

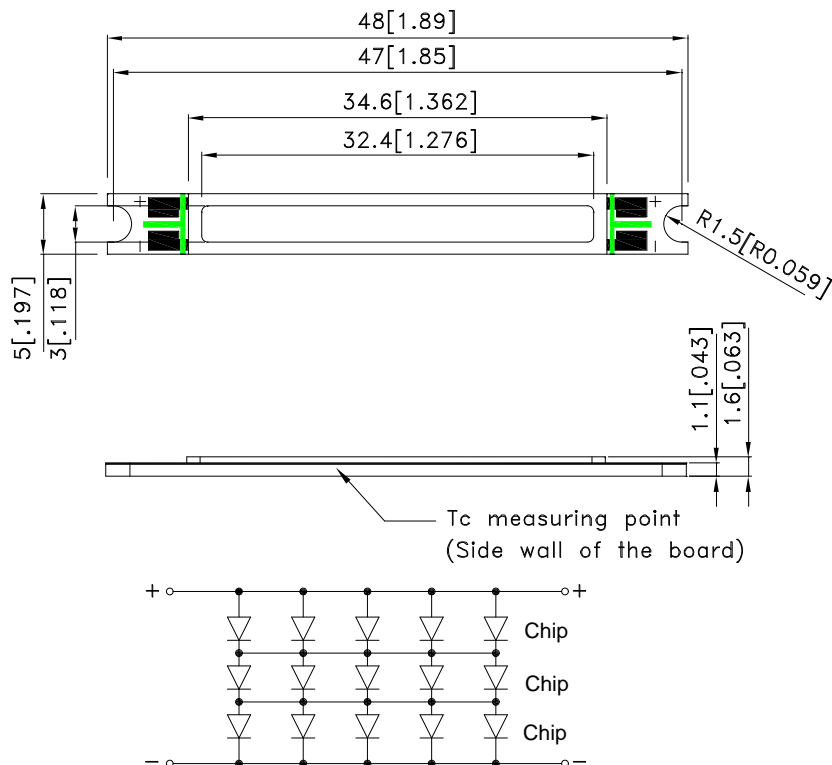


**ATTENTION**  
OBSERVE PRECAUTIONS  
FOR HANDLING  
ELECTROSTATIC  
DISCHARGE  
SENSITIVE  
DEVICES

### Features

- Dimension: 48mm X 5mm X 1.6mm.
- Instant light.
- Linear type.
- High efficiency.
- Long operating life.
- Low power consumption.
- More energy efficient than incandescent, most halogen lamps, and fluorescent lamp.
- RoHS compliant.

### Package Dimensions



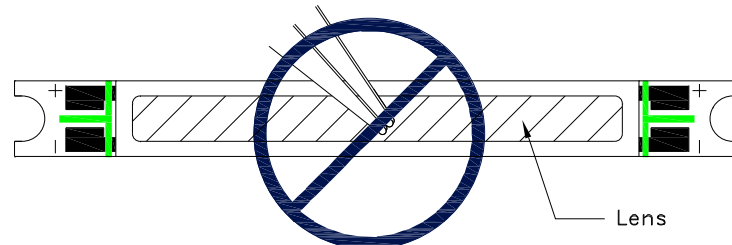
Notes:

1. All dimensions are in millimeters (inches).
2. Tolerance is  $\pm 0.25(0.01")$  unless otherwise noted.
3. The specifications, characteristics and technical data described in the datasheet are subject to change without prior notice.

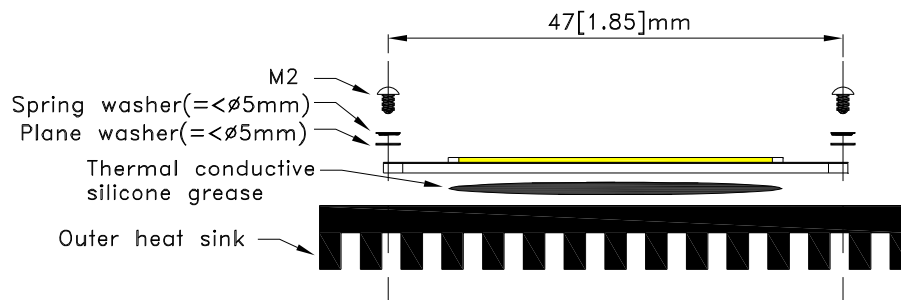


## Precautions

1. Do not touch the lens with any sharp object.
2. No stress should be applied on the lens.



3. Thermal grease between the light bar and heat sink is recommended to fill air gaps for better thermal conductivity.
4. For securing the LED light bar, M2 screws are recommended. The light bar should not be bent or stressed in any way which could damage the internal circuit.



5. To prevent damages caused by electrostatic discharge (ESD), it is recommended to wear proper gear such as wristband or anti-static gloves when handling the product.
6. Constant current source is recommended to power the light bar. When more than one light bar are used, they should be connected in series if possible.
7. Thermal management should be taken into consideration when using the product. Maximum driving current should be reduced accordingly at higher ambient temperature to prevent overheating.
8. Soldering recommendations:
  - Soldering iron power should not exceed 40W, and should not be in contact with the joint for more than 3.5 secs.
  - The maximum soldering temperature should be less than 350°C.
  - Do not touch the product immediately after soldering.
  - Not reflow compatible.

## Selection Guide

Erp.	Part No.	Dice	Lens Type	CCT Range [2]			Luminous Flux (lm) @ 500mA [1]	
				Min.	Typ.	Max.	Min.	Typ.
1209000166	AASL4805QR425S/5-C1	Cool White	WATER CLEAR	5310K	6000K	7040K	280	330
1209000167	AASL4805QR425S/5-N2	Neutral White	WATER CLEAR	4260K	4700K	5310K	280	320
1209000168	AASL4805QR425S/5-W2	Warm White	WATER CLEAR	2870K	3000K	3220K	240	290

**Notes:**

- Flux is measured with an accuracy of +/-15%.
- CCT selection acc.to CCT groups and an accuracy of +/-300K.

## Absolute Maximum Ratings

Parameter	Symbol	Rating	Units
Forward Current	I <sub>F</sub>	500	mA
Forward Pulse Current [1]	I <sub>FP</sub>	700	mA
Power Dissipation	P <sub>d</sub>	5.8	W
LED Junction Temperature	T <sub>j</sub>	120	°C
Operating Temperature	Topr	-30~+100	°C
Storage Temperature	Tstg	-40~+120	°C
Case Temperature	T <sub>c</sub>	100	°C

**Note:**

- 1/10 Duty Cycle, 0.1ms Pulse Width.

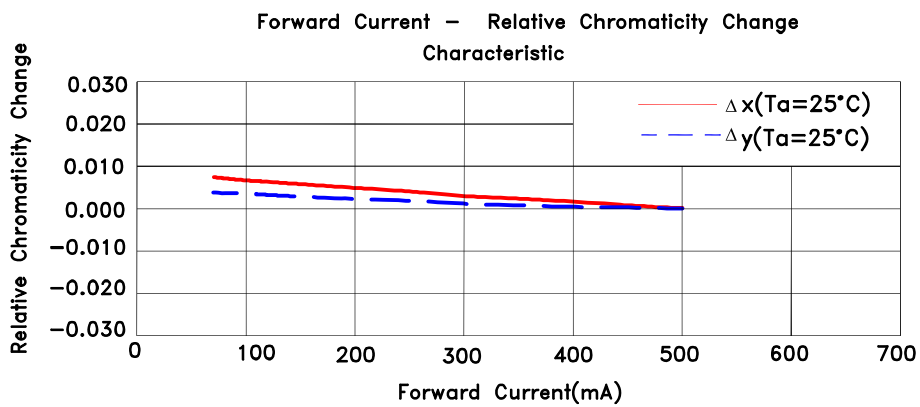
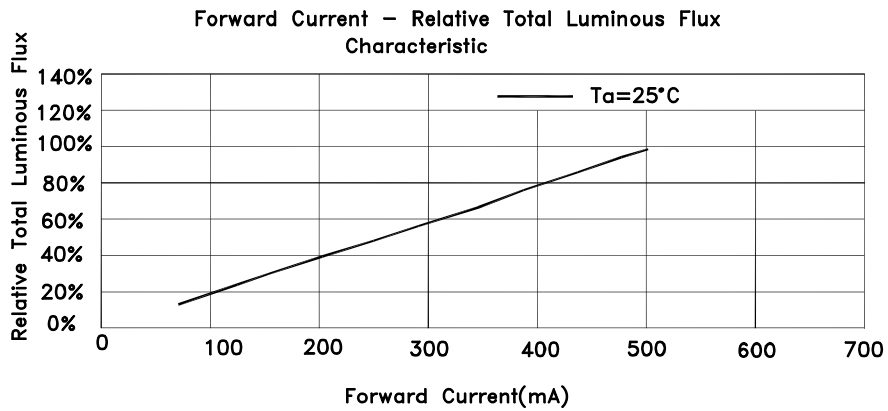
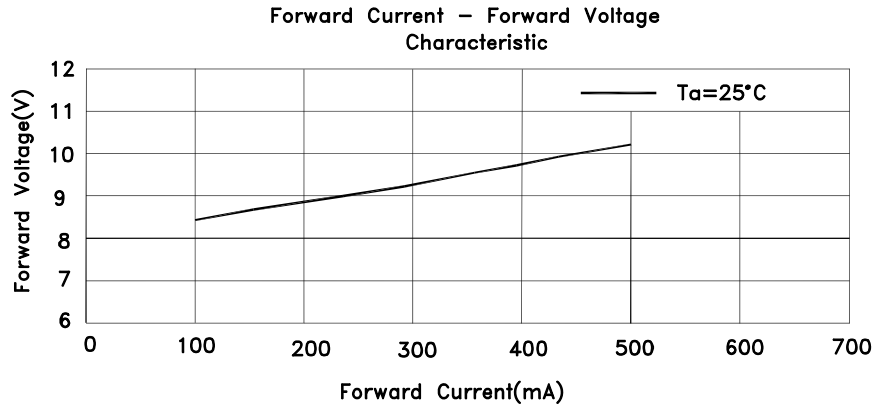
## Electrical / Optical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Units	Conditions
Forward Voltage [1]	V <sub>F</sub>	8.4	10.3	11.6	V	I <sub>F</sub> =700mA
Temperature Coefficient of Forward Voltage	Δ V <sub>F</sub> /Δ T	-	-2.9	-	mV/°C	I <sub>F</sub> =700mA
Thermal Resistance	R <sub>th j-c</sub>	-	3.5	-	°C/W	I <sub>F</sub> =700mA
Emission Angle	2 θ 1/2 x direction	-	120	-	°	I <sub>F</sub> =700mA
	2 θ 1/2 y direction	-	120	-	°	I <sub>F</sub> =700mA

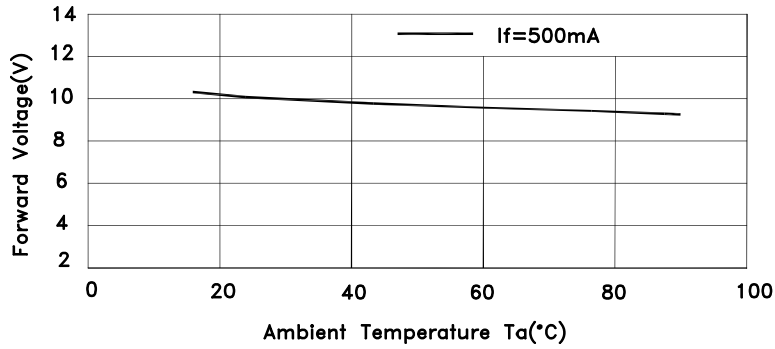
**Note:**

- Forward Voltage is measured with an accuracy of +/-0.1V.

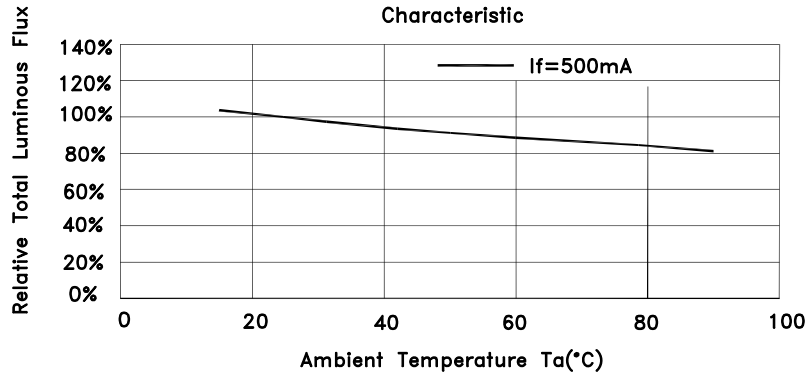
Test Item	Test Condition
Moisture-proof Test	85°C , 85%RH for 1000 hours



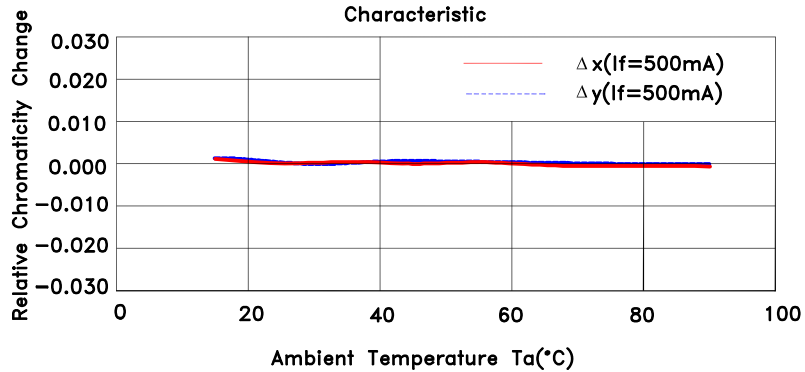
Ambient Temperature  $T_a$  – Forward Voltage Characteristic

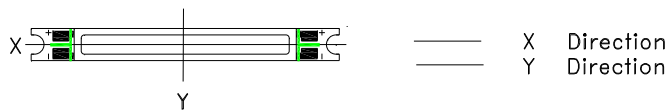
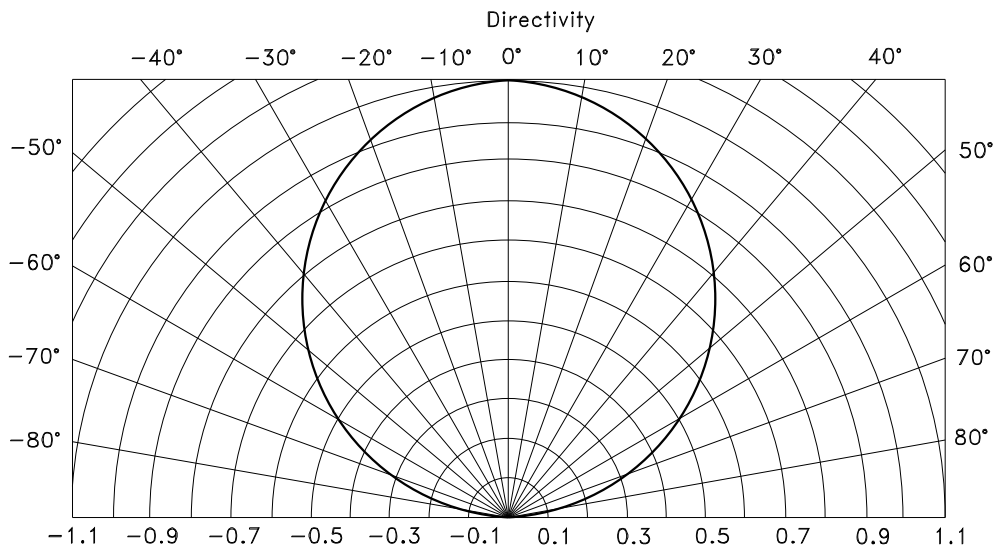
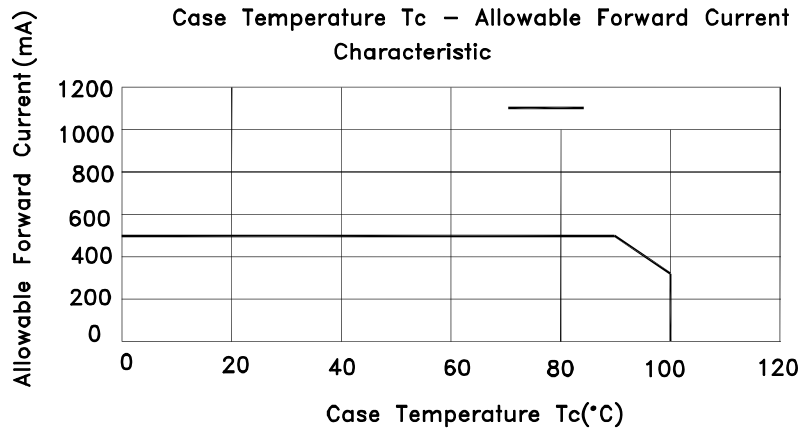


Ambient Temperature  $T_a$  – Relative Total Luminous Flux Characteristic

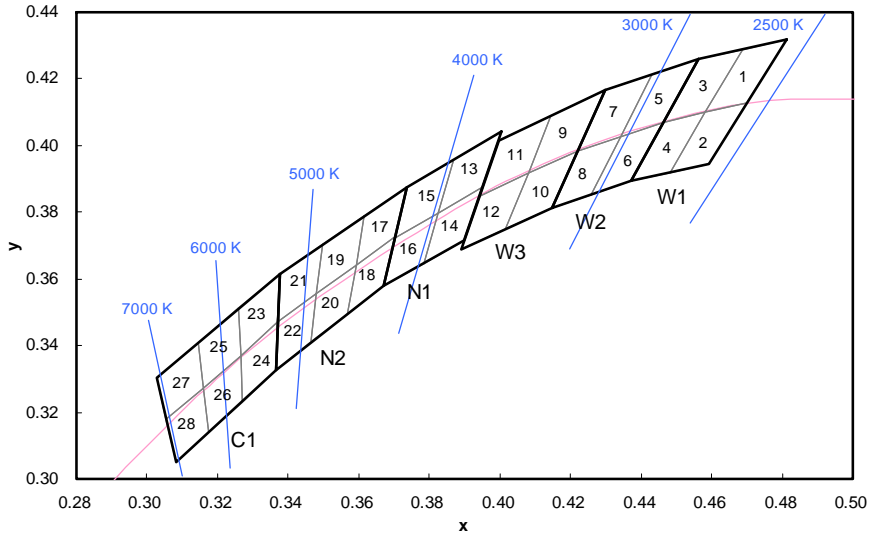


Ambient Temperature  $T_a$  – Relative Chromaticity Change Characteristic





### CCT 2500-7000 K Bin Code



Color	Group	Chromaticity Regions	CCT (K)		
			Min.	Typ.	Max.
Warm White	W1	1, 2, 3, 4	2580	2700	2870
	W2	5, 6, 7, 8	2870	3000	3220
	W3	9, 10, 11, 12	3220	3500	3710
Neutral White	N1	13, 14, 15, 16	3710	4000	4260
	N2	17, 18, 19, 20, 21, 22	4260	4700	5310
Cool White	C1	23, 24, 25, 26, 27, 28	5310	6000	7040

Notes:  
 Shipment may contain more than one chromaticity regions. Orders for single chromaticity region are generally not accepted.  
 Measurement tolerance of the chromaticity coordinates is  $\pm 0.01$ .

	x	y		x	y		x	y		x	y
1	0.4582	0.4099	8	0.4147	0.3814	15	0.3702	0.3722	22	0.3481	0.3557
	0.4687	0.4289		0.4221	0.3984		0.3736	0.3874		0.3370	0.3472
	0.4813	0.4319		0.4342	0.4028		0.3869	0.3958		0.3364	0.3328
	0.4700	0.4126		0.4259	0.3853		0.3825	0.3798		0.3466	0.3411
2	0.4483	0.3919	9	0.4080	0.3916	16	0.3670	0.3578	23	0.3376	0.3616
	0.4582	0.4099		0.4146	0.4089		0.3702	0.3722		0.3260	0.3512
	0.4700	0.4126		0.4299	0.4165		0.3825	0.3798		0.3265	0.3371
	0.4593	0.3944		0.4221	0.3984		0.3783	0.3646		0.3370	0.3472
3	0.4465	0.4071	10	0.4017	0.3751	17	0.3736	0.3874	24	0.3370	0.3472
	0.4562	0.4260		0.4080	0.3916		0.3616	0.3788		0.3265	0.3371
	0.4687	0.4289		0.4221	0.3984		0.3592	0.3641		0.3270	0.3230
	0.4582	0.4099		0.4147	0.3814		0.3703	0.3726		0.3364	0.3328
4	0.4373	0.3893	11	0.3941	0.3848	18	0.3703	0.3726	25	0.3260	0.3512
	0.4465	0.4071		0.3996	0.4015		0.3592	0.3641		0.3144	0.3408
	0.4582	0.4099		0.4146	0.4089		0.3568	0.3495		0.3160	0.3274
	0.4483	0.3919		0.4080	0.3916		0.3670	0.3578		0.3265	0.3371
5	0.4342	0.4028	12	0.3889	0.3690	19	0.3616	0.3788	26	0.3265	0.3371
	0.4430	0.4212		0.3941	0.3848		0.3496	0.3702		0.3160	0.3274
	0.4562	0.4260		0.4080	0.3916		0.3481	0.3557		0.3175	0.3139
	0.4465	0.4071		0.4017	0.3751		0.3592	0.3641		0.3270	0.3230
6	0.4259	0.3853	13	0.3825	0.3798	20	0.3592	0.3641	27	0.3144	0.3408
	0.4342	0.4028		0.3869	0.3958		0.3481	0.3557		0.3028	0.3304
	0.4465	0.4071		0.4006	0.4044		0.3466	0.3411		0.3055	0.3177
	0.4373	0.3893		0.3950	0.3875		0.3568	0.3495		0.3160	0.3274
7	0.4221	0.3984	14	0.3783	0.3646	21	0.3496	0.3702	28	0.3160	0.3274
	0.4299	0.4165		0.3825	0.3798		0.3376	0.3616		0.3055	0.3177
	0.4430	0.4212		0.3950	0.3875		0.3370	0.3472		0.3081	0.3049
	0.4342	0.4028		0.3898	0.3716		0.3481	0.3557		0.3175	0.3139

## AASL4805 Application Note

### Introduction

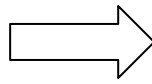
The AASL4805 LED light bar provide very high light output, and can be configured to suit a wide range of applications. However the heat generated during operation, if not handled properly, could shorten the product life significantly. Therefore for optimal performance, proper thermal management should be incorporated to keep it below the rated temperature. This document describes the heat sink attachment procedure.

### Attachment to Heat sink

1. Apply a thin layer (0.1 ~ 0.2 mm) of thermal grease on the bottom of the AASL4805 LED light bar.

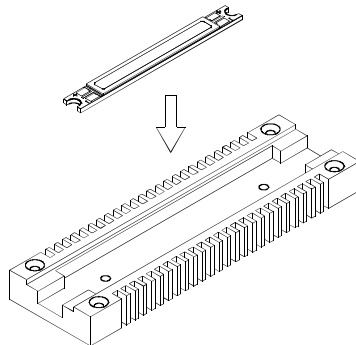


Rear surface



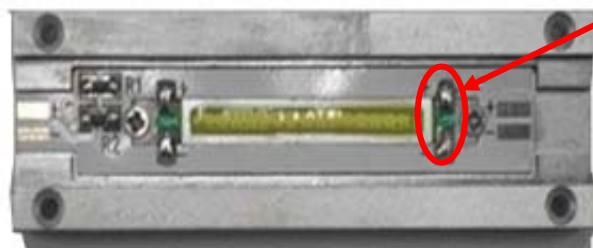
Thermal glue on rear surface

2. Press the AASL4805 LED light bar firmly on the heat sink to ensure good contact between the heat sink and the LED light bar. A guide for heat sink size selection at various driving currents is listed in the table below.



3. A specifically designed electronic circuit is required to power the LED light bar. Do not connect the product directly to the main power.

Current (mA)	350	500	600	700
Heat sink surface area (mm <sup>2</sup> )	10,000	15,000	17,000	21,000



It is strongly recommended that temperature of pad be not higher than 75°C when you use the product.



## PACKING & LABEL SPECIFICATIONS

**AASL4805QR425S/5**

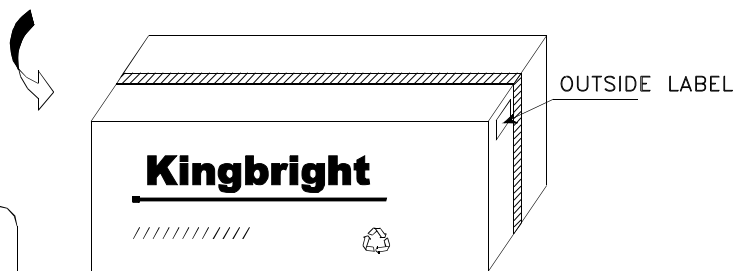
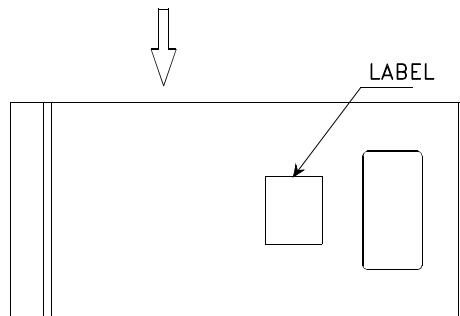
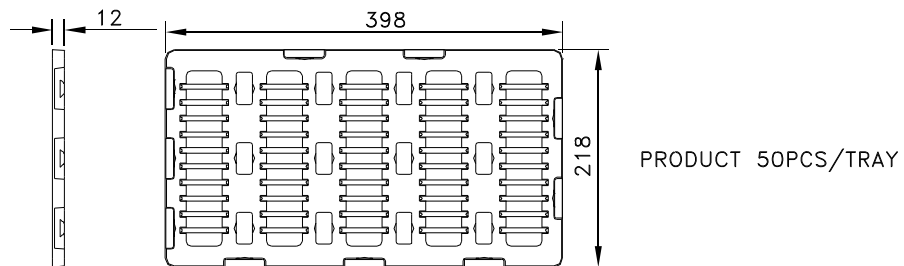
### PACKING & LABEL SPECIFICATION

(1) Primary packing

50 pieces are contained in each tray.  
Two trays which collectively contain 100 pieces are stacked together with an additional empty tray as lid.  
Tray (Dimensions:398x218x12mm, materials:electrically conductive PS.)

(2) Secondary packing

A set of three trays is placed in bag. (100 pieces per bag.)  
An indication label which specifies product name,quantity,lot number and shipment date is attached to the outside of the 9# box.(800 pieces per box.)



<b>Kingbright</b>				
P/NO: AASL4805xxx				
QTY: 100 pcs	Q.C.			
S/N: XXXX	<table border="1"> <tr> <td>Q C</td> </tr> <tr> <td>XX XX XXXX</td> </tr> <tr> <td>PASSED</td> </tr> </table>	Q C	XX XX XXXX	PASSED
Q C				
XX XX XXXX				
PASSED				
CODE: XXX				
LOT NO:				
XXXXXXXXXXXXXXXX				
RoHS Compliant				

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