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SPECIFICATION

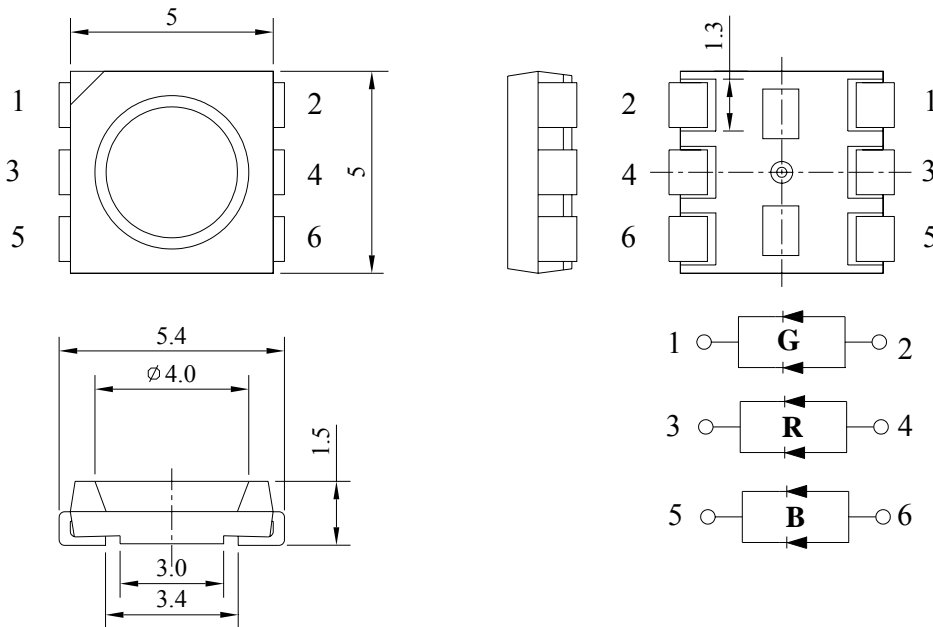
PART NO. : LT1K63-2K-RGB-S18

5.0 x 5.0 x 1.5mm SMD TYPE



Approved by	Checked by	Prepared by
<i>Tung</i>	<i>Lian</i>	<i>Show</i>

Package Dimensions



Notes:

- 1. All dimensions are in mm.
- 2. Tolerance is ± 0.25 mm unless otherwise noted.

Description

Part No.	LED Chip		Lens Color
	Material	Emitting Color	
LT1K63-2K-RGB-S18	AlGaInP/Si	Hyper Red	Water Clear
	InGaN/Sapphire	True Green	
	InGaN/Sapphire	Blue	

Absolute Maximum Ratings at Ta=25 °C

Parameter	Symbol	Rating	Unit
Power Dissipation ★	PD	78	mW
Reverse Voltage ★	VR	5	V
D.C. Forward Current ★	If	30	mA
Peak Current(1/10Duty Cycle,0.1ms Pulse Width.) ★	If(Peak)	100	mA
Operating Temperature Range	Topr.	-25 to +85	°C
Storage Temperature Range	Tstg.	-40 to +100	°C
Soldering Temperature	Tsld.	Reflow Soldering: 260°C for 10 sec. Hand Soldering: 350°C for 3 sec.	

★ The value are based on 1 die performance.

Electrical and Optical Characteristics:
Hyper Red

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Luminous Intensity ★2	Iv	If=20mA ★1	500	1010		mcd
Forward Voltage ★1	Vf	If=20mA ★1		2.1	2.6	V
Peak Wavelength★2	λ_p	If=20mA★1		632		nm
Dominant Wavelength★2	λ_d	If=20mA★1		625		nm
Reverse Current ★1	Ir	Vr=5V ★1			100	μ A
Viewing Angle ★2	2θ 1/2	If=20mA ★1		120		deg
Spectrum Line Halfwidth★2	$\Delta\lambda$	If=20mA★1		20		nm

Notes: 1. The datas tested by IS tester.

2. Customer's special requirements are also welcome.

3. ★1 For each die

4. ★2 When all LED dies are operated simultaneously.

Absolute Maximum Ratings at Ta=25 °C

Parameter	Symbol	Rating	Unit
Power Dissipation ★	P _D	120	mW
Reverse Voltage ★	V _R	5	V
D.C. Forward Current ★	I _f	30	mA
Peak Current(1/10Duty Cycle,0.1ms Pulse Width.) ★	I _f (Peak)	100	mA
Operating Temperature Range	T _{opr.}	-25 to +85	°C
Storage Temperature Range	T _{stg.}	-40 to +100	°C
Soldering Temperature	T _{sld.}	Reflow Soldering: 260°C for 10 sec. Hand Soldering: 350°C for 3 sec.	
Electric Static Discharge Threshold (HBM) ★	ESD	6000	V

★ The value are based on 1 die performance.

Electrical and Optical Characteristics:
True Green

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Luminous Intensity ★2	I _v	I _f =20mA ★1	700	1460		mcd
Forward Voltage ★1	V _f	I _f =20mA ★1		3.2	4.0	V
Peak Wavelength★2	λ _p	I _f =20mA★1		--		nm
Dominant Wavelength★2	λ _d	I _f =20mA★1		520		nm
Reverse Current ★1	I _r	V _r =5V ★1			50	μA
Viewing Angle ★2	2θ 1/2	I _f =20mA ★1		120		deg
Spectrum Line Halfwidth★2	Δλ	I _f =20mA★1		35		nm

Notes: 1. The datas tested by IS tester.

2. Customer's special requirements are also welcome.

3. ★1 For each die

4. ★2 When all LED dies are operated simultaneously.

Absolute Maximum Ratings at Ta=25 °C

Parameter	Symbol	Rating	Unit
Power Dissipation ★	P _D	120	mW
Reverse Voltage ★	V _R	5	V
D.C. Forward Current ★	I _f	30	mA
Peak Current(1/10Duty Cycle,0.1ms Pulse Width.) ★	I _f (Peak)	100	mA
Operating Temperature Range	T _{opr.}	-25 to +85	°C
Storage Temperature Range	T _{stg.}	-40 to +100	°C
Soldering Temperature	T _{slid.}	Reflow Soldering: 260°C for 10 sec. Hand Soldering: 350°C for 3 sec.	
Electric Static Discharge Threshold (HBM) ★	ESD	6000	V

★ The value are based on 1 die performance.

Electrical and Optical Characteristics:
Blue

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Luminous Intensity ★2	I _v	I _f =20mA ★1	200	430		mcd
Forward Voltage ★1	V _f	I _f =20mA ★1		3.2	4.0	V
Peak Wavelength★2	λ _p	I _f =20mA★1		--		nm
Dominant Wavelength★2	λ _d	I _f =20mA★1		465		nm
Reverse Current ★1	I _r	V _r =5V ★1			50	μA
Viewing Angle ★2	2θ 1/2	I _f =20mA ★1		120		deg
Spectrum Line Halfwidth★2	Δλ	I _f =20mA★1		26		nm

Notes: 1. The datas tested by IS tester.

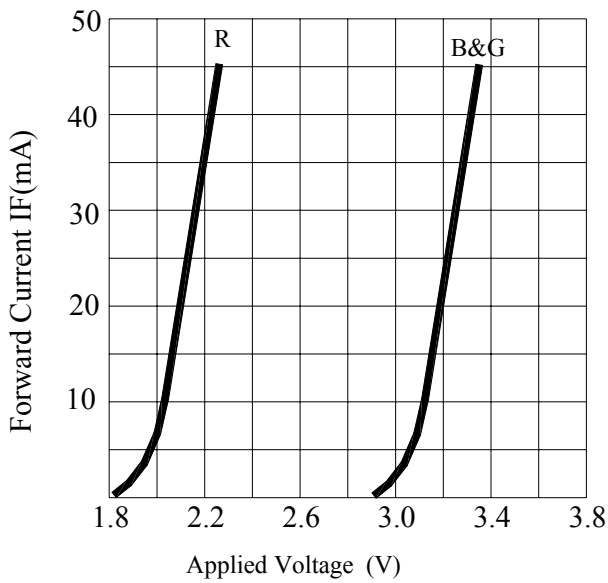
2. Customer's special requirements are also welcome.

3. ★1 For each die

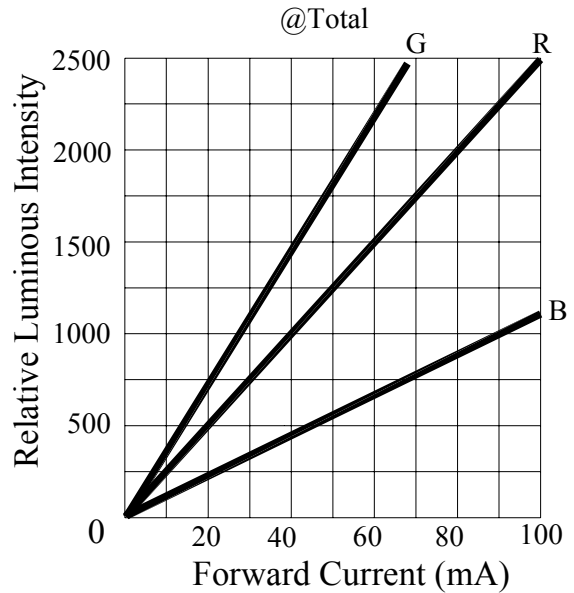
4. ★2 When all LED dies are operated simultaneously.

Typical Electrical/Optical Characteristic Curves

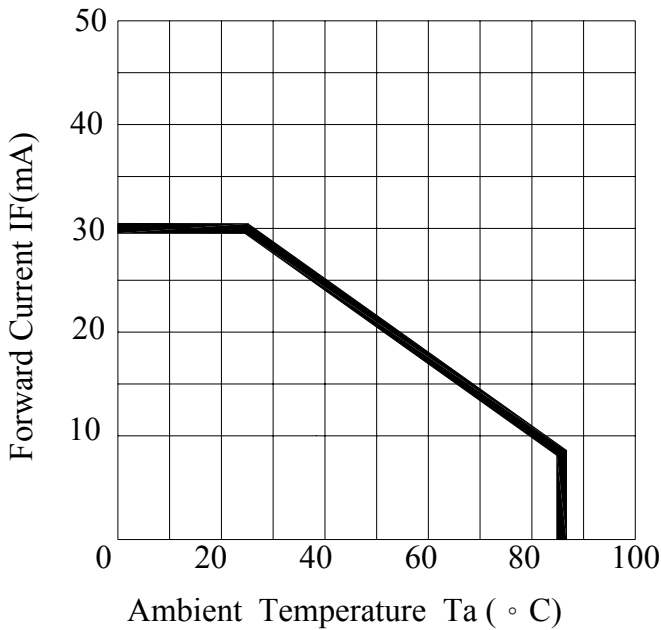
(25°C Ambient Temperature Unless Otherwise Noted)



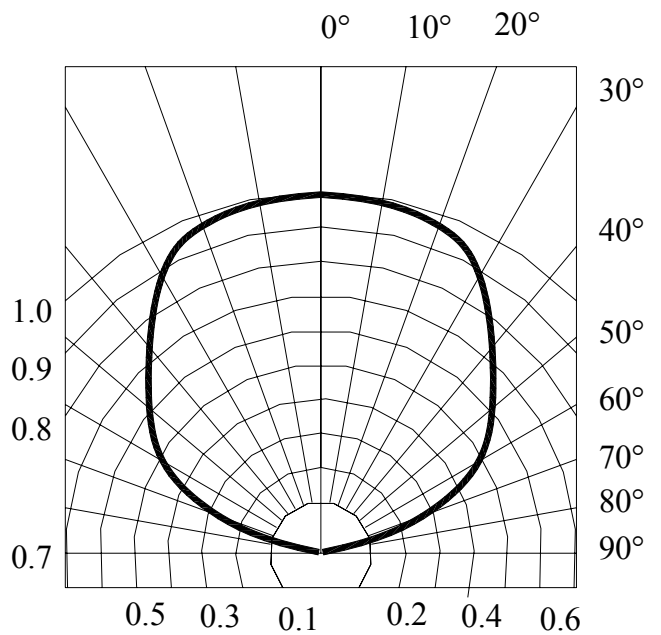
Forward Current VS. Applied Voltage



Forward Current VS. Luminous Intensity



Ambient Temperature VS. Forward Current



Radiation Diagram

Bin Code

Parameter	Condition	Rank		Min.	Max.	Unit			
Wd★2	If=@20mA ★1	R	1	615	620	nm			
			2	620	625				
			3	625	630				
		G	1	517.5	520				
			2	520	522.5				
			3	522.5	525				
			4	525	527.5				
			5	527.5	530				
		B	1	462.5	465				
			2	465	467.5				
			3	467.5	470				
			4	470	472.5				
			5	472.5	475				
		Vf★2	If=@20mA ★1	R	A		1.8	2.4	V
				G&B	B		3.0	3.6	
IV★2	If=@20mA ★1	R & G & B	D	200	270	mcd			
			E	270	370				
			F	370	500				
			G	500	700				
			H	700	1000				
			J	1000	1400				
			K	1400	1950				
			L	1950	2750				

Notes:

- ★1 For each die
- ★2 When all LED dies are operated simultaneously.