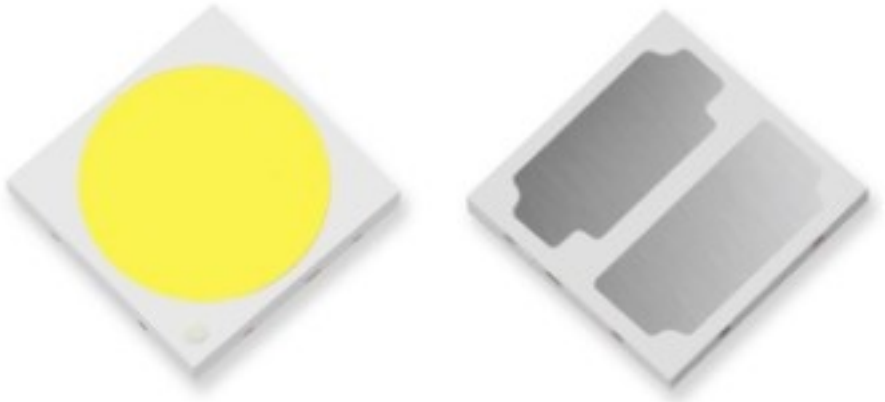
SMD LED Data sheet

Part No./: SOL-HP5050X400-09

High power 5050 9V Series Data Sheet

SOL-HP5050X400-09



SOL-HP5050W400-09	**9V Warm White**
SOL-HP5050N400-09	**9V Nature White**
SOL-HP5050C400-09	**9V Cool White**

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➢ Features:

- **Super high efficiency**
- **5.0mm*5.0mm*0.7mm**
- **Viewing angle 120°**
- **EMC Lead frame**
- **Complied with RoHS directive**

➢ Application:

- **Indoor lighting**
- **Outdoor lighting**
- **Entertainment lighting**
- **Commercial lighting**

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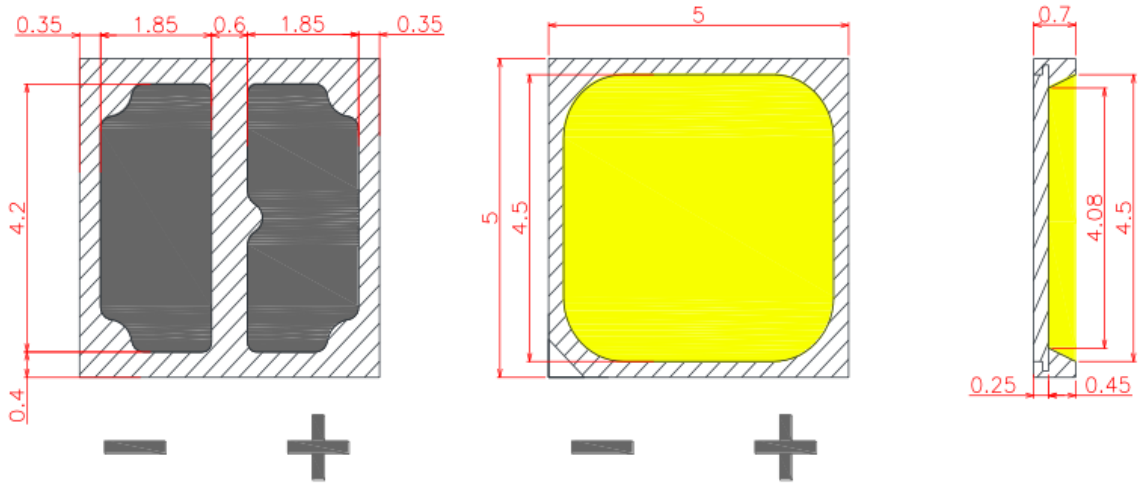
➢ Outline Dimensions:



Note:

- Dimensions are in millimeters
- Tolerance is ±0.1mm unless otherwise noted

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➢ Flux Characteristics, Tj=25°C:

Part Number	CCT (K)or Wavelength(nm)		LuminousFlux@ 400mA (Lm)		Viewing Angle (degrees) $2\theta_{1/2}$	CRI	
	Min.	Max.	Min.	Max.		Min.	Max.
SOL-HP5050W400-09	2700K	3500K	500LM	550LM	120	70	95
SOL-HP5050N400-09	3500K	4500K	550LM	650LM	120	70	95
SOL-HP5050C400-09	5000K	6700K	550LM	650LM	120	70	95

Note:

- SOL maintains a tolerance of ±1nm for dominant wavelength measurements.
- SOL maintains a tolerance of ±5% for CCT measurements.
- SOL maintains a tolerance of ± 5% on flux and power measurements.

➢ Electrical Characteristics, Tj=25°C:

Part Number	Forward Voltage V_F (V) @400mA		
	Min.	Typ.	Max.
SOL-HP5050W400-09	8.4	9.8	10.6
SOL-HP5050N400-09	8,4	9.8	10.6
SOL-HP5050C400-09	9.4	9.8	10.6

Note:

- SOL maintains a tolerance of ±0.1v for Voltage measurements.

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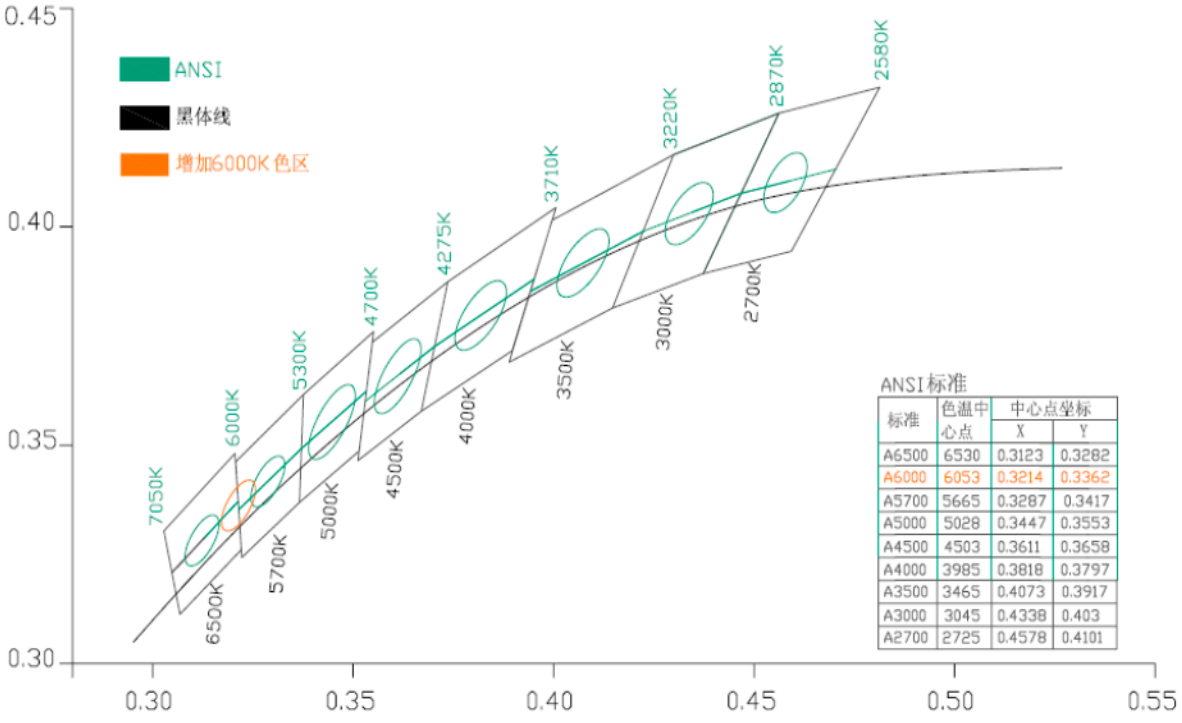
➢ Absolute Maximum Ratings:

Parameter	Symbol	Test Condition	Value		Unit
			Min.	Max.	
Power Dissipation	Pd			5000	mW
Reverse Voltage	VR	IR = 30μA	5		V
Pulse Current	IFp	Duty=0.1,1kHz		250	mA
Forward Current	IFm			250	mA
Operating Temperature	Topr		-40	+85	°C
Storage Temperature	Tstr		-40	+100	°C

CIE Chromaticity Diagram



ANSI标准

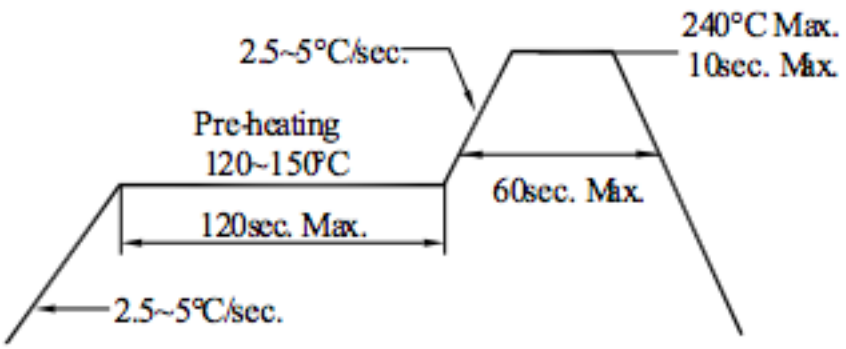
标准	色温中心点	中心点坐标	
		X	Y
A6500	6530	0.3123	0.3282
A6000	6053	0.3214	0.3362
A5700	5665	0.3287	0.3417
A5000	5028	0.3447	0.3553
A4500	4503	0.3611	0.3658
A4000	3985	0.3818	0.3797
A3500	3465	0.4073	0.3917
A3000	3045	0.4338	0.403
A2700	2725	0.4578	0.4101

➢ Soldering Profile:

Reflow Soldering		
	Lead Solder	Lead-free Solder
Pre-heat	120~150℃	180~200℃
Pre-heat Time	120sec. Max.	120sec. Max.
Peak Temperature	240℃ Max.	260℃ Max.
Soldering Time	10sec. max.	10sec. Max.
Condition	Refer to Temperature-profile 1	Refer to Temperature-profile 2

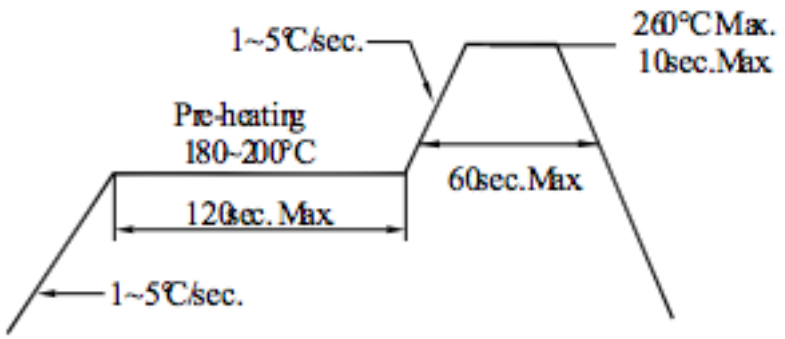
Lead solder

<1 : Lead Solder>



Lead-free solder

<2 : Lead-free Solder>



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NOTES:

- **We recommend the reflow temperature 200°C±5°C.**
- **Don't cause stress to the silicone resin while it is exposed to high temperature.**
- **Number of reflow process shall be 1 time.**
- **4, After reflow soldering rapid cooling should be avoided**

➢ Test items and results of reliability:

Test Item	Test Conditions	Duration/ Cycle	Number of damage	Reference
Temperature	-40° C 30min ↑↓25° C(2min) 100° C 30min	100 times	0/100	JEITA ED-4701300 303
Thermal Shock	40° C 30min ↑↓ 5sec 100° C 30min	100 times	0/100	JEITA ED-4701200 303
High Temperature Storage	Ta=100° C	1000 hours	0/100	EIAJED-4701200 201
Humidity Heat Storage	Ta=85° C RH=85%	1000 hours	0/100	EIAJED-4701100 103

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Low Temperature Storage	**Ta=-40° C**	**1000 hours**	**0/100**	**EIAJED-4701200 202**
Room Temperature Test	**Ta=25° C IF=400mA**	**1000 hours**	**0/100**	**Tested with SOL standard**
High Humidity Heat Test	**60° C RH=90% IF=400mA**	**1000 hours**	**0/100**	**Tested with SOL standard**
Low Temperature Test	**Ta=-40° C IF=400mA**	**1000 hours**	**0/100**	**Tested with SOL standard**
ESD(HBM)	**-4KV at 1.5KΩ; 100pF**	**3 times**	**0/100**	**MIL-STD-883D**

Thank You!