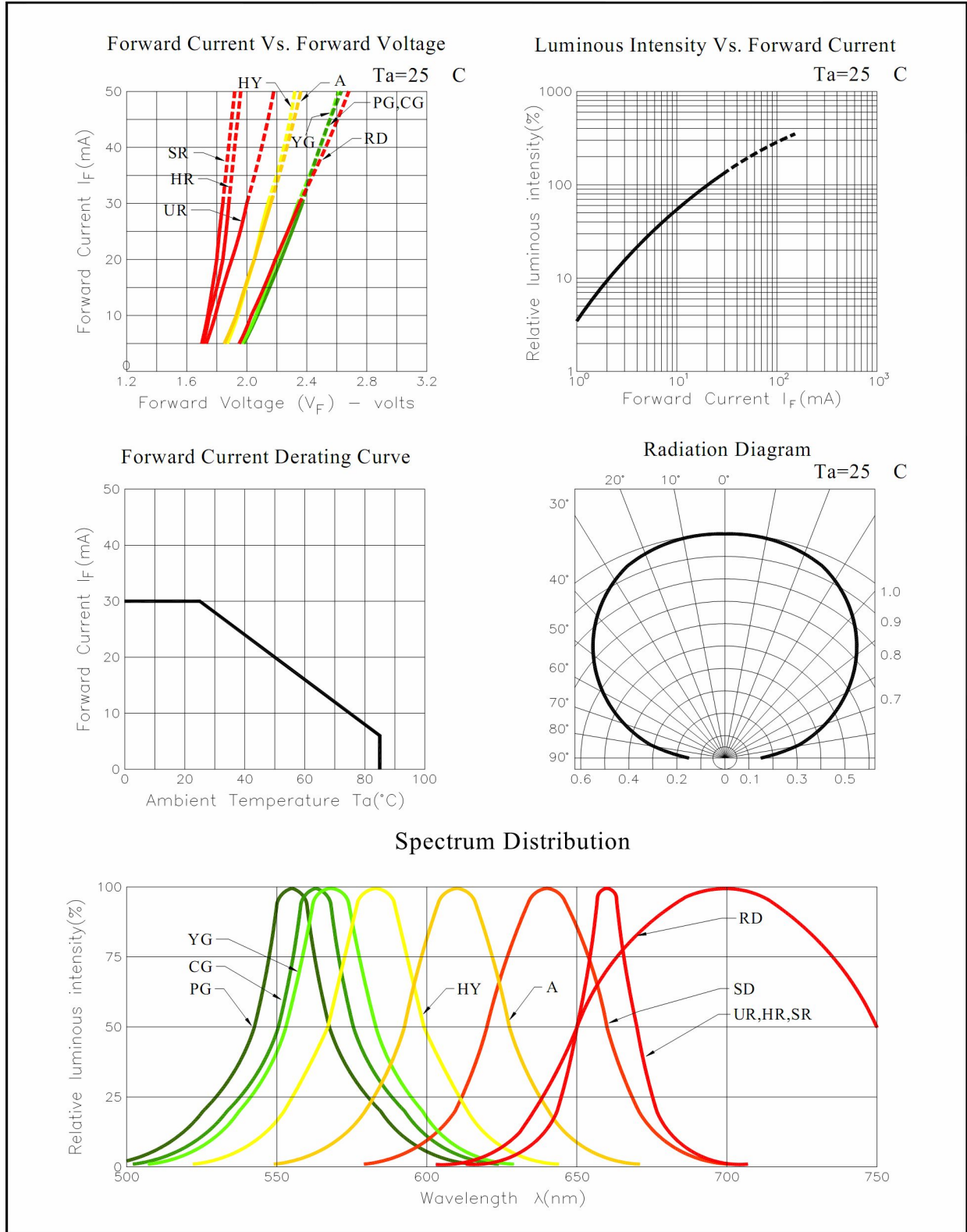
+

UNIT: mm



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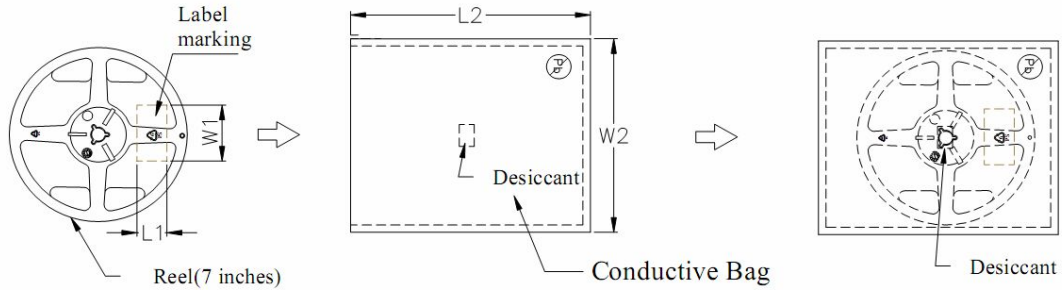
◆ Typical Electro-Optical Characteristic Curves Conventional Type





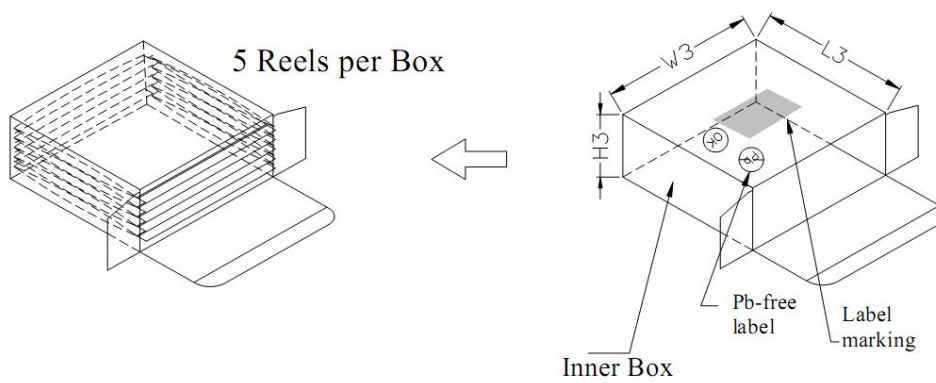
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Packing and Shipping Instruction



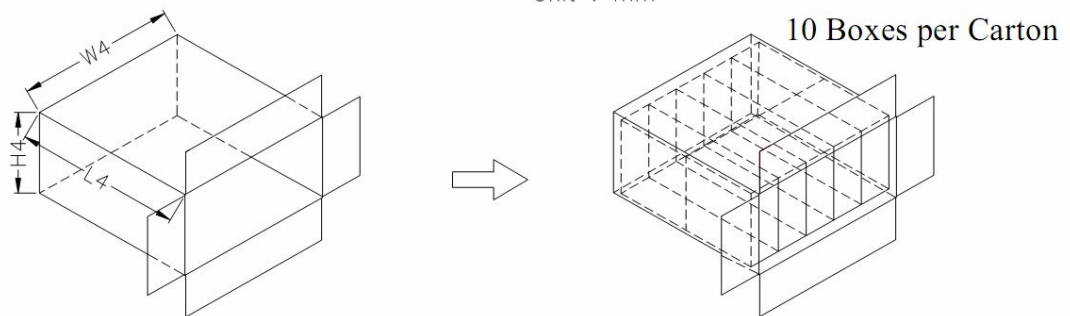
Dimension	L1	W1	L2	W2
Spec.	3.0	6.0	210.0	225.0

Unit : mm



Dimension	L3	W3	H3
Outside	200.0	205.0	85.0
Inside	193.7	198.7	78.7

Unit : mm



Dimension	L4	W4	H4
Outside	448.0	424.0	220.0
Inside	433.4	409.4	205.4

Unit : mm



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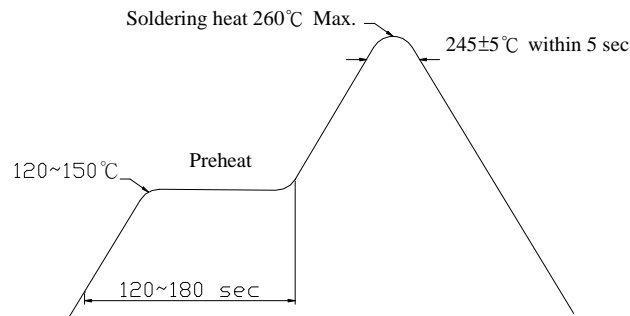
Descriptions :

The Chip-LED 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 application, etc.

Soldering heat reliability (DIP) :

Please refer to the following figure :



Precautions For Use :

Over - current - proof

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

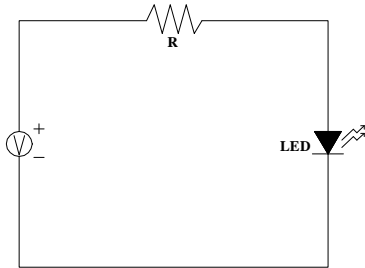
Storage

1. The operation of temperature and R.H. are : $5^{\circ}\text{C} \sim 30^{\circ}\text{C}$, 60%R.H. Max.
2. Once the package is opened, the products should be used within a week. Otherwise, they should be kept in a dampproof box with desiccating regent. Considering the tape life, we suggest our customers to use our products within 1.5 year (from production date) .
3. It's recommended to bake before soldering when the package is unsealed after 72 hrs. The condition is : $60^{\circ}\text{C} \pm 5^{\circ}\text{C}$ for 15hrs.

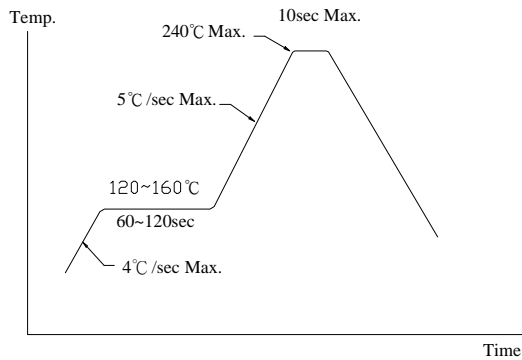


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Test Circuit



Reflow Temp. / Time :



Reliability Test Items And Conditions

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

No.	Items	Test Condition	Test Hours/Cycles	Sample Size
1	Solder Heat	TEMP : 260°C ±5°C	5 sec	48 pcs
2	Temperature Cycle	90°C ~ 25°C ~ -30°C ~ 25°C 30m 5m 30m 5m	300Cycles	48 Pcs
3	Thermal Shick	100°C ~ -55°C 10m 10m	100Cycles	48 Pcs
4	Operation Life	If=20mA	1000 Hrs	48 Pcs
5	High Temperature Storage	Temp:90°C	1000Hrs	48 Pcs
6	Low Temperature Storage	Temp:-30°C	1000Hrs	48 Pcs
7	High Temperature/High Humidity	80°C / R.H80%	1000Hrs	48 Pcs