5050 SMD LED

Applications

● Signal & Symbol Indicators.

● Illuminations(illuminated advertising & general lighting).

● Amusement Machines.

● LCD Backlighting.

● Indoor & Outdoor Displays.

● Automobile Interior Lighting.

Edition: V1.3
Date: Sep 2011

1. RED 5050 SMD LED

PART NO	Chip		Lens Color
	Material	Emitted Color	
LED-5050RVC	AlGaInP	Red ■	WATER CLEAR

Absolute Maximum Ratings (Ta = 25℃)

Items	Symbol	Absolute maximum Rating	Unit
Power Dissipation	PD	300	mW
Forward Current(DC)	IF	150	mA
Peak Forward Current *	IFP	300	mA
Reverse Voltage	VR	5	V
Operation Temperature	Topr	-40 ~ +95	℃
Storage Temperature	Tstg	-40 ~ +100	℃
Soldering Temperature	Tsol	Reflow Soldering:240℃/10sec Hand Soldering: 350℃/3sec	

*Pulse width≦0.1msec duty≦1/10

Typical Electrical & Optical Characteristics (Ta = 25℃)

Items	Symbol	Condition	Min.	Typ.	Max.	Unit
Forward Voltage	VF	IF = 60mA	1.7		2.4	V
Reverse Current	IR	VR = 5V			10	μA
Dominant Wavelength	WLD	IF =60mA	620		630	nm
Luminous Intensity	IV	IF = 60mA	1200		3500	mcd
50% Power Angle	2θ½	IF = 60mA		120		Deg

Typical Electrical/Optical Characteristics Curves (Ta=25° Unless Otherwise Noted)

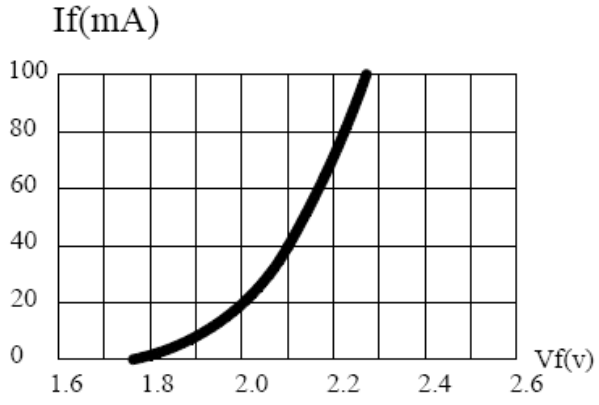


Fig. 1 Forward Current vs Forward Voltage

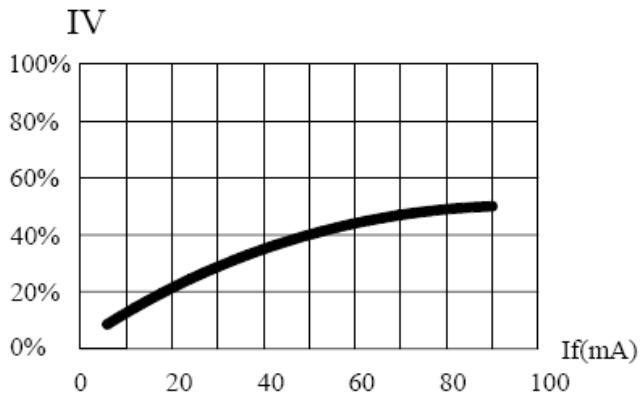


Fig. 2 Relative Luminous Flux vs Forward Current

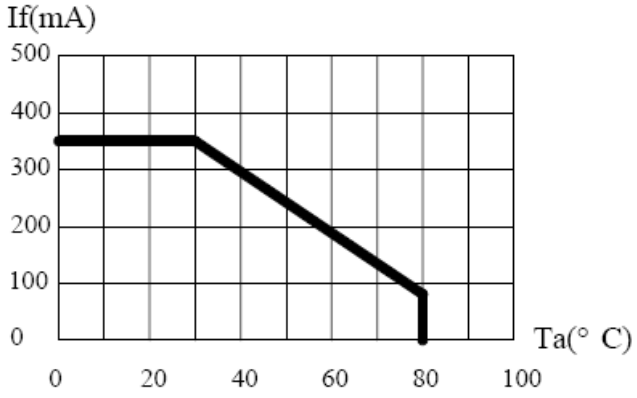


Fig. 3 Maximum Forward Current vs Ambient Temperature

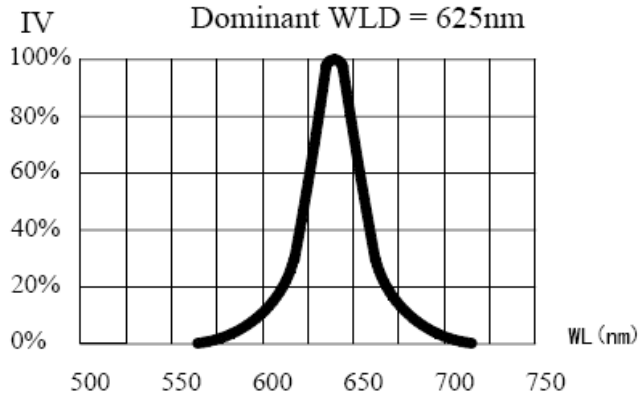


Fig. 4 Relative Luminous Flux vs Wavelength

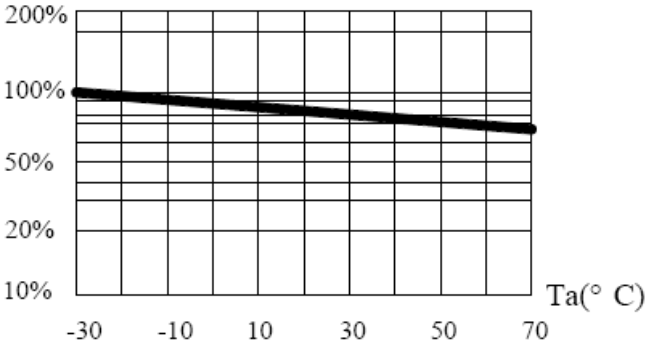


Fig. 5 Relative Luminous Flux vs Ambient Temperature

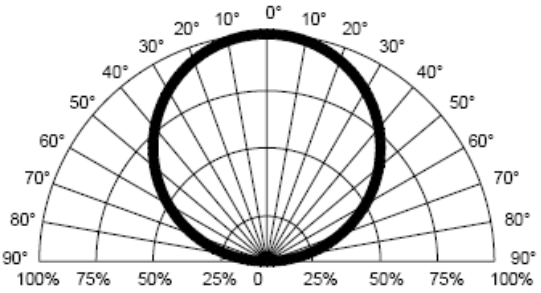


Fig. 6 Relative Luminous Flux vs Radiation Angle

2. YELLOW 5050 SMD LED

PART NO	Chip		Lens Color
	Material	Emitted Color	
LED-5050YVC	AlGaInP	Yellow	WATER CLEAR

Absolute Maximum Ratings (Ta = 25℃)

Items	Symbol	Absolute maximum Rating	Unit
Power Dissipation	PD	450	mW
Forward Current(DC)	IF	150	mA
Peak Forward Current *	IFP	300	mA
Reverse Voltage	VR	5	V
Operation Temperature	Topr	-40 ~ +95	℃
Storage Temperature	Tstg	-40 ~ +100	℃
Soldering Temperature	Tsol	Reflow Soldering:240℃/10sec Hand Soldering: 350℃/3sec	

*Pulse width≦0.1msec duty≦1/10

Typical Electrical & Optical Characteristics (Ta = 25℃)

Items	Symbol	Condition	Min.	Typ.	Max.	Unit
Forward Voltage	VF	IF = 60mA	1.7		2.4	V
Reverse Current	IR	VR = 5V			10	μA
Dominant Wavelength	WLD	IF =60mA	580		595	nm
Luminous Intensity	IV	IF = 60mA	1200		3500	mcd
50% Power Angle	2θ½	IF = 60mA		120		Deg

Typical Electrical/Optical Characteristics Curves (Ta=25° Unless Otherwise Noted)

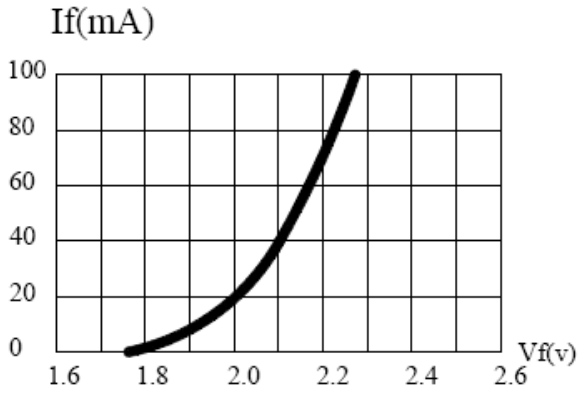


Fig. 1 Forward Current vs Forward Voltage

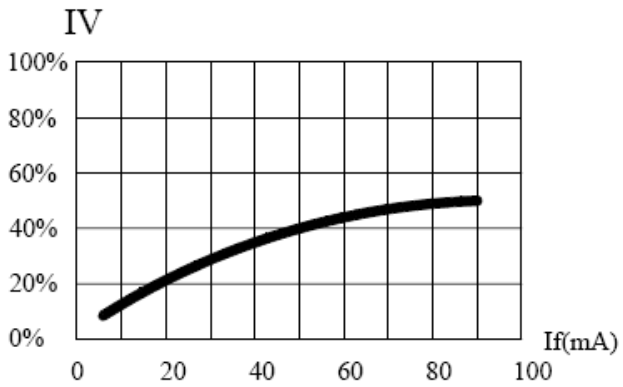


Fig. 2 Relative Luminous Flux vs Forward Current

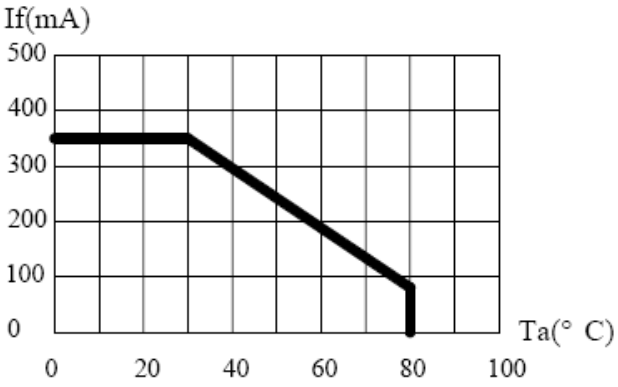


Fig. 3 Maximum Forward Current vs Ambient Temperature

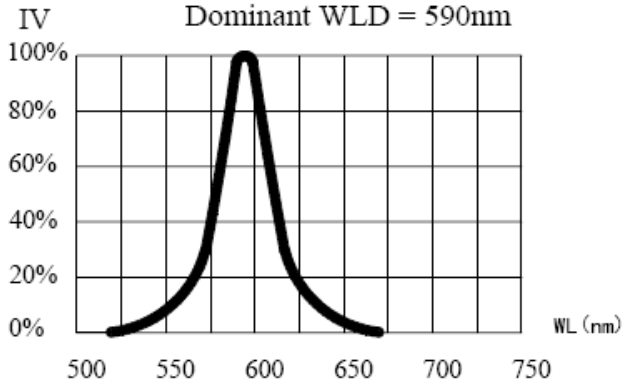


Fig. 4 Relative Luminous Flux vs Wavelength

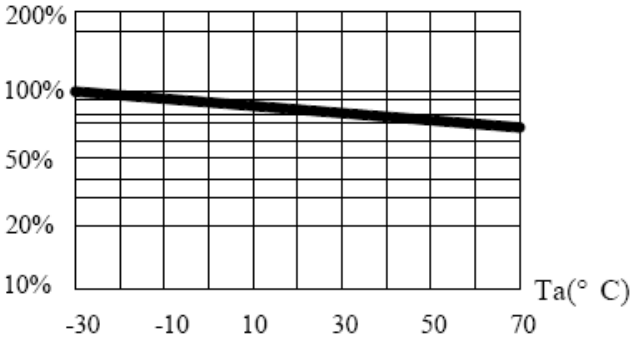


Fig. 5 Relative Luminous Flux vs Ambient

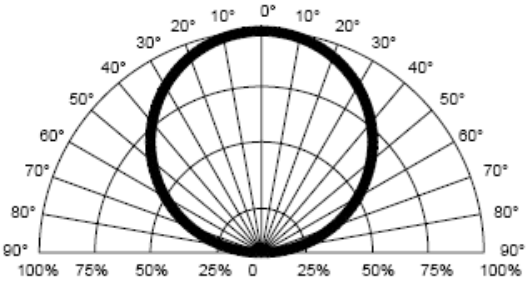


Fig. 6 Relative Luminous Flux vs Radiation Angle

3. GREEN 5050 SMD LED

PART NO	Chip		Lens Color
	Material	Emitted Color	
LED-5050GVC	InGaN	Green ■	WATER CLEAR

Absolute Maximum Ratings (Ta = 25℃)

Items	Symbol	Absolute maximum Rating	Unit
Power Dissipation	PD	450	mW
Forward Current(DC)	IF	150	mA
Peak Forward Current *	IFP	300	mA
Reverse Voltage	VR	5	V
Operation Temperature	Topr	-40 ~ +95	℃
Storage Temperature	Tstg	-40 ~ +100	℃
Soldering Temperature	Tsol	Reflow Soldering:240℃/10sec Hand Soldering: 350℃/3sec	

*Pulse width≦0.1msec duty≦1/10

Typical Electrical & Optical Characteristics (Ta = 25℃)

Items	Symbol	Condition	Min.	Typ.	Max.	Unit
Forward Voltage	VF	IF = 60mA	2.8		3.6	V
Reverse Current	IR	VR = 5V			10	μA
Dominant Wavelength	WLD	IF =60mA	515		535	nm
Luminous Intensity	IV	IF = 60mA	2500		5500	mcd
50% Power Angle	2θ½	IF = 60mA		120		Deg

Typical Electrical/Optical Characteristics Curves (Ta=25° Unless Otherwise Noted)

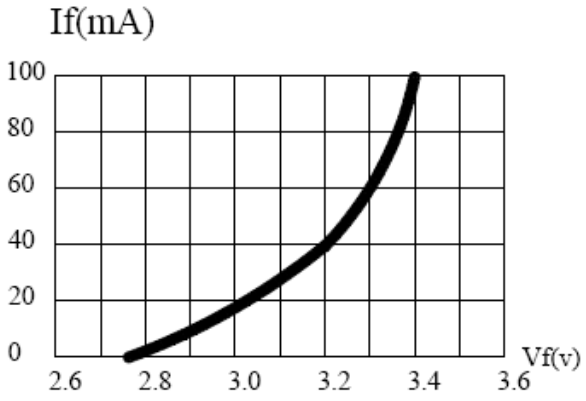


Fig. 1 Forward Current vs Forward Voltage

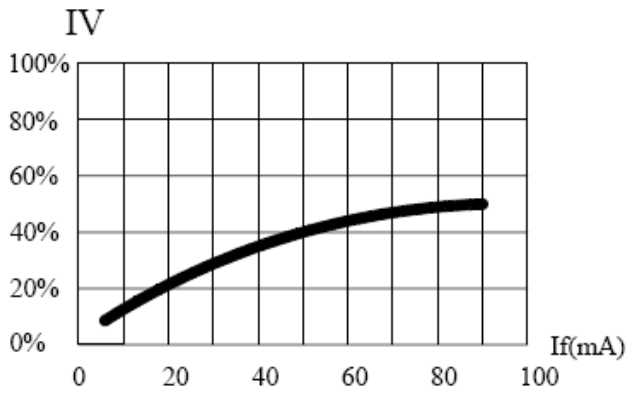


Fig. 2 Relative Luminous Flux vs Forward Current

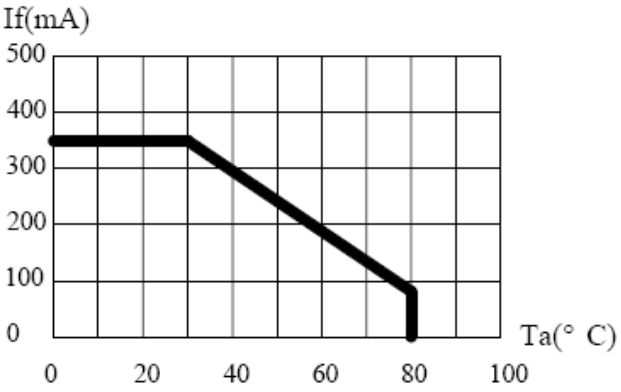


Fig. 6 Maximum Forward Current vs Ambient Temperature

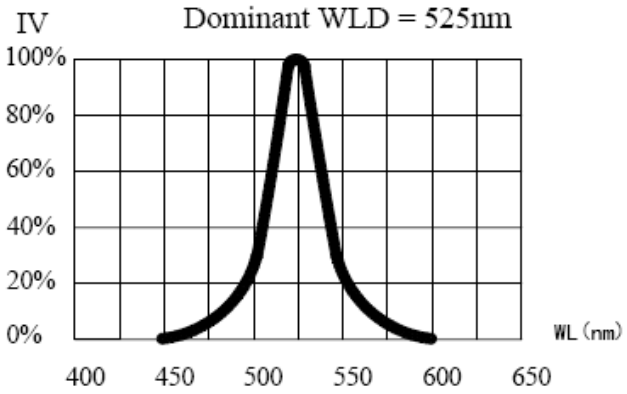


Fig. 4 Relative Luminous Flux vs Wavelength

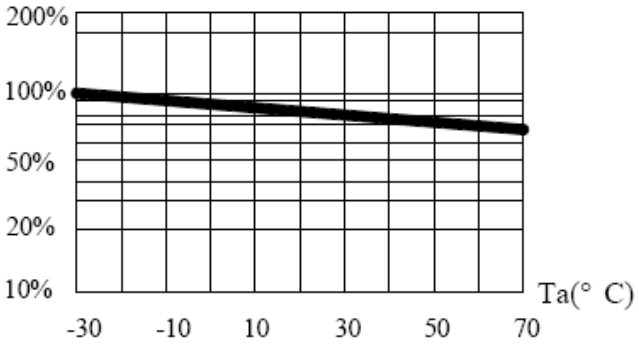


Fig. 5 Relative Luminous Flux vs Ambient Temperature

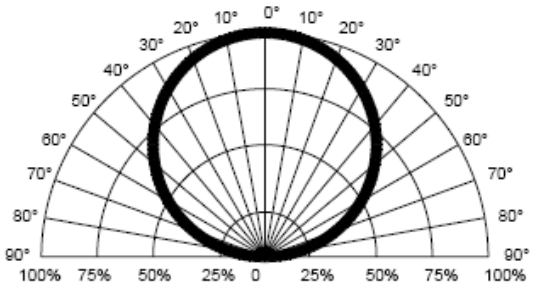


Fig. 6 Relative Luminous Flux vs Radiation Angle

4. BLUE 5050 SMD LED

PART NO	Chip		Lens Color
	Material	Emitted Color	
LED-5050BVC	InGaN	Blue ■	WATER CLEAR

Absolute Maximum Ratings (Ta = 25℃)

Items	Symbol	Absolute maximum Rating	Unit
Power Dissipation	PD	450	mW
Forward Current(DC)	IF	150	mA
Peak Forward Current *	IFP	300	mA
Reverse Voltage	VR	5	V
Operation Temperature	Topr	-40 ~ +95	℃
Storage Temperature	Tstg	-40 ~ +100	℃
Soldering Temperature	Tsol	Reflow Soldering:240℃/10sec Hand Soldering: 350℃/3sec	

*Pulse width≦0.1msec duty≦1/10

Typical Electrical & Optical Characteristics (Ta = 25℃)

Items	Symbol	Condition	Min.	Typ.	Max.	Unit
Forward Voltage	VF	IF = 60mA	2.8		3.6	V
Reverse Current	IR	VR = 5V			10	μA
Dominant Wavelength	WLD	IF =60mA	460		475	nm
Luminous Intensity	IV	IF = 60mA	1000		3500	mcd
50% Power Angle	2θ½	IF = 60mA		120		Deg

Typical Electrical/Optical Characteristics Curves (Ta=25° Unless Otherwise Noted)

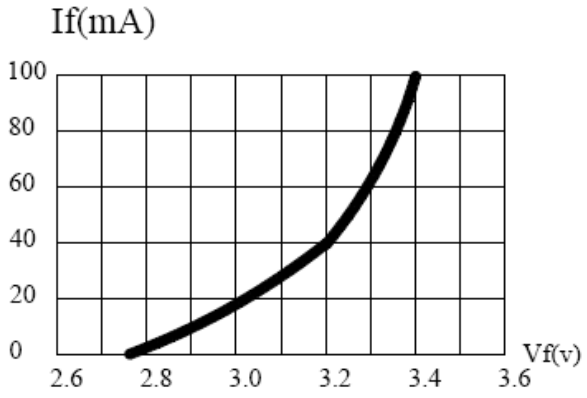


Fig. 1 Forward Current vs Forward Voltage

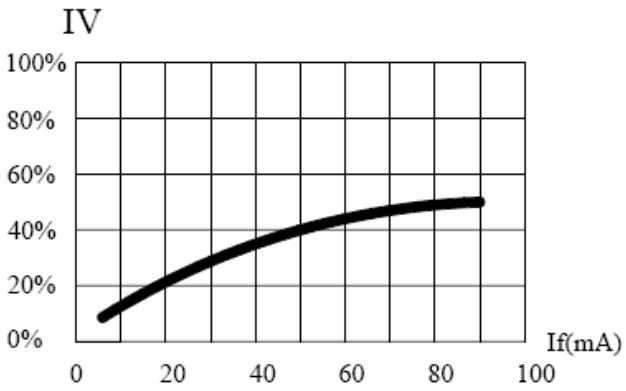


Fig. 2 Relative Luminous Flux vs Forward Current

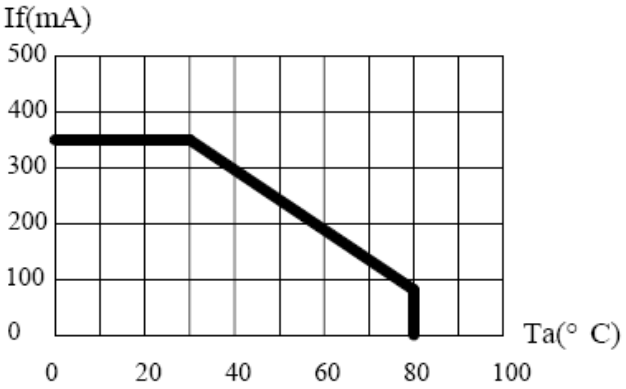


Fig. 6 Maximum Forward Current vs Ambient Temperature

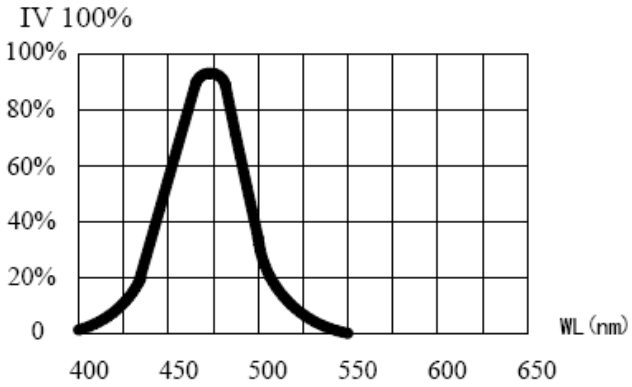


Fig. 4 Relative Luminous Flux vs Wavelength

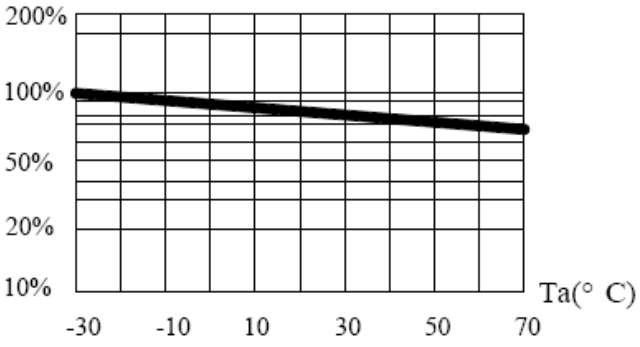


Fig. 5 Relative Luminous Flux vs Ambient Temperature

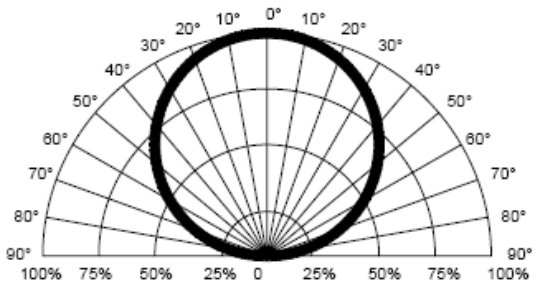


Fig. 6 Relative Luminous Flux vs Radiation Angle

5. WHITE 5050 SMD LED

PART NO	Chip		Lens Color
	Material	Emitted Color	
LED-5050WVC	InGaN	White □	WATER CLEAR

Absolute Maximum Ratings (Ta = 25℃)

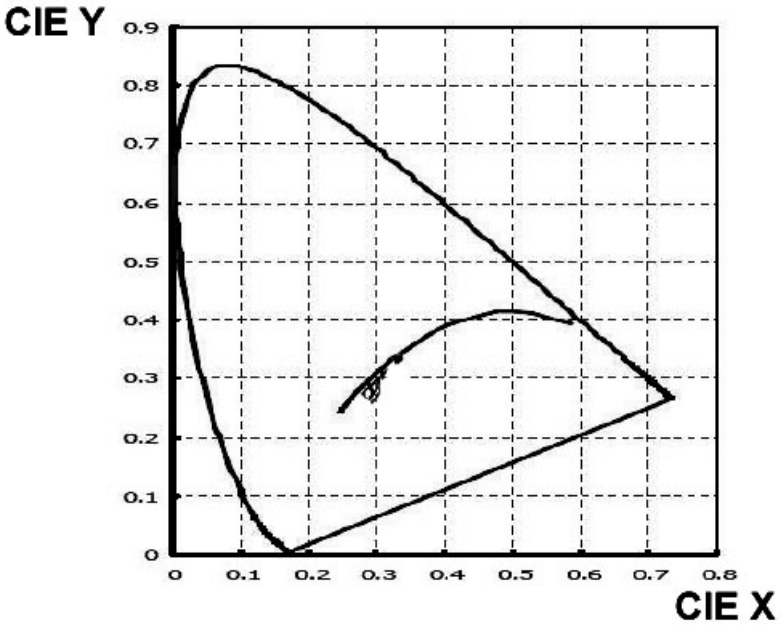
Items	Symbol	Absolute maximum Rating	Unit
Power Dissipation	PD	450	mW
Forward Current(DC)	IF	150	mA
Peak Forward Current *	IFP	300	mA
Reverse Voltage	VR	5	V
Operation Temperature	Topr	-40 ~ +95	℃
Storage Temperature	Tstg	-40 ~ +100	℃
Soldering Temperature	Tsol	Reflow Soldering:240℃/10sec Hand Soldering: 350℃/3sec	

*Pulse width≦0.1msec duty≦1/10

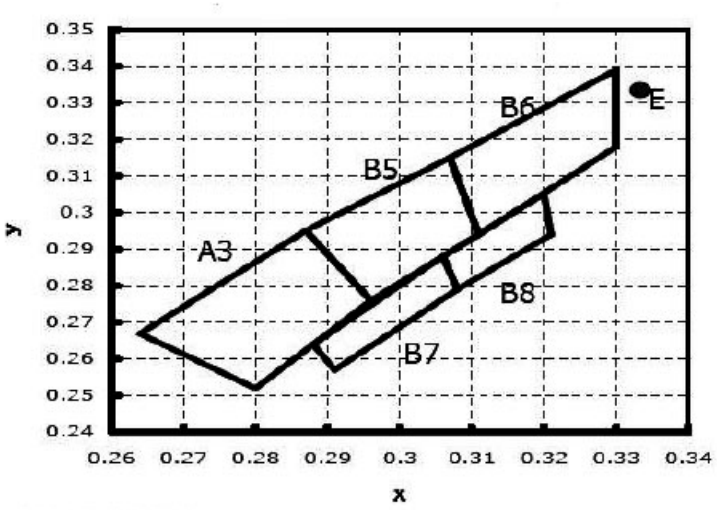
Typical Electrical & Optical Characteristics (Ta = 25℃)

Items	Symbol	Condition	Min.	Typ.	Max.	Unit
Forward Voltage	VF	IF = 60mA	2.8		3.6	V
Reverse Current	IR	VR = 5V			10	μA
Chromatic Coordinates	(X,Y)	IF =60mA			(0.30,0.30)	nm
Luminous Intensity	IV	IF = 60mA	5000		6000	mcd
			14		16	LM
50% Power Angle	2θ½	IF = 60mA		120		Deg

CIE Chromaticity Chart



Color Coordinate



Color Ranks

Rank A3				
x	0.280	0.264	0.287	0.296
y	0.252	0.267	0.295	0.276

Rank B5				
x	0.296	0.287	0.307	0.311
y	0.276	0.295	0.315	0.294

Rank B7				
x	0.291	0.288	0.306	0.308
y	0.257	0.264	0.288	0.279

Rank B6				
x	0.311	0.307	0.330	0.330
y	0.294	0.315	0.339	0.318

Rank B8				
x	0.308	0.288	0.32	0.321
y	0.279	0.264	0.305	0.294

* Color coordinates measurement allowance is ±0.01

Typical Electrical/Optical Characteristics Curves (Ta=25° Unless Otherwise Noted)

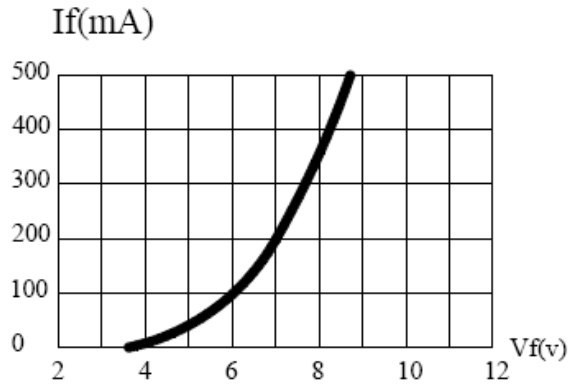


Fig. 1 Forward Current vs Forward Voltage

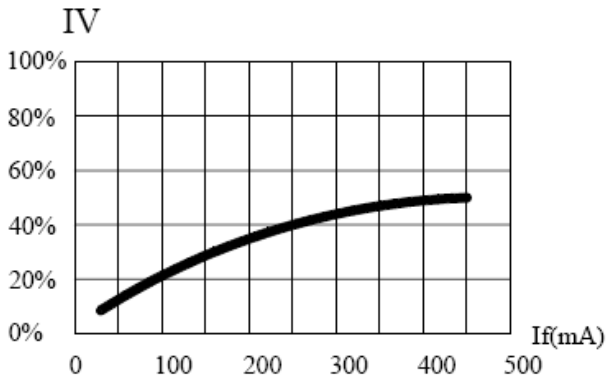


Fig. 2 Relative Luminous Flux vs Forward Current

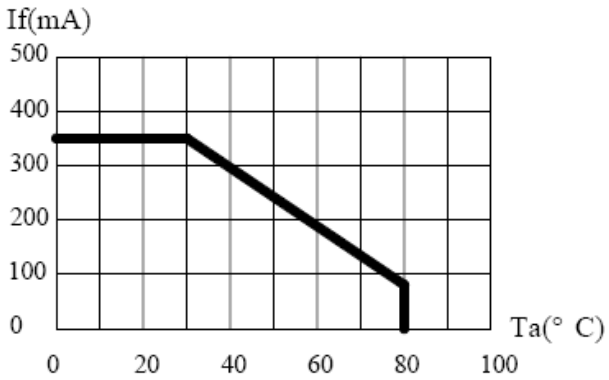


Fig. 3 Maximum Forward Current vs Ambient Temperature

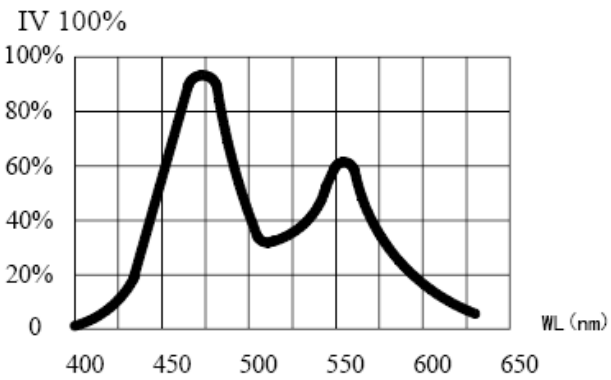


Fig. 4 Relative Luminous Flux vs Wavelength

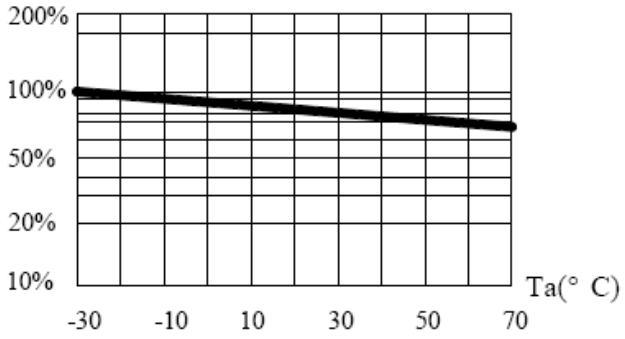


Fig. 5 Relative Luminous Flux vs Ambient Temperature

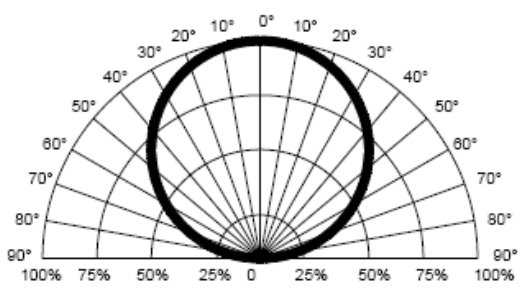
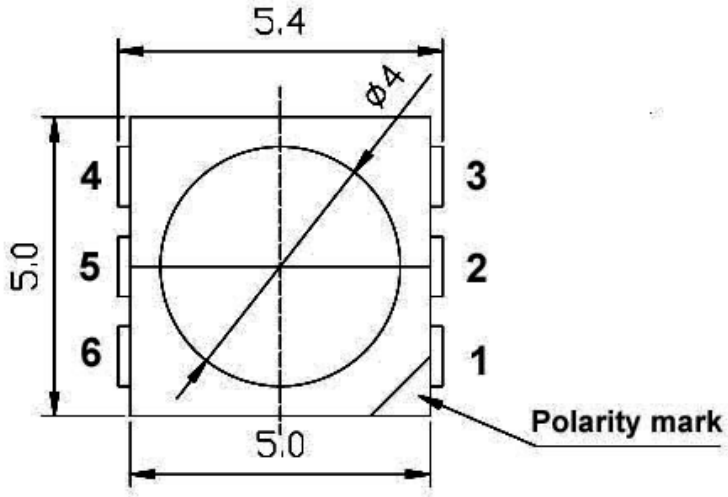
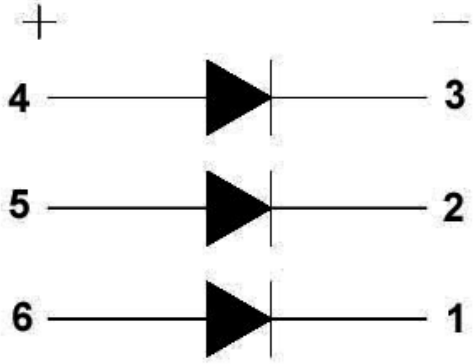
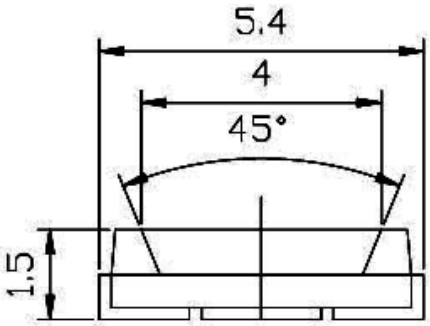


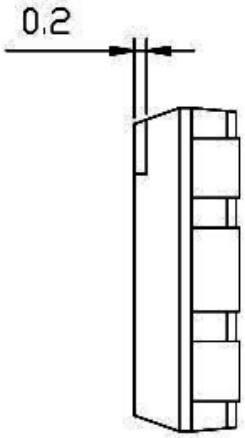
Fig. 6 Relative Luminous Flux vs Radiation Angle

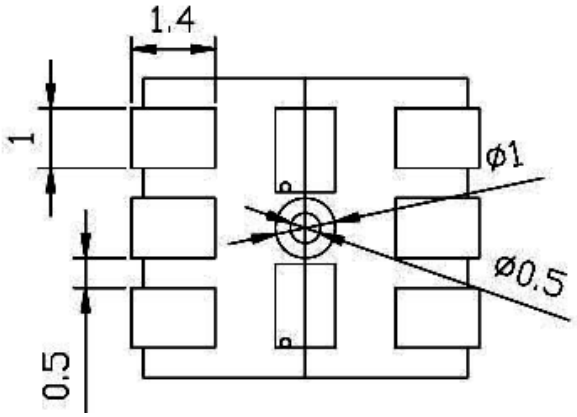
Package Dimensions (unit:mm)











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