



**THE DATASHEET OF
ESS-3528TWC-4-2-65K**



Jiangsu Everstar Electronics Co., Ltd.

Address:No.6 Xiangshan Rd, Tianmuhu Industry Park, Liyang City, Jiangsu Province, China

TEL: +86-519-87557772

FAX: +86-519-87557773

Http: www.everstarelect.com

DATA SHEET

ESL NO.. : ESS-3528TWC-4-2-65K

CUS NO. :

REV : A / 0

Producer: _____

Eden

Auditor: _____

Approver: _____

Jack

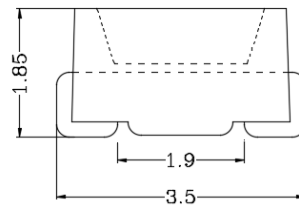
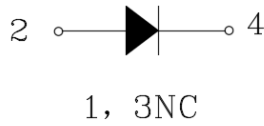
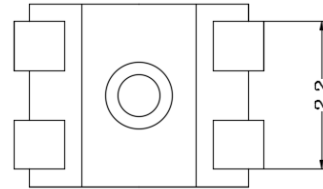
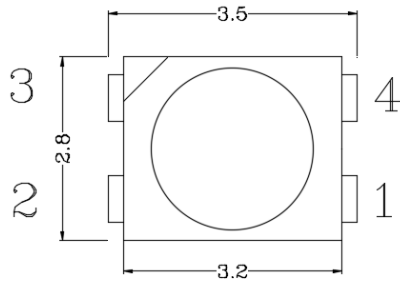
CUSTOMER'S APPROVAL : _____

DCC : _____

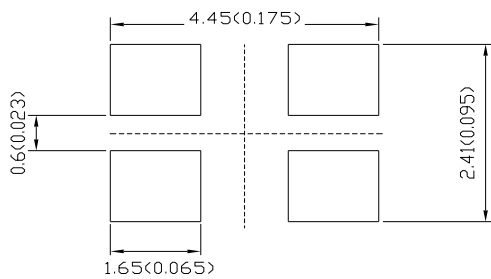
3528 SMD LED

ESS-3528TWC-4-2-65K

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Recommended Solder Pads



Note:

All Dimensions are in millimeters.

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FEATURES

- * 3528 SMD LED
- * High reliability
- * Low operating voltage
- * Low power consumption, long life
- * PB Free products (Compliant with EU's RoHS)

CHIP MATERIALS:

- * Dice Material : InGaN
- * Light Color: White
- * Lens Color: Yellow Diffused

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ABSOLUTE MAXIMUM RATING : (Ta = 25°C)

Symbol	DESCRIPTION	Rated	Unit
Topr	Operating Temperature Range	-30°C ~ +85°C	
Tstg	Storage Temperature Range	-40°C ~ +100°C	
VR	Reverse Voltage Per Chip	5	V
PD	Power Dissipation Per Chip	120	mW
IF	Average Forward Current Per Chip	35	mA
IFp	Peak Forward Current Per Chip	100	mA

ELECTRO-OPTICAL CHARACTERISTICS : (Ta = 25°C)

SYMBOL	PARAMETER	TEST CONDITION	MIN.	TYP	MAX	UNIT
VF	Forward Voltage	IF = 30mA	2.8		3.8	V
2θ 1/2	Half Intensity Angle	IF = 30mA	----	120	----	deg
IV	Luminous Intensity	IF = 30mA	2000		4000	mcd
IR	Reverse Current	VR = 5V	----	----	10	μA
X	CIE	IF = 30mA		0.315		
Y		IF = 30mA		0.325		
TC	Color Rending Index	IF = 30mA		6500		K

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Bin Range of Forward Voltage

Bin Code	Min.	Max.	Unit	Remark
V 1	2.8	3.0	V	IF=30mA
V 2	3.0	3.2		
V 3	3.2	3.4		
V 4	3.4	3.6		
V 5	3.6	3.8		

Bin Range of Luminous Intensity

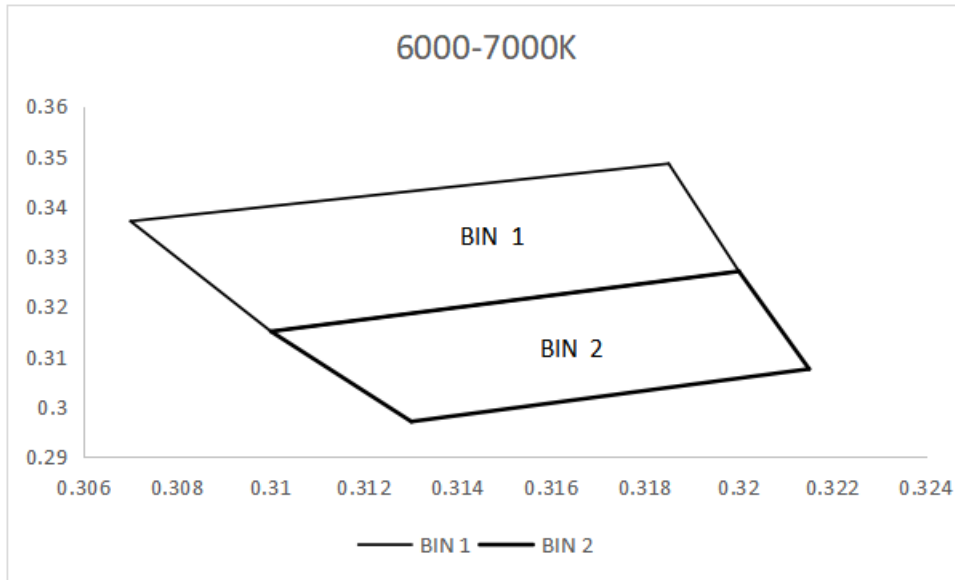
Bin Code	Min.	Max.	Unit	Remark
L 1	2000	2500	mcd	IF=30mA
L 2	2500	3000		
L 3	3000	3500		
L 4	3500	4000		

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Intensity and Color Bin Limits



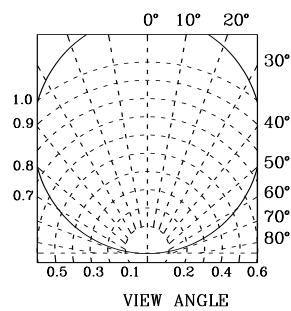
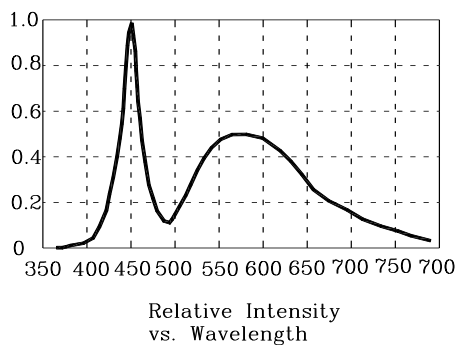
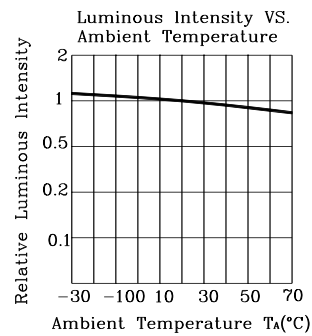
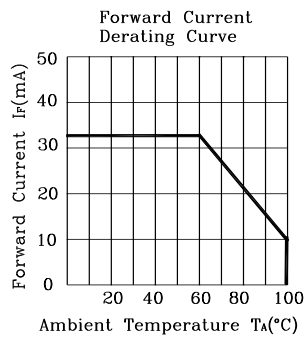
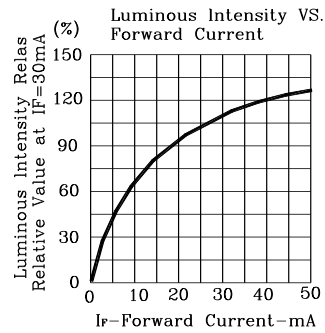
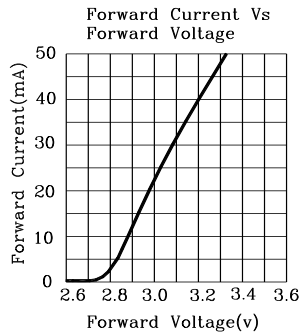
BIN 1		BIN 2	
X	Y	X	Y
0.3070	0.3370	0.3100	0.3150
0.3185	0.3485	0.3200	0.3270
0.3200	0.3270	0.3215	0.3075
0.3100	0.3150	0.3130	0.2970

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SPECTRUM CHART



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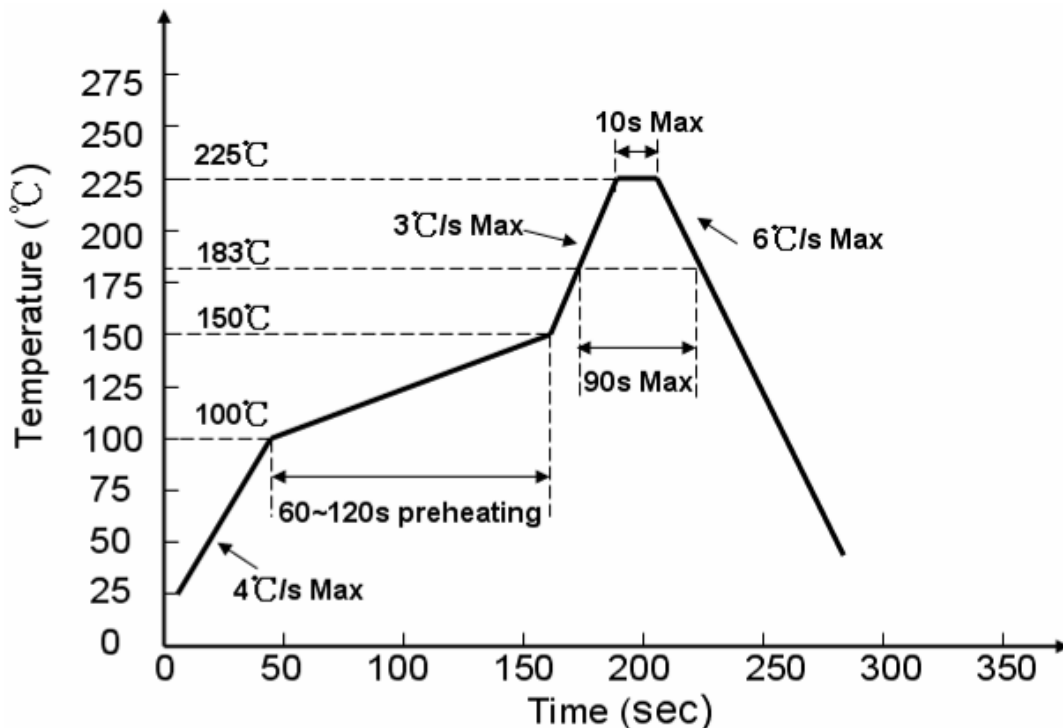
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※ Precautions for use :

- 1) Customer must apply the current limiting resistor in the circuit so as to drive the LEDs within the rated current. Otherwise slight voltage shift maybe will cause big current change and burn out will happen.
- 2) Also, caution should be taken not to overload the LEDs with instantaneous high voltage at the turning ON and OFF of the circuit.
- 3) Storage:
 - a) 3.1 Don't open the moisture proof bag before ready to use the LEDs.
 - b) 3.2 The LEDs should be kept at 30°C or less and 60%RH or less before opening the package. The max. storage period before opening the package is 1 year.
 - c) 3.3 After opening the package, the LEDs should be kept at 30°C/35%RH or less, and it should be used within 7 days.
 - d) 3.4 If the LEDs be kept over the conditions of 3.4, baking is required before mounting.
Baking condition as below: $60 \pm 5^\circ\text{C}$ for 12 hrs.
- 4) Soldering condition:

4.1 Lead Solder:



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4.2 Lead Free Solder:

Note:

- a) 1.Reflow soldering should not be done more than two times.
- b) 2. Don't put stress on the LEDs when soldering.
- c) 3.Don't warp the circuit board before it have been returned to normal ambient conditions after soldering

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