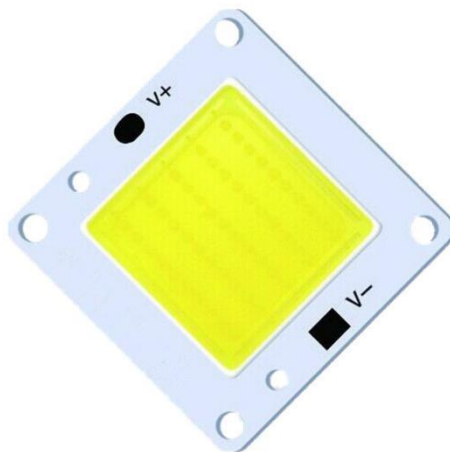


ST-AM40 COB

ST01-CXXX70WXX-AM40XXXX



Product Brief

Features And Benefits

● 20W-50W Available

● High Efficacy, High Lumen

● Beam Angle: 120°

● Aluminum Base, Flip Technology

● Suitable For Manual Welding

Application

● Flood Light

● Street Light

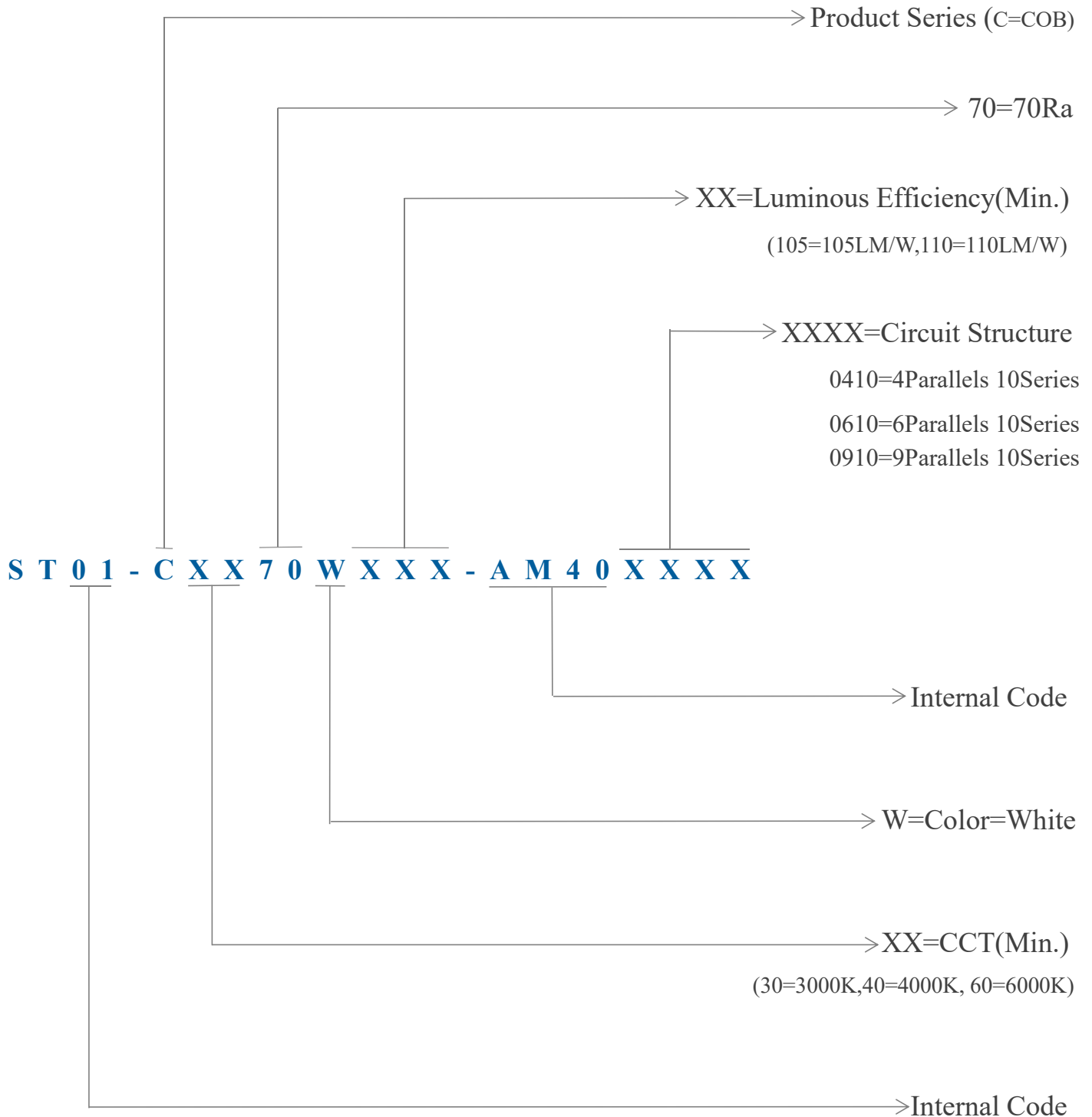
● High Bay Light

● Engineering Lighting

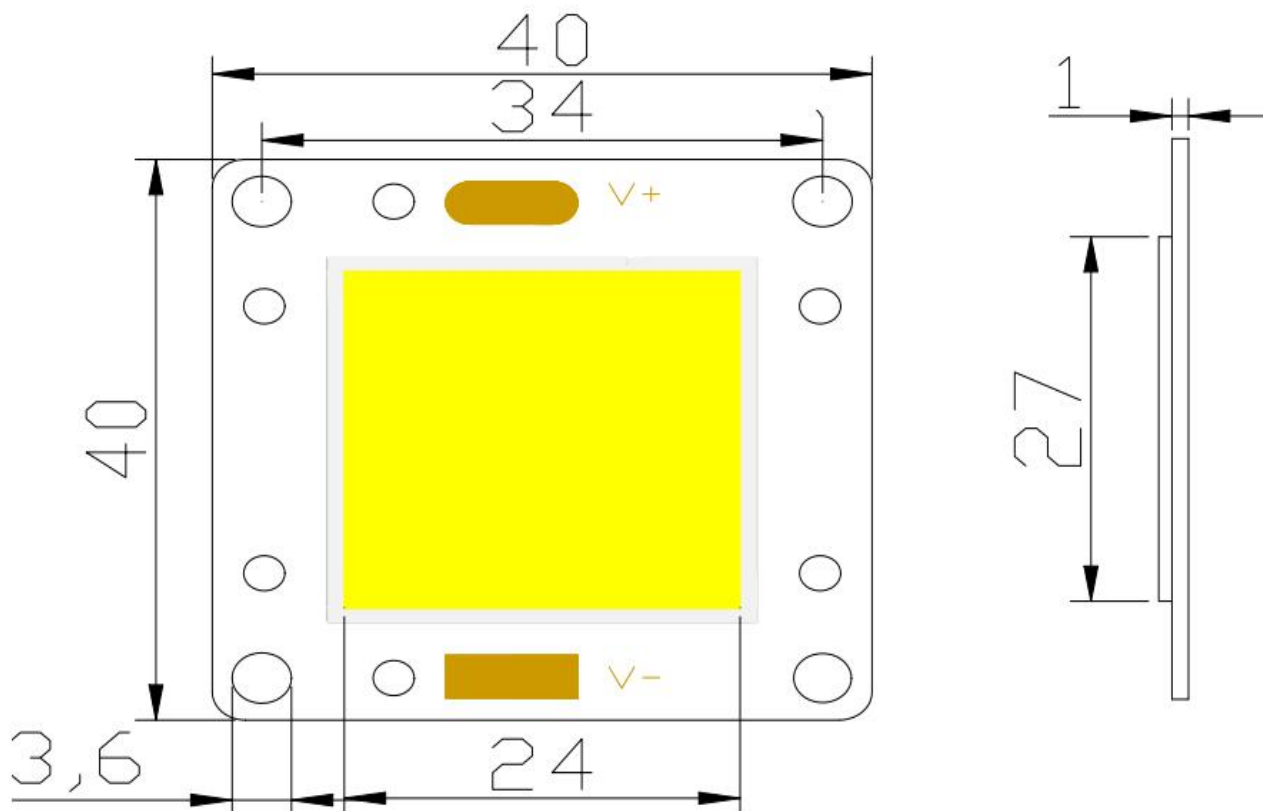
● Outdoor Lighting

1.Part Number Nomenclature

Part Numbers For ST-AM40 COB Follow The Convention Below:



2.Outline Dimensions



Notes:

1. Drawings are not to scale.
2. All dimensions are in millimeters.
3. Tolerance: $\pm 0.30\text{mm}$.

3.Absolute Maximum Ratings

Absolute Maximum Ratings For ST-AM40 20W.

PARAMETER	SYMBOL	MAXIMUM PERFORMANCE
Power Dissipation	P _D	21.76W
Forward Current	I _F	640mA
Reverse Voltage	V _R	-50V
Junction Temperature	T _j	130°C
Operating Temperature Range	T _{opr}	-30 ~ +60°C
Storage Temperature Range	T _{stg}	-35 ~ +100°C
Thermal Resistance Junction	R _{θ J-B}	1.0~1.1°C/W
ESD Sensitivity(HBM)	ESD	2000V
Hand Solder Temperature		350±20°C/3~5sec

Absolute Maximum Ratings For ST-AM40 30W.

PARAMETER	SYMBOL	MAXIMUM PERFORMANCE
Power Dissipation	P _D	32.64W
Forward Current	I _F	960mA
Reverse Voltage	V _R	-50V
Junction Temperature	T _j	130°C
Operating Temperature Range	T _{opr}	-30 ~ +60°C
Storage Temperature Range	T _{stg}	-35 ~ +100°C
Thermal Resistance Junction	R _{θ J-B}	0.76~0.82°C/W
ESD Sensitivity(HBM)	ESD	2000V
Hand Solder Temperature		350±20°C/3~5sec

Absolute Maximum Ratings For ST-AM40 50W.

PARAMETER	SYMBOL	MAXIMUM PERFORMANCE
Power Dissipation	P _D	54.40W
Forward Current	I _F	1600mA
Reverse Voltage	V _R	-50V
Junction Temperature	T _j	130°C
Operating Temperature Range	T _{opr}	-30 ~ +60°C
Storage Temperature Range	T _{stg}	-35 ~ +100°C
Thermal Resistance Junction	R _{θ J-B}	0.5~0.75°C/W
ESD Sensitivity(HBM)	ESD	2000V
Hand Solder Temperature		350±20°C/3~5sec

Note: *Pulse width≤0.1msec Duty ratio≤1/10

4.Electrical -Optical Characteristics (T_A=25°C)

(20W)

PARAMETER	CHIP	CONDITION	RA	MIN.	TYP.	MAX.	LM/W	UNIT
Forward Voltage	/	IF=640mA /Ta=25°C	/	30	32.5	34	/	V
Luminous Flux	17*34mil	CCT: 3000K 640mA	80	2100	--	2300	>105	LM (lm/w)
		CCT: 4000K 640mA		2200	--	2400	>110	
		CCT: 6000K 640mA		2200	--	2400	>110	
		CCT: 3000K 640mA	90	1700	--	1900	>85	
		CCT: 4000K 640mA		1800	--	2000	>90	
		CCT: 6000K 640mA		1800	--	2000	>90	
	14*30mil	CCT: 3000K 640mA	80	1900	--	2100	>95	
		CCT: 4000K 640mA		2000	--	2200	>100	
		CCT: 6000K 640mA		2000	--	2200	>100	
		CCT: 3000K 640mA	90	1500	--	1700	>75	
		CCT: 4000K 640mA		1600	--	1800	>80	
		CCT: 6000K 640mA		1600	--	1800	>80	

(30W)

PARAMETER	CHIP	CONDITION	RA	MIN.	TYP.	MAX.	LM/W	UNIT
Forward Voltage	/	IF=960mA /Ta=25°C	/	30.0	32.5	34	/	V
Luminous Flux	17*34mil	CCT: 3000K 960mA	80	3150	--	3450	>105	LM (lm/w)
		CCT: 4000K 960mA		3300	--	3600	>110	
		CCT: 6000K 960mA		3300	--	3600	>110	
		CCT: 3000K 960mA	90	2550	--	2850	>85	
		CCT: 4000K 960mA		27001	--	3000	>90	
		CCT: 6000K 960mA		27001	--	3000	>90	
	14*30mil	CCT: 3000K 960mA	80	2850	--	3150	>95	
		CCT: 4000K 960mA		3000	--	3300	>100	
		CCT: 6000K 960mA		3000	--	3300	>100	
		CCT: 3000K 960mA	90	2250	--	2550	>75	
		CCT: 4000K 960mA		2400	--	2700	>80	
		CCT: 6000K 960mA		2400	--	2700	>80	

(50W)

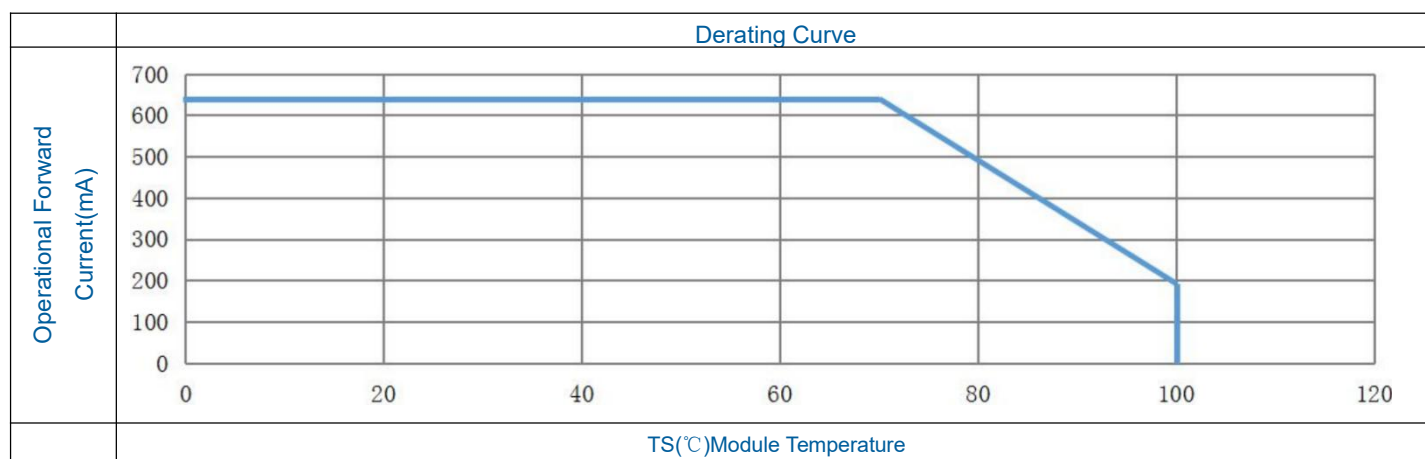
PARAMETER	CHIP	CONDITION	RA	MIN.	TYP.	MAX.	LM/W	UNIT
Forward Voltage	/	IF=1600mA /Ta=25°C	/	30	32.5	34	/	V
Luminous Flux	17*34mil	CCT: 3000K 1600mA	80	5250	--	5750	>105	LM (lm/w)
		CCT: 4000K 1600mA		5500	--	6000	>110	
		CCT: 6000K 1600mA		5500	--	6000	>110	
		CCT: 3000K 1600mA	90	4250	--	4750	>85	
		CCT: 4000K 1600mA		4500	--	5000	>90	
		CCT: 6000K 1600mA		4500	--	5000	>90	
	14*30mil	CCT: 3000K 1600mA	80	4750	--	5250	>95	
		CCT: 4000K 1600mA		5000	--	5500	>100	
		CCT: 6000K 1600mA		5000	--	5500	>100	
		CCT: 3000K 1600mA	90	3750	--	4250	>75	
		CCT: 4000K 1600mA		4000	--	4500	>80	
		CCT: 6000K 1600mA		4000	--	4500	>80	

Note:

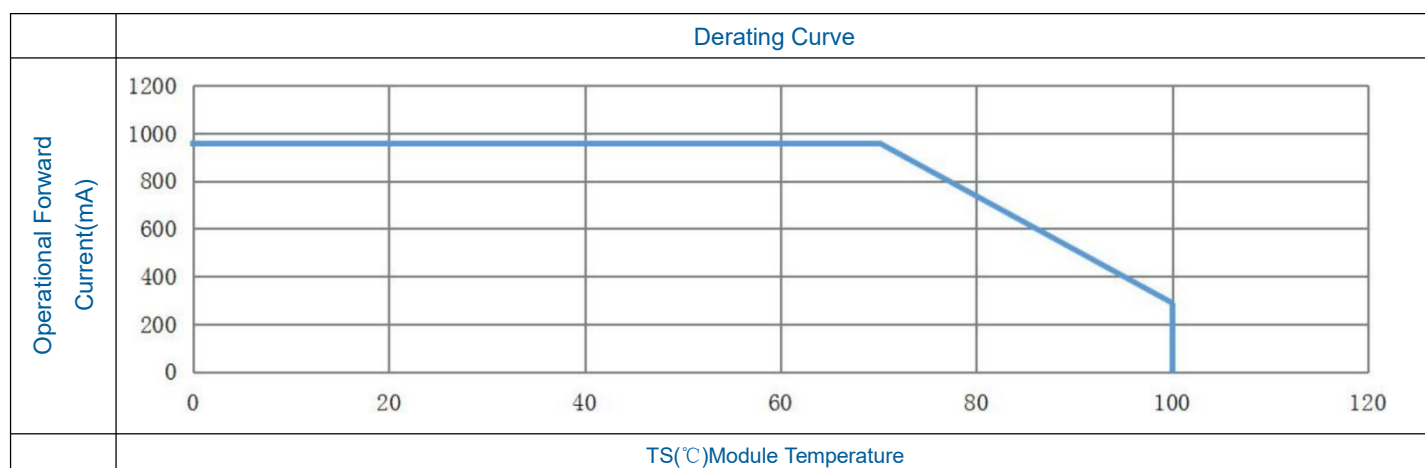
1. Data above for reference only.
2. Any CCT(1500-8000k) can be customized.

5. Electrical Derating Curve

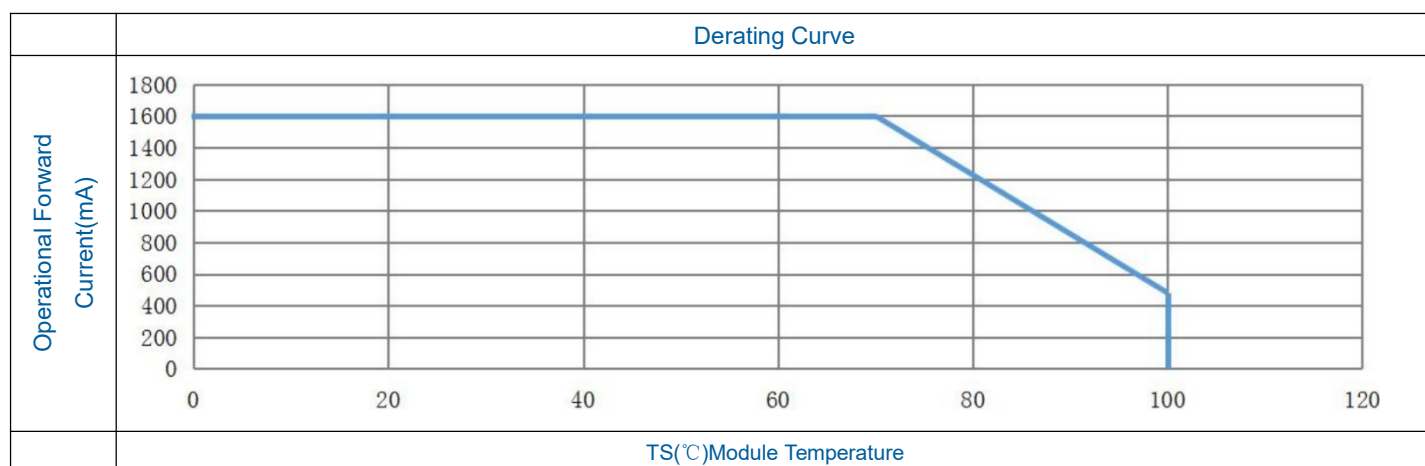
(20W)



(30W)



(50W)



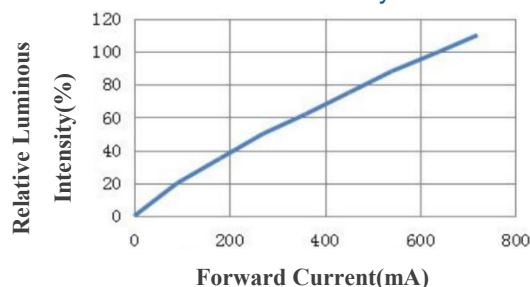
Note: In order to keep the temperature below the rated,
please make sure the radiator has enough heat dissipation performance.

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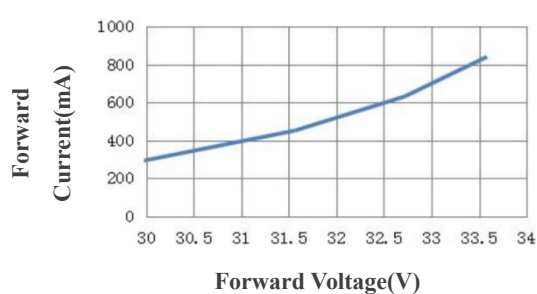
6. Typical Electrical/Optical Characteristic Curves

(20W)

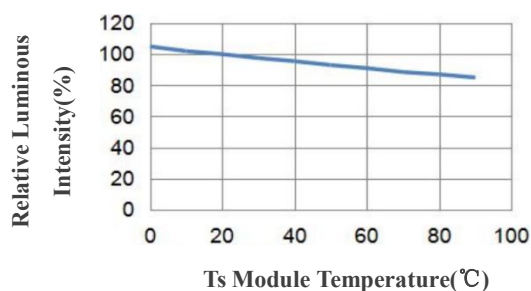
Relative Luminous Intensity -IF Curve



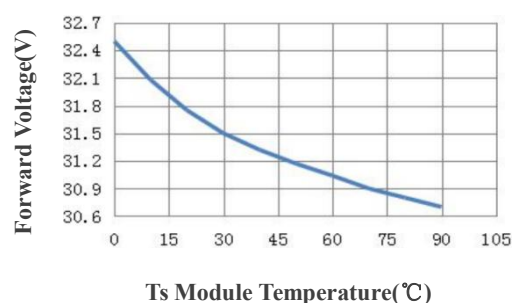
IF- VF Curve



Relative Luminous Intensity -Temperature Curve

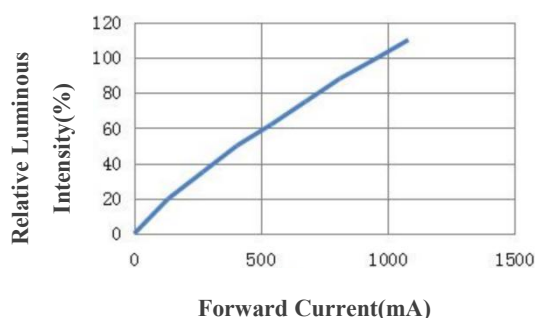


Temperature -VF Curve

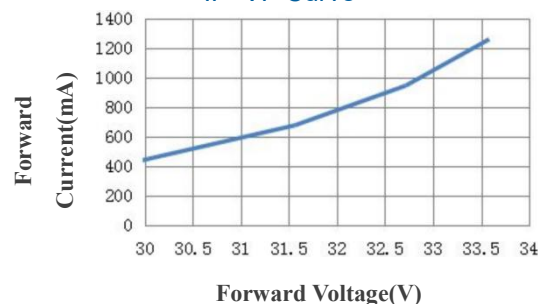


(30W)

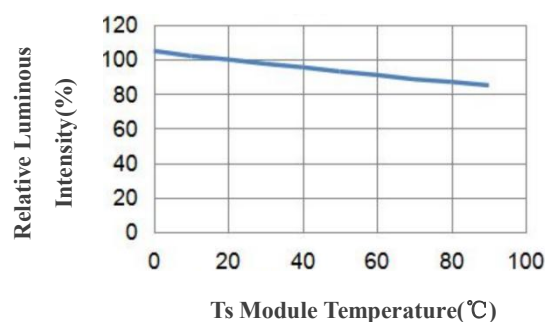
Relative Luminous Intensity -IF Curve



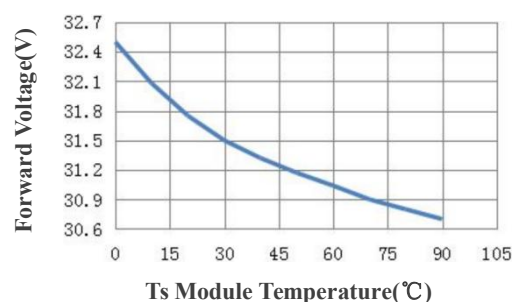
IF- VF Curve



Relative Luminous Intensity -Temperature Curve

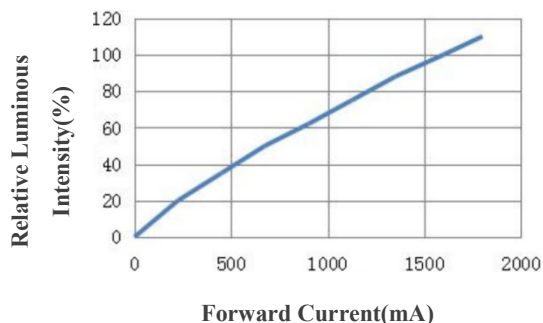


Temperature -VF Curve

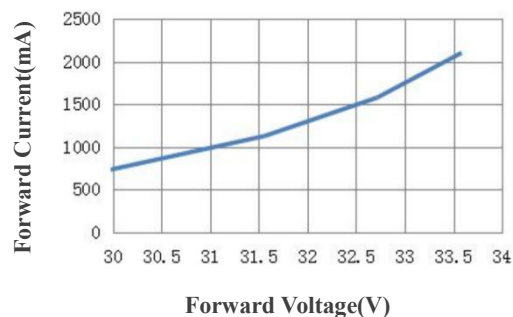


(50W)

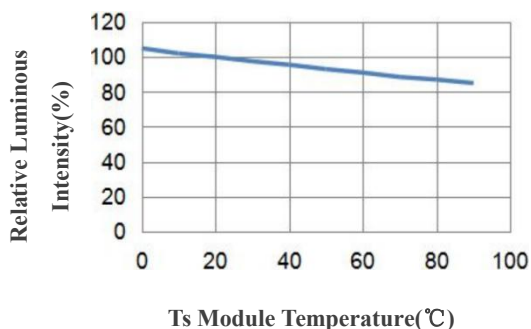
Relative Luminous Intensity -IF Curve



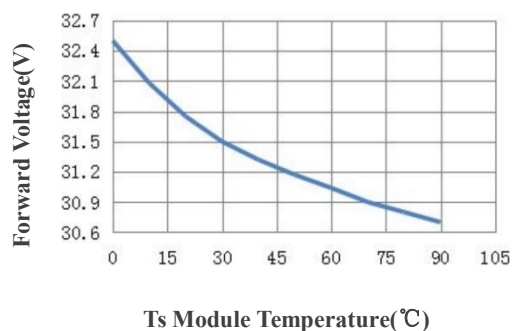
IF- VF Curve



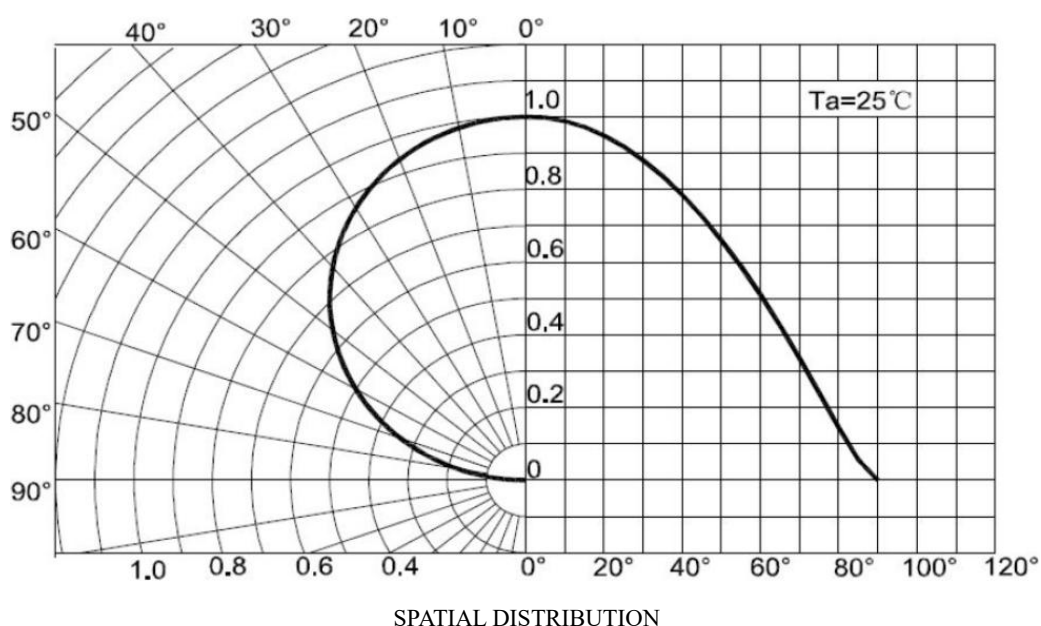
Relative Luminous Intensity -
Temperature Curve



Temperature -VF Curve

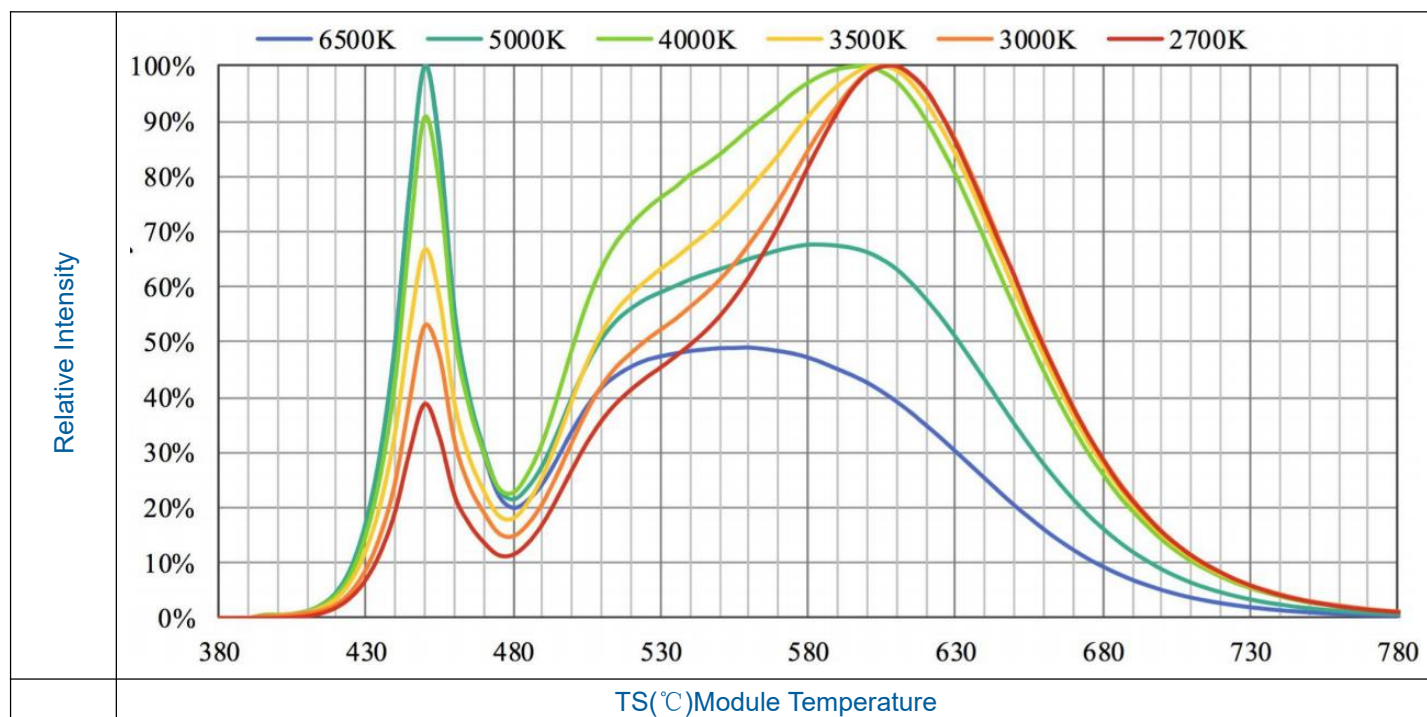


7.Luminous Flux Distribution

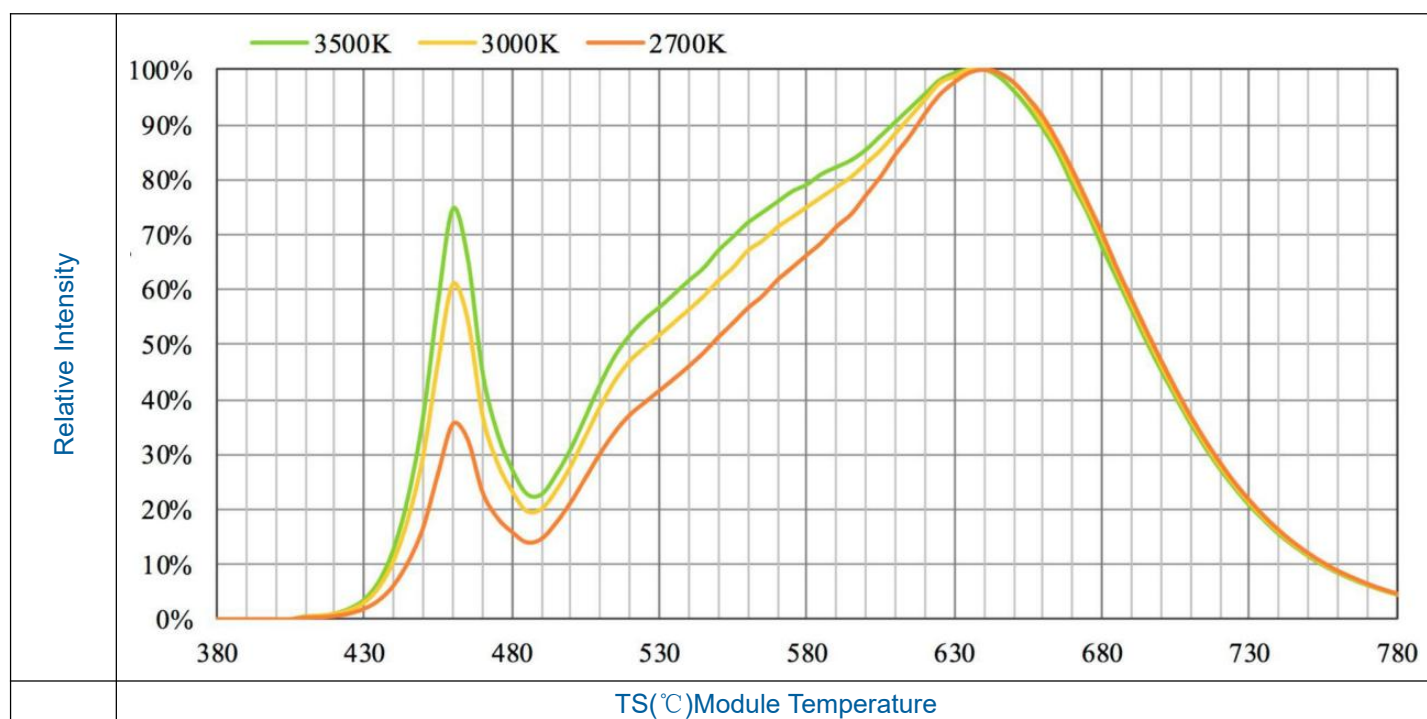


8.Relative Spectral Distribution Graph

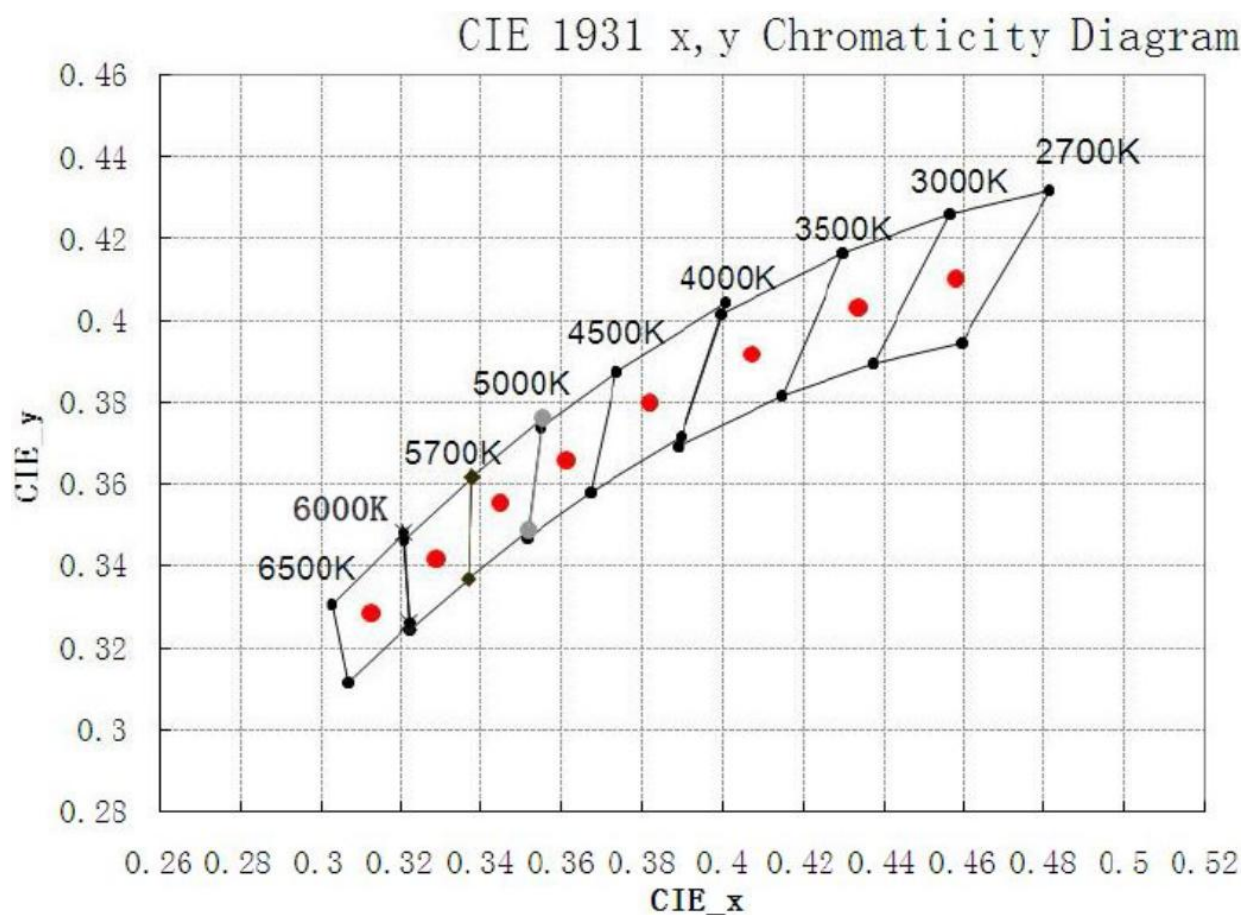
Spectrum:CRI(Ra)80Min



Spectrum:CRI(Ra)90Min



9.CIE Chromaticity Diagram



Color Rank:

Center Color	2725K	3045K	3560K	3985K	4550K	5028K	5665K	6530K
X	0.4578	0.4338	0.4082	0.3818	0.3607	0.3447	0.329	0.3123
Y	0.4101	0.403	0.3918	0.3797	0.3675	0.3553	0.3417	0.3282

10. Reliability

Test Item And Test Conditions

ITEM	STANDRAD TEST METHOD	TEST CONDITION	NOTE	NUMBER OF DAMAGED
Resistance To Soldering Heat	JEITA ED-4701 300 302	$T_{SLD}: 160 \pm 5^{\circ}\text{C}$ 10sec	1 time	0/30
Solder Ability	JEITA ED-4701 300 303	$T_{SLD}: 150 \pm 5^{\circ}\text{C}$ 5sec	1 time	0/30
Thermal Shock	JEITA ED-4701 300 307	$-40 \sim 100^{\circ}\text{C}$ 10min, 10min	100 cycles	0/30
Temperature Cycle	JEITA ED-4701 100 105	$-40 \sim 25 \sim 100 \sim 25^{\circ}\text{C}$ 30min. 5min. 30min. 5min	160 cycles	0/30
Terminal Strength (Pull test)	JEITA ED-4701 400 401	Load 10N(1kgf) 10 ± 1 sec	None Damage	0/30
Terminal Strength (Bending test)	JEITA ED-4701 400 401	Load 5N(0.5kgf) $0^{\circ} \sim 90^{\circ} \sim 0^{\circ}$ bend 2 times	None Damage	0/30
Temperature Humidity Storage	JEITA ED-4701 100 103	$T_a = 60^{\circ}\text{C}$, RH=90%	1000 hrs	0/30
Steady State Operating Life	--	$T_a = 25^{\circ}\text{C}$, $I_F = 640\text{mA}$	1000 hrs	0/30
Steady State Operating Life Of High Humidity Heat	--	$T_a = 60^{\circ}\text{C}$, RH=90%, $I_F = 640\text{mA}$	1000 hrs	0/30
High Temperature Storage	JEITA ED-4701 200 201	$T_a = 100^{\circ}\text{C}$	1000 hrs	0/30
Low Temperature Storage	JEITA ED-4701 200 202	$T_a = -40^{\circ}\text{C}$	1000 hrs	0/30

Test Item and results

ITEM	SYMBOL	TEST CONDITION	ITEM	
			MIN.	MAX.
Forward Voltage	V_F	$I_F = 640\text{mA}$	--	Initial data $\times 1.1$
Luminous Intensity	I_V	$I_F = 640\text{mA}$	Initial data $\times 0.9$	--
Reverse Current	I_R	$V_R = 5\text{V}$	--	$\leq 5\mu\text{A}$

11.Packing Standard

Label

Model-Model Number

Power-Wattage

Chip-Chip Brand&Chip Size

IF-Forward Current

VF-Range Of Forward Voltage

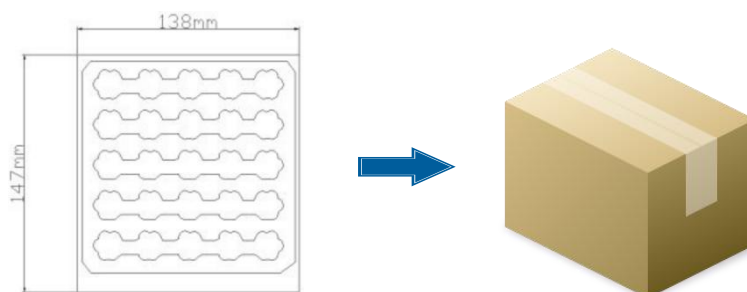
IV Φ_v -Range Of Luminance/Lumen

CCT-Correlated Color Temperature

QTY--(Quantity)

SANTANG LIGHTING			
Model			
Power		Chip	
IF		VF	
IV Φ_v		CCT	
Ra		QTY	
2017-08-08			

Packing



PACKING	DETAILS	
	SET	BOX
QTY	4pcs	300boxes

12. Legal and additional information.

About Shenzhen SanTang Lighting Co., Ltd.

SHENZHEN SANTANG LIGHTING CO., LTD. (hereafter called ST) is the integration of Independent R&D, Production, and Brand agency which is dedicated to providing LED light-emitting devices and LED light-emitting modules for small and medium enterprises (SME).

Main products are widely used in outdoor lighting, commercial lighting, grow lighting, and other special lighting fields which are included three parts with Customized Module Series (DC/AC PCBA, DC/customized size COB), General Lighting Series (COB, HIGH POWER LED, SMD) and Special lighting Series(UV,IR,GROW LIGHT), and the products have been exported to Europe, Middle-East, East-South Asia and South America.

OEM/ODM inquiries will be warmly accepted by ST company with its great abilities of product innovation and supply chains management ,and in the next 10 years, we are all committed to focusing on LED light-emitting devices fields and going forward hand in hand with each partner in the best way “Hit The Lights Together”!

Shenzhen SanTang Lighting Co., Ltd.

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