

# Make your ideal sign !

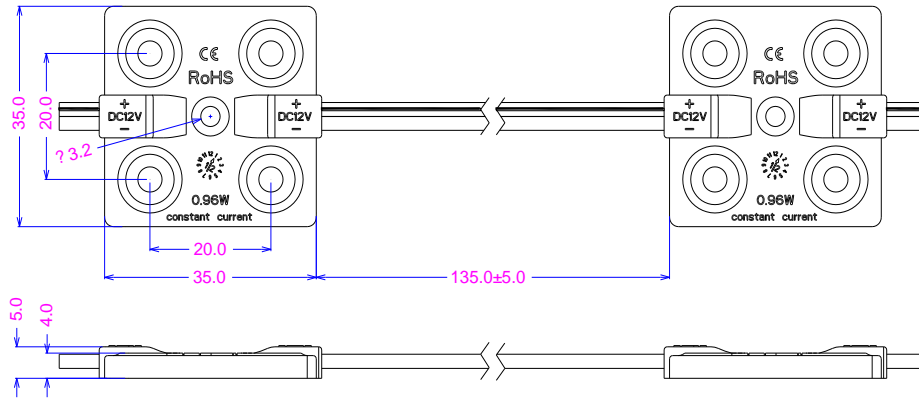
## Feature:

- ◆ Constant Current Technology (CCT), 40 pcs per series
- ◆ The exposed Aluminum plate for heat dissipation
- ◆ Injection molding process, Waterproof:IP 65
- ◆ Bigger chip, 10% brighter than before
- ◆ Energy saving, Environment friendly
- ◆ Long life span
- ◆ Suitable for 10-18cm height channel letters and light boxes backlighting etc.

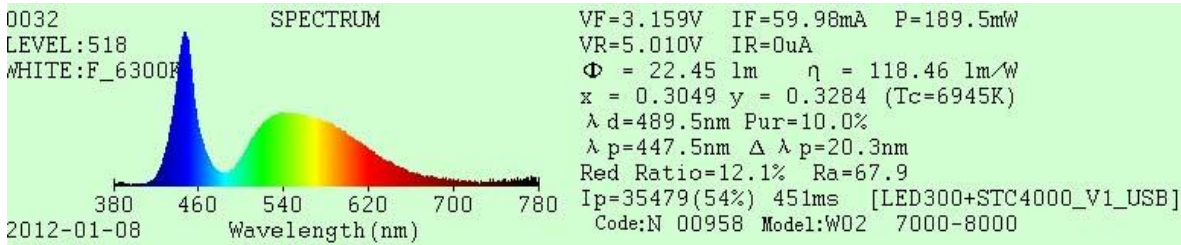
## Picture:



## Dimensions:



## Typical optical characteristics curves



## Rules of Naming Products:

Code	Color	Rated Current	Rated Power	Beam Angle	Luminous Flux	wave length	Working Temp.	IP Rank
MNL 4NW5050ST	Pure White	80mA	0.96W	120°	88Lm	6000-7000K	-40°C-60°C	IP 65
MNL 4CW5050ST	Cool White	80mA	0.96W	120°	80Lm	9000-12000K	-40°C-60°C	IP 65
MNL 4WW5050ST	Warm White	80mA	0.96W	120°	80Lm	2700-3000K	-40°C-60°C	IP 65
MNL 4G5050ST	green	80mA	0.96W	120°	54Lm	520-530nm	-40°C-60°C	IP 65
MNL 4B5050ST	blue	80mA	0.96W	120°	16Lm	460-470nm	-40°C-60°C	IP 65
MNL 4R5050ST	red	80mA	0.96W	120°	26Lm	620-625nm	-40°C-60°C	IP 65
MNL 4Y5050ST	yellow	80mA	0.96W	120°	21Lm	590-592nm	-40°C-60°C	IP 65

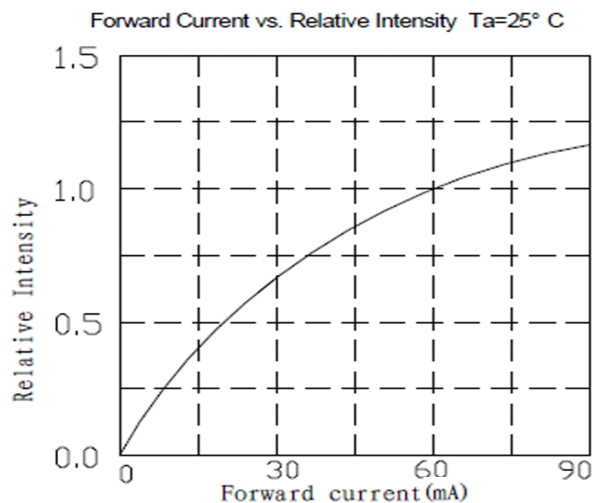
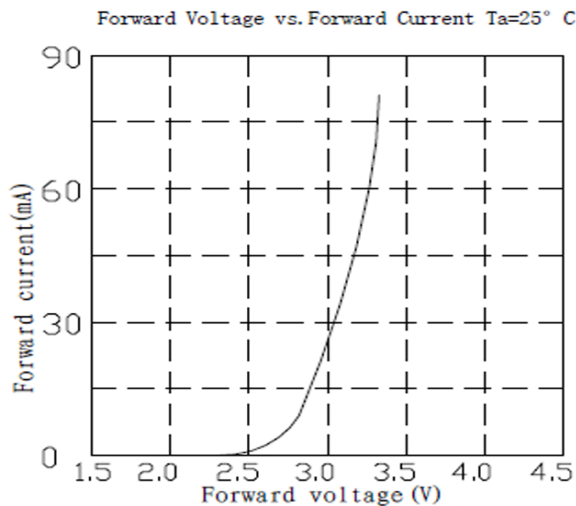
### Absolute maximum ratings

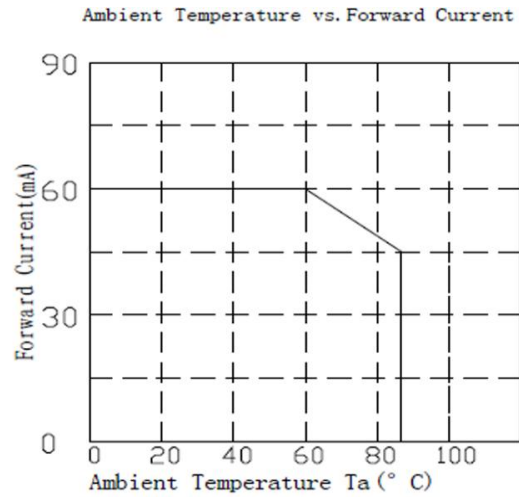
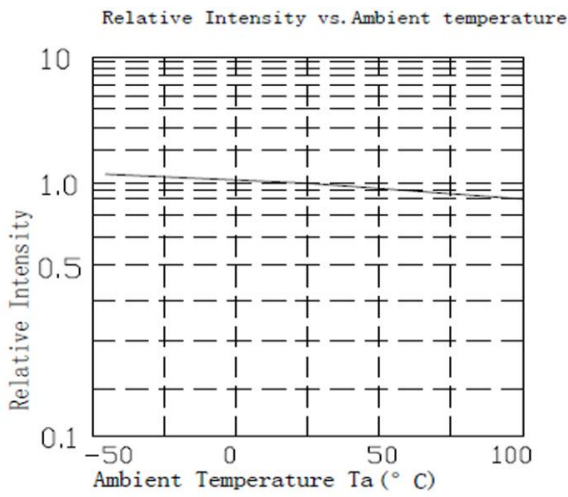
Parameter	Symbol	Value	Unit
Power dissipation	Pd	320	mW
Forward current	If	90	mA
Reverse voltage	Vr	5	V
Operating temperature range	Top	-40 ~+100	°C
Storage temperature range	Tstg	-40~+100	°C
Pulse forward current	Ifp	150	mA
Electrostatic discharge	ESD	2000(HBM)	V
Junction temperature	Tj	85	°C

### Reliability

	Test item	Ref. standard	Test condition	Note	Damage d
environment sequence	Resistance to soldering heat(Reflow Soldering)	JESD22-B106	Tsld=260°C,10sec	2 times	0/22
	Temperature cycle	JESD22-A104	-40 30min ↑ ↓ 5min 100°C30min	1000 cycle	0/100
	Thermal shock	JESD22-A106	-40 15min ↑ ↓ 100°C15min	1000 cycle	0/100
	High temperature	JESD22-A103	Ta=100°C	1000 cycle	0/100
	Low temperature	JESD22-A119	Ta=40°C	1000 cycle	0/100
	Power temperature	JESD22-A105	On 5min -40 >15min ↑ ↓ <15min Off 5min 100>15min	1000 cycle	0/100
	Life test	JESD22-A108	Ta=25°C If=120mA	1000 cycle	0/100
	High humidity heat life test	JESD22-A101	60°C RH=90% If=60mA	1000 cycle	0/100

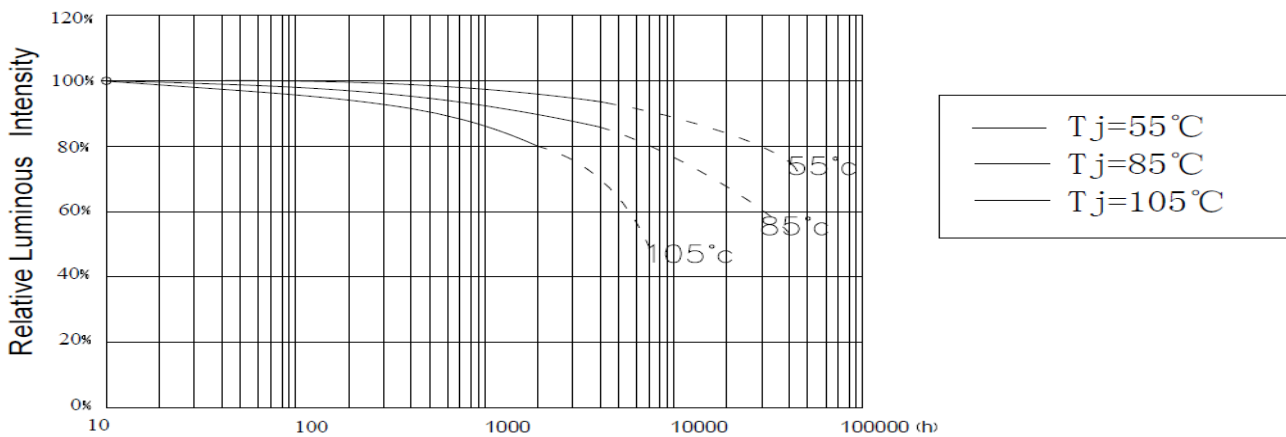
### Typical optical characteristics curves





## Affect of Tj on Luminous Maintenance

Affect of Tj on Luminous Maintenance  
(If=60mA)  
(Dot line: Expected Life)

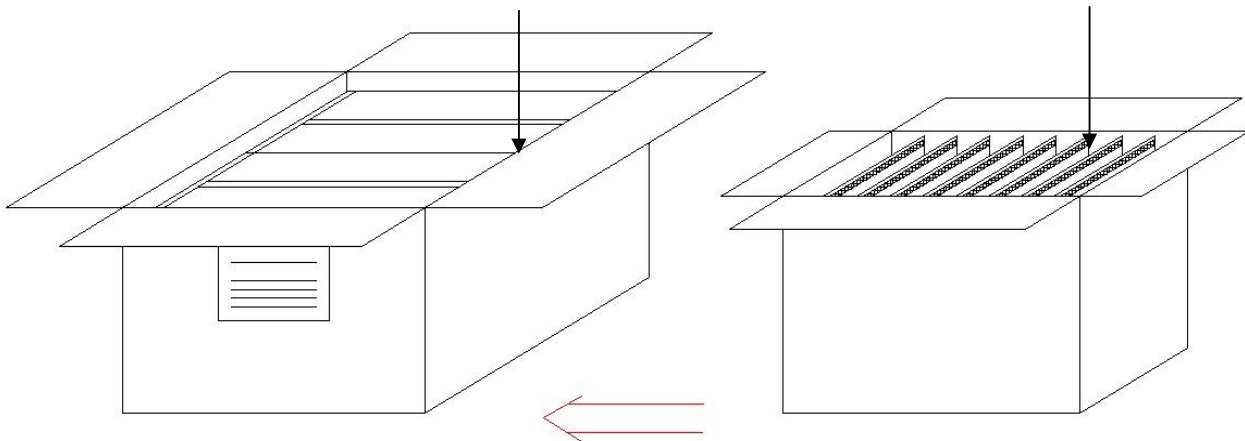


## Packaging

1200pcs per bigger carton

120pcs per anti-static bag

600pcs per smaller carton



## Cautions:

1. Outal carton:52x37x26cm ; Small carton:35x25x23cm ; Anti-static bag:305x280x0.12mm .
2. 40pcs per chain,3pcs chain in one Anti-static bag . ( 120 pcs in one Anti-static bag)
3. 5 bags in one small carton . ( 600 pcs in one small carton)
4. One outal carton contains two small cartons . ( 1200 pcs in one outal carton)



CONSTANT CURRENT  
DRIVING SYSTEM



RoHS





