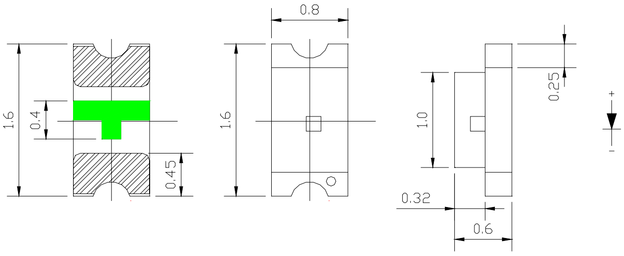
YETDA INDUSTRY LTD

Technical Data Sheet

MODEL NO：Q190A4 **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	Super Orange	Water Clear

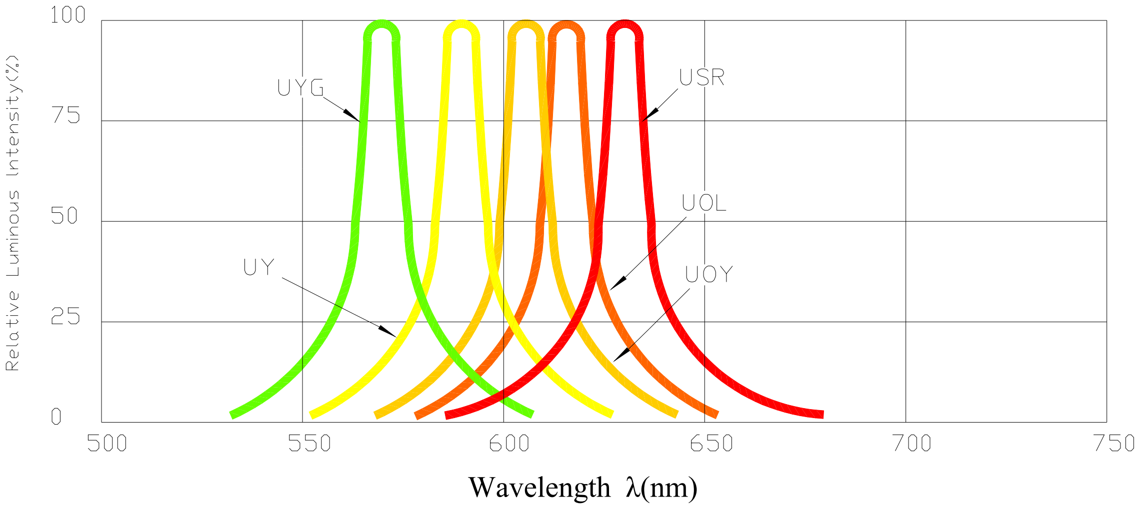
Electrical/Optical Characteristics(Ta=25°C)

Parameter	Symbol	Condition	Min	Typ.	Max	Unit
Luminous Intensity	Iv	IF=20mA	22.5	47		mcd
Dominant Wavelength	λ_D	IF=20mA		605		nm
Peak Emission Wavelength	λ_p	IF=20mA		608		nm
Viewing Angle	$2\Theta 1/2$	IF=20mA		130		Deg
Forward Voltage	V_F	IF=20mA		1.9	2.3	V
Reverse Current	I_R	VR=5V			10	μA

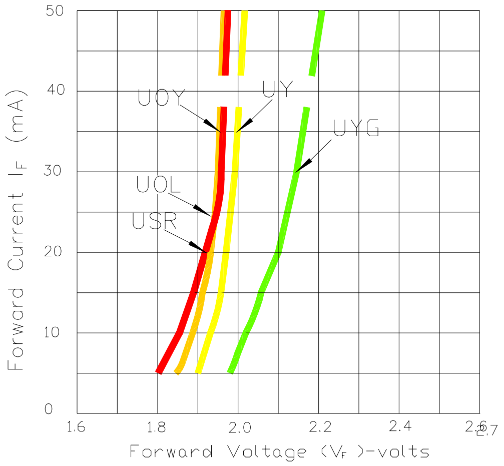
Absolute Maximum Ratings(Ta=25°C)

Parameter	Symbol	Maximum	Unit
Power Dissipation	Pd	78	mW
Peak Forward Current(1/10 Duty Cycle 0.1ms Pulse Width)	IF(Peak)	100	mA
Continuous Forward Current	I_F	30	mA
Reverse Voltage	V_R	5	V
Derivation Linear From 25°C		0.3	mA/°C
Operating Temperature Range	Topr	-30 to +80	°C
Storage Temperature Range	Tstg	-40 to +90	°C

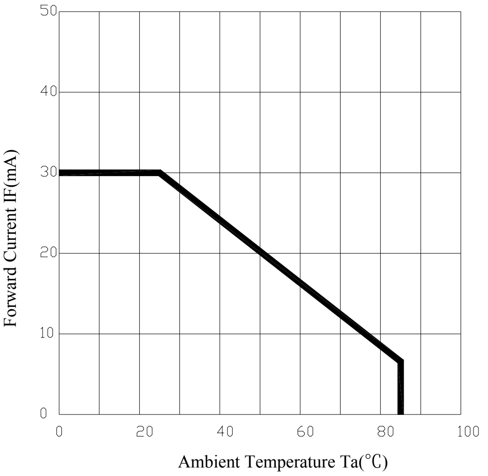
Spectrum Distribution



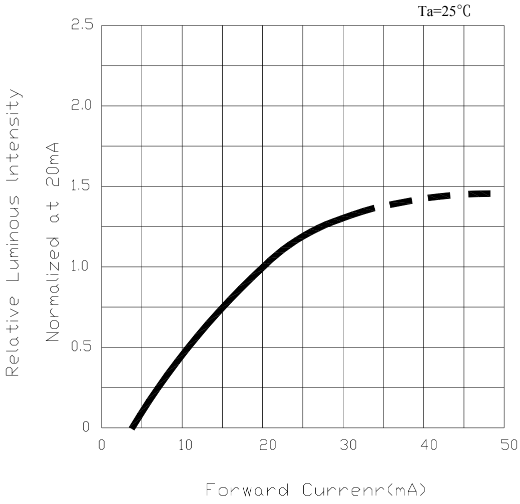
Forward Current Vs.Forward Voltage
Ta=25°C



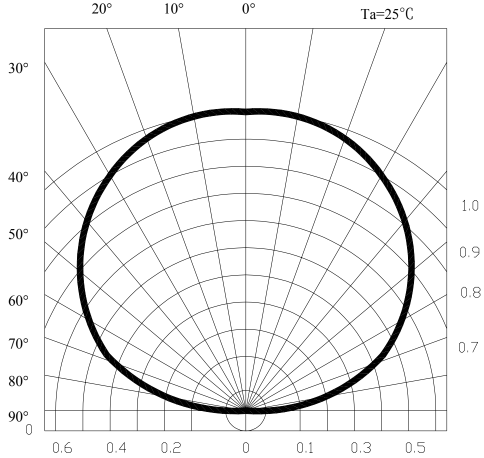
Forward Current Derating Curve



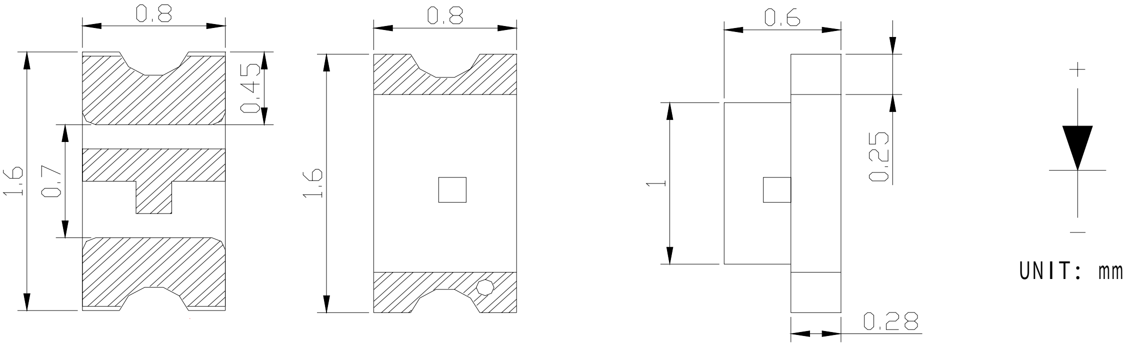
Luminous Intensity Vs. Forward Current
Ta=25℃



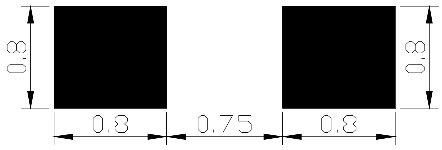
Radiation Diagram



Package Dimensions



Paecommended Soldering Pattern

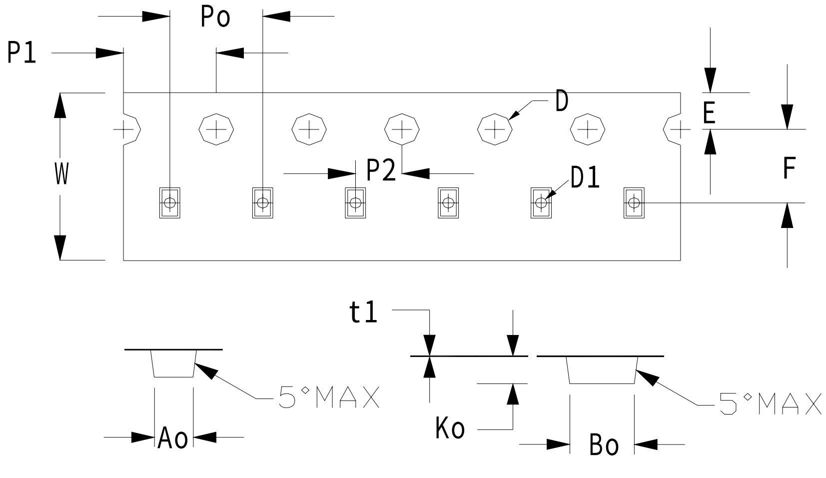


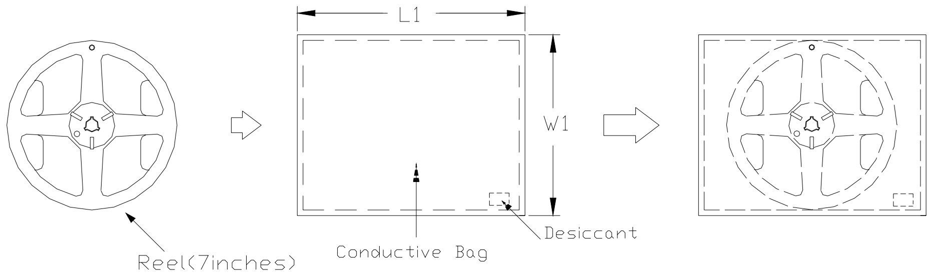
UNIT: mm

Tape Specification : 4000pcs Per Reel

Packing Size													
Item	W	P1	E	F	Do	D1	Po	10Po	P2	Ao	Bo	Ko	t
Spec.	8.00	4.00	1.75	3.50	1.50	0.5	4.00	40.00	2.00	0.90	1.75	0.70	0.23
Tolerance	±0.20	±0.10	±0.10	±0.05	$^{+0.10}_{-0.00}$	±0.05	±0.05	±0.20	±0.05	±0.10	±0.10	±0.10	±0.05

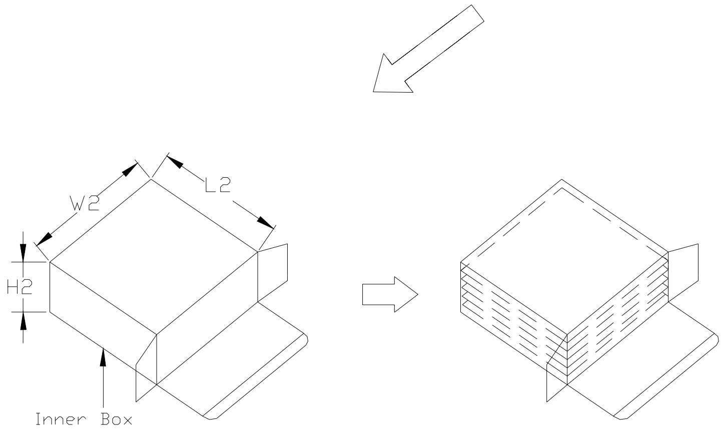
Tape Specifications





Dimension	L1	W1
Spec.	253	224

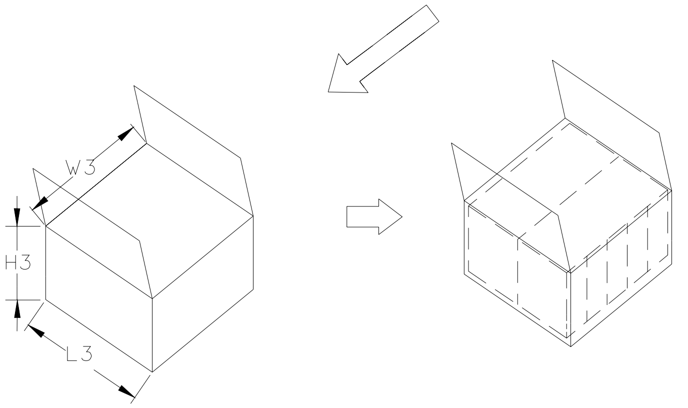
Unit : mm



5 Reel per Box

Dimension	L2	W2	H2
Outside	220	190	60
Inside	219.5	189.5	59.5

Unit : mm



Dimension	L3	W3	H3
Outside	395	320	240
Inside	382	307	227

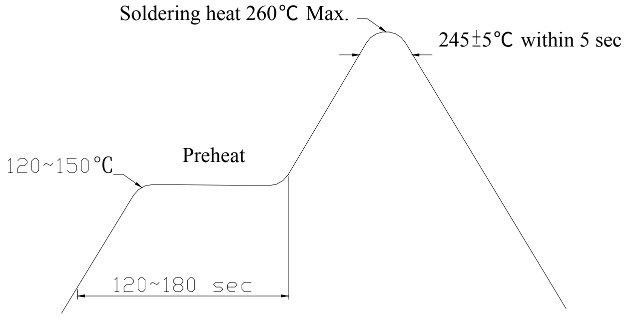
Unit : mm

● 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：

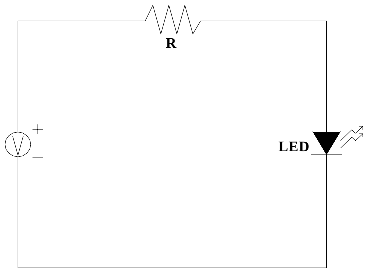
- Over – current – proof

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

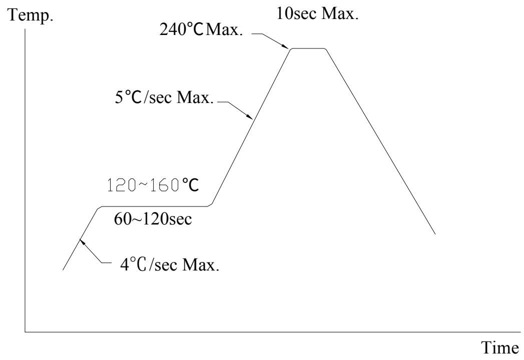
- Storage

1. The operation of temperature and R.H. are：5℃ 30℃, 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℃±5℃ for 15hrs.

● 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 Shock	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