



I. C. ENGINEERING LIMITED
工業控制有限公司

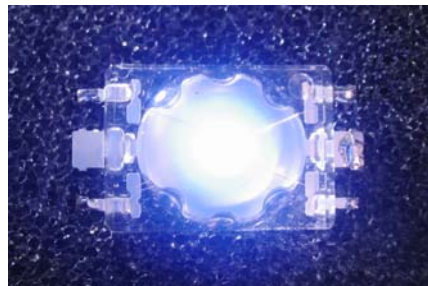
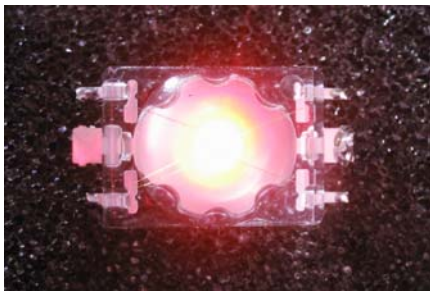
DATA SHEET

Enhanced Power LED Revolutionary Light Source Module



RGB LED

Part No.: SB204K35RGB-CA



UNIT 23, 12 FLOOR, BLOCK B, HI-TECH IND. CENTER, 491-501 CASTLE PEAK ROAD, TSUEN WAN, N.T. H.K.

香港荃灣青山道 491-501 號嘉力工業中心 B 座 12 字樓 23 室

Tel : (852) 24149121, 24149149 Fax : (852) 24122879 email: icinfo@fbice.com web site : www.fbice.com

FEATURES

Full color in one single LED
Low thermal resistance
Changeable color temperature

Absolute Maximum Ratings $T_J = 25\text{ }^\circ\text{C}$

Parameter	Value	Units
DC Forward Current	35	mA
Pulsed Forward Current	50	mA
Power Dissipation	368	mW
Dark Current (VR=5V)	100	uA
Electrostatic Discharge Threshold	400	V
Operating Temperature Range	-40 to 100	°C
Storage Temperature Range	-40 to 100	°C
Soldering Temperature	235	°C
Thermal Resistance	36	°C / W
LED Junction Temperature	110	°C

Operating Conditions

1. Operating condition under $f=0.5\text{Hz}$ to 2Hz and $1/2$ duty factor.
2. The LED should be operated at 20mA for ideal performance, but not more than 35mA .
3. The LED must be used in conjunction with heat-sinking devices. Soldering on PCB with mid-connection point while keeping the layout pattern ($25.4\text{mm} \times 25.4\text{mm}$) is another way to help heat dissipation.
4. The LED products are sensitive to static. Operators must wear static wristband (wireless static wristband is prohibited) and be well grounded while working in the environment with an ionizing air blower. Anti-static requirement should be under ESD 10V.
5. It is recommended to design circuit in series with protected IC to limit current flow. In a parallel connection, each IC should be protected individually.

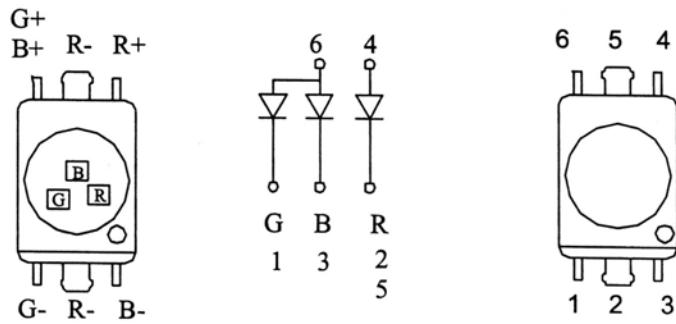
Electrical Characteristics $T_J = 25\text{ }^\circ\text{C}$ $I = 20\text{mA}$

Device Type	Forward Voltage VF(Volts)			Dark Current VR=5V IR=(uA)	Intensity IV (CD)			Total Flux (lm)		$\lambda D(\text{nm})$	Viewing Angle $2\theta_{1/2}$ (Degrees)
	Min	Typ	Max		Max	20mA Min	20mA Tye	35mA Max	20mA Typ		
SB204K35RGB-CA					2.6	3.6	4.6	1.4	2.5	2500 ~ 8000	100°
Red		2.0	2.5	10	0.53	0.8	1.0			620	
Green		3.5	4.0	10	1.3	2.4	3.0			525	
Blue		3.5	4.0	10	0.29	0.4	0.6			470	

The specification is subject to change without notice.

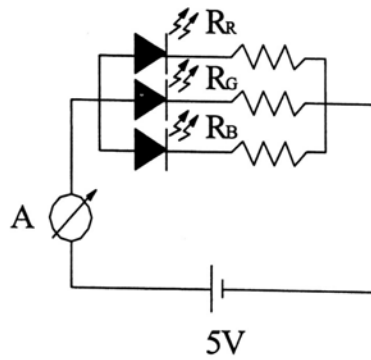
PIN CONNECTION

(COMMON ANODE)

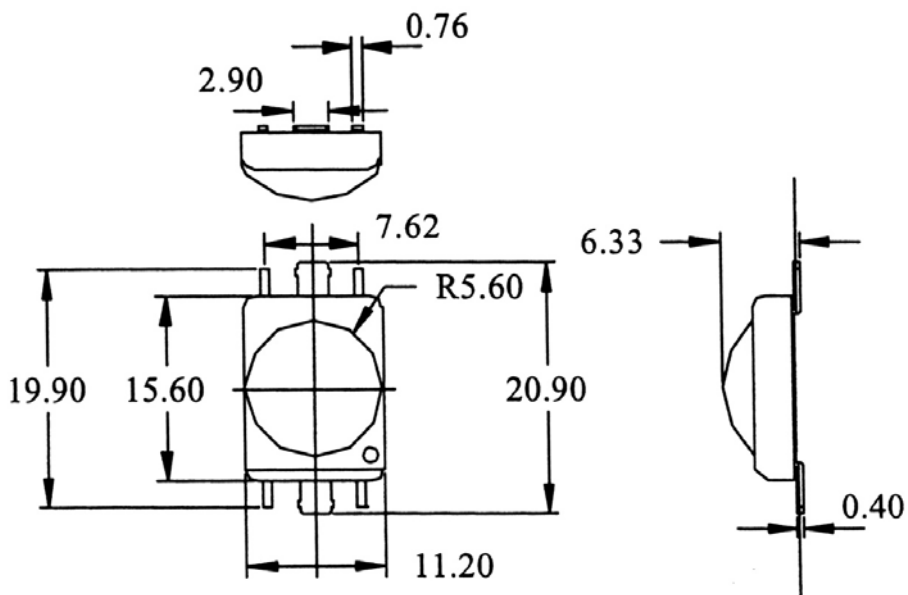


TEST CIRCUIT

COLOR	V _f	R(20mA)
R _R	2.2V	80 Ohm
R _G	3.5V	42 Ohm
R _B	3.5V	42 Ohm



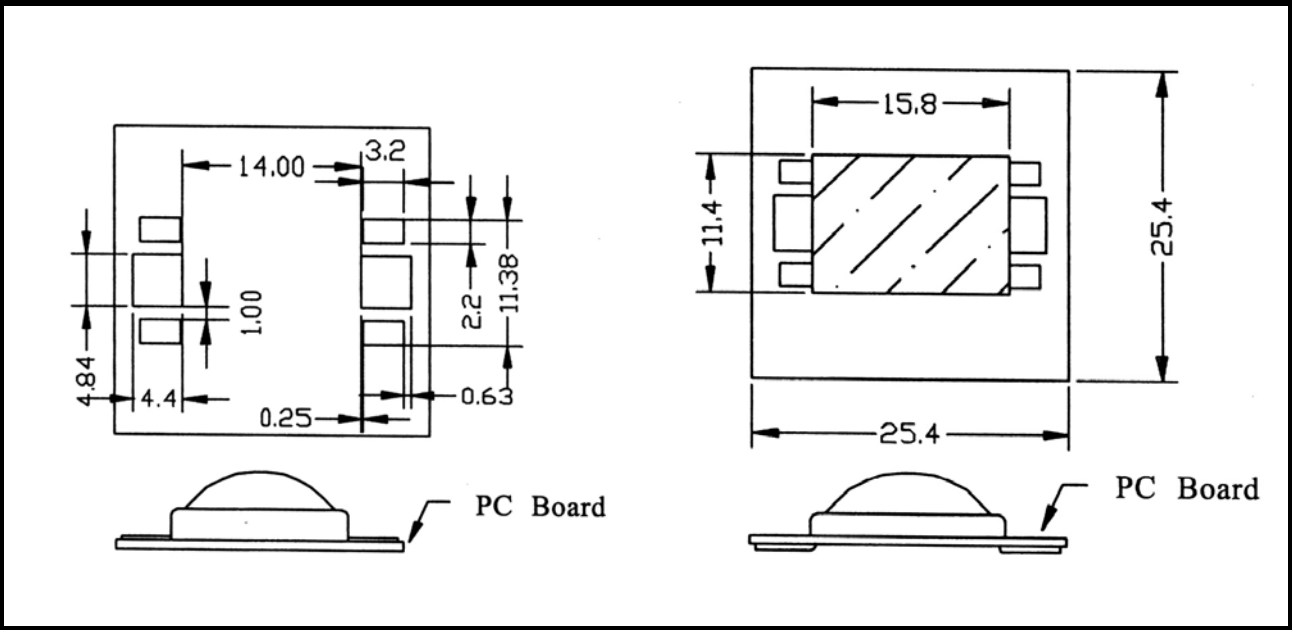
LED Dimensions



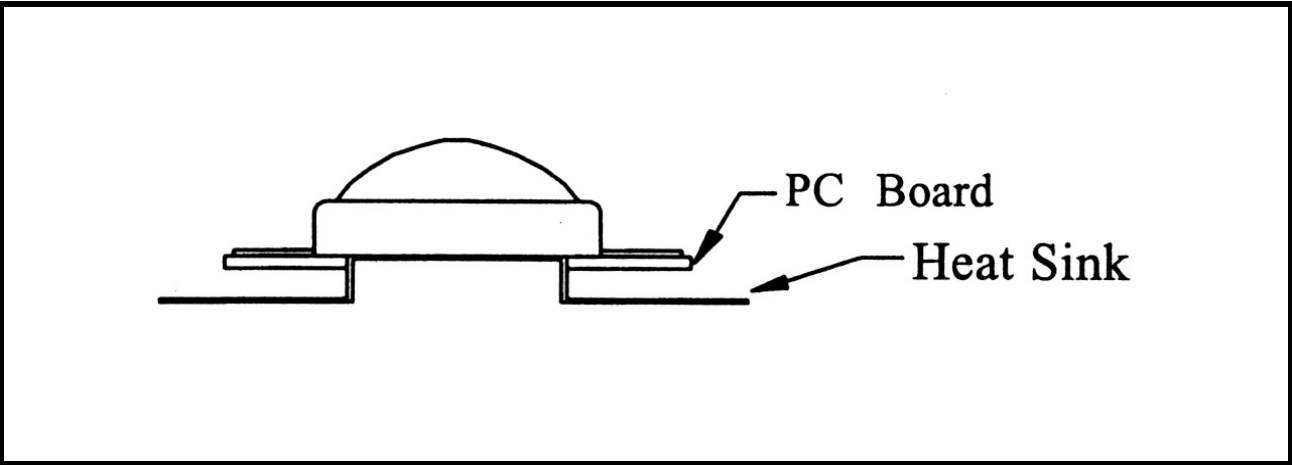
NOTE

1. All dimensions are in millimeters.
2. Tolerance is 0.25mm unless otherwise specified.
3. This specification is subject to change without notice.

Recommended Layout Pattern



Accelerate Heat Dissipation



Applications

LED SUNBOW LAMP

