

Impolux GmbH & Co. KG www.impolux.de

LED 5R40RGB2DW6,6P RGB 5mm White diffused 6600mcd
Common Plus

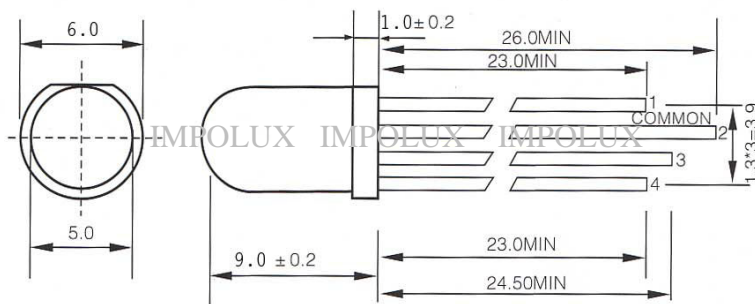
DATA SHEET

Features:

- Pb free product—RoHS compliant
- Low power consumption, High efficiency
- Wide viewing angle, High intensity
- I.C. compatible/low current requirement
- Versatile mounting on p.c. board or panel
- General purpose leads

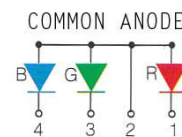
Package Dimension:

Package Dimensions(mm)



Note:

1. RED
2. COMMON
3. PURE GREEN
4. BLUE



Notes:

1. All dimensions are in millimeters .
2. Tolerance is ± 0.20 mm unless otherwise noted.
3. Protruded resin under flange is 1.0mm max
4. Lead spacing is measured where the leads emerge from the package.
5. Caution in ESD:

Static Electricity and surge damages the LED. It is recommend to use a wrist band or anti-electrostatic glove when handling the LED. All devices, equipment and machinery must be properly grounded.

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Rating	Unit
Power Dissipation	P _D	72	mW
Reverse Voltage	V _R	4	V
D.C. Forward Current	I _f	30	mA
Reverse (Leakage) Current	I _r	100	μA
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(1.6mm from body)	T _{sol}	Dip Soldering : 260°C for 5 sec. Hand Soldering : 350°C for 3 sec.	

Electrical and Optical Characteristics:

Super red

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Luminous Intensity	I _v	I _f =20mA	1100	2200		mcd
Forward Voltage	V _f	I _f =20mA		1.9	2.4	V
Peak Wavelength	λ _p	I _f =20mA		660		nm
Dominant Wavelength	λ _d	I _f =20mA		643		nm
Reverse (Leakage) Current	I _r	V _r =4V			100	μA
Viewing Angle	2θ 1/2	I _f =20mA		50		deg
Spectrum Line Halfwidth	Δλ	I _f =20mA		20		nm

Notes: 1. The datas tested by IS tester.

2. Customer's special requirements are also welcome.

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
Reverse (Leakage) Current	I _r	50	μA
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(1.6mm from body)	T _{sol}	Dip Soldering : 260°C for 5 sec. Hand Soldering : 350°C for 3 sec.	

Electrical and Optical Characteristics:

Blue

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Luminous Intensity	I _v	I _f =20mA	1100	2200		mcd
Forward Voltage	V _f	I _f =20mA		3.2	4.0	V
Peak Wavelength	λ _p	I _f =20mA				nm
Dominant Wavelength	λ _d	I _f =20mA		465		nm
Reverse (Leakage) Current	I _r	V _r =5V			50	μA
Viewing Angle	2θ 1/2	I _f =20mA		40		deg
Spectrum Line Halfwidth	Δλ	I _f =20mA		26		nm

Notes: 1. The datas tested by IS tester.

2. Customer's special requirements are also welcome.

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Rating	Unit
Power Dissipation	PD	120	mW
Reverse Voltage	VR	5	V
D.C. Forward Current	If	30	mA
Reverse (Leakage) Current	Ir	50	μA
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(1.6mm from body)	Tsol	Dip Soldering : 260°C for 5 sec. Hand Soldering : 350°C for 3 sec.	

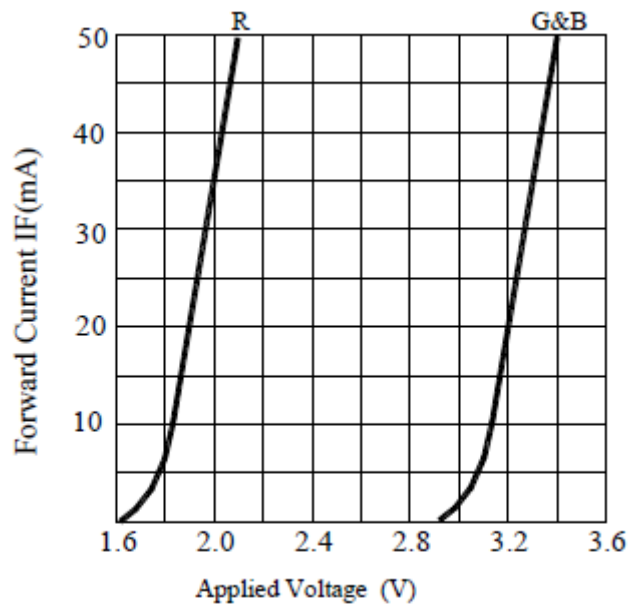
Electrical and Optical Characteristics:

True green

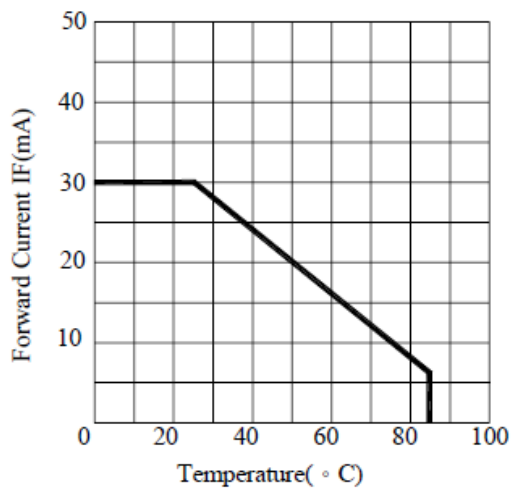
Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Luminous Intensity	Iv	If=20mA	1100	2200		mcd
Forward Voltage	Vf	If=20mA		3.2	4.0	V
Peak Wavelength	λp	If=20mA				nm
Dominant Wavelength	λd	If=20mA		520		nm
Reverse (Leakage) Current	Ir	Vr=5V			50	μA
Viewing Angle	2θ 1/2	If=20mA		50		deg
Spectrum Line Halfwidth	Δλ	If=20mA		35		nm

Notes: 1. The datas tested by IS tester.

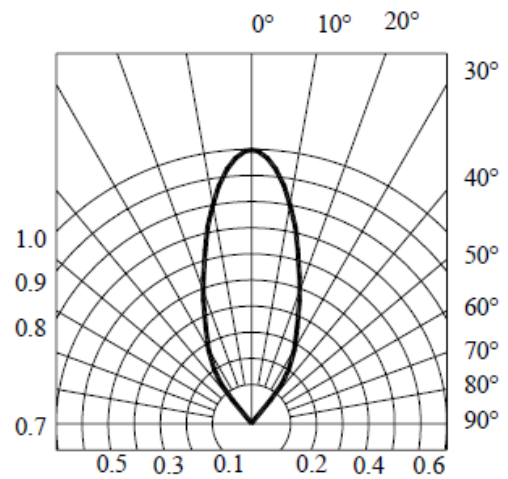
2. Customer's special requirements are also welcome.



FORWARD CURRENT VS. APPLIED VOLTAGE



FORWARD CURRENT VS. AMBIENT TEMPERATURE



RADIATION DIAGRAM

Precautions:

TAKE NOTE OF THE FOLLOWING IN USE OF LED

1. Temperature in use

Since the light generated inside the LED needs to be emitted to outside efficiently, a resin with high light transparency is used; therefore, additives to improve the heat resistance or moisture resistance (silica gel, etc) which are used for semiconductor products such as transistors cannot be added to the resin.

Consequently, the heat resistant ability of the resin used for LED is usually low; therefore, please be careful on the following during use.

Avoid applying external force, stress, and excessive vibration to the resins and terminals at high temperature. The glass transition temperature of epoxy resin used for the LED is approximately 120-130°C.

At a temperature exceeding this limit, the coefficient of linear expansion of the resin doubles or more compared to that at normal temperature and the resin is softened.

If external force or stress is applied at that time, it may cause a wire rupture.

2. Soldering

Please be careful on the following at soldering.

After soldering, avoid applying external force, stress, and excessive vibration until the products go to cooling process (normal temperature), <Same for products with terminal leads>

(1) Soldering measurements:

Distance between melted solder side to bottom of resin shall be 1.6mm or longer.

(2) Dip soldering :

Pre-heat: 90°C max. (Backside of PCB), Within 60 seconds.

Solder bath: 260±5°C (Solder temperature), Within 5 seconds.

(3) Hand soldering: 350°C max. (Temperature of soldering iron tip), Within 3 seconds.

3. Insertion

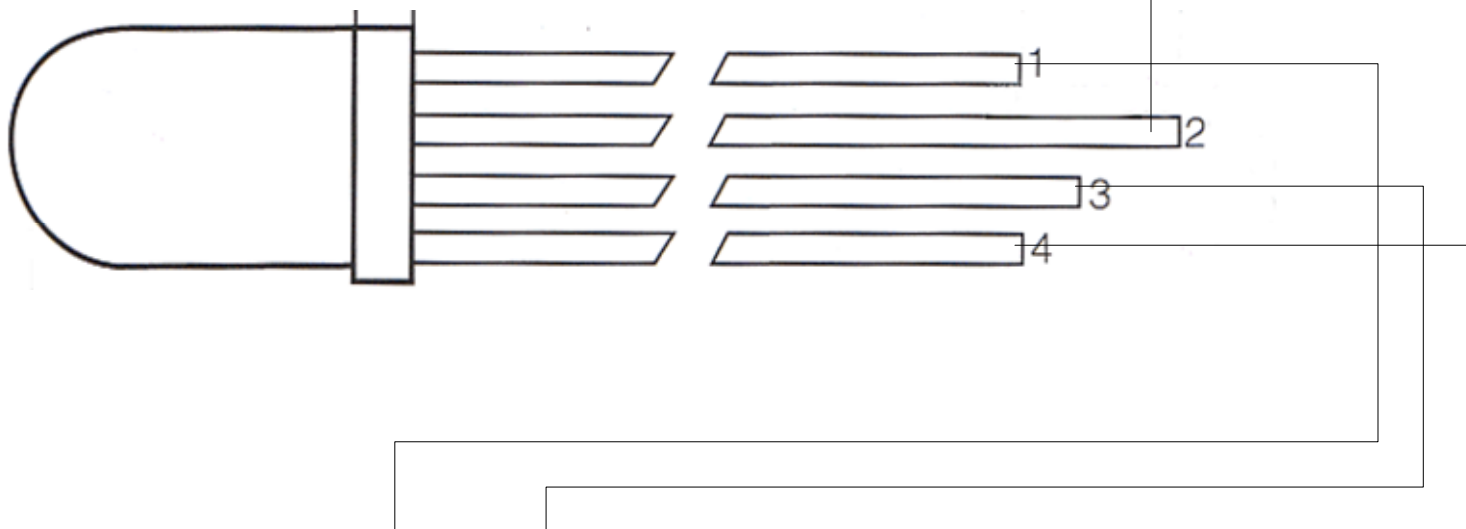
Pitch of the LED leads and pitch of mounting holes need to be same.

4. Others

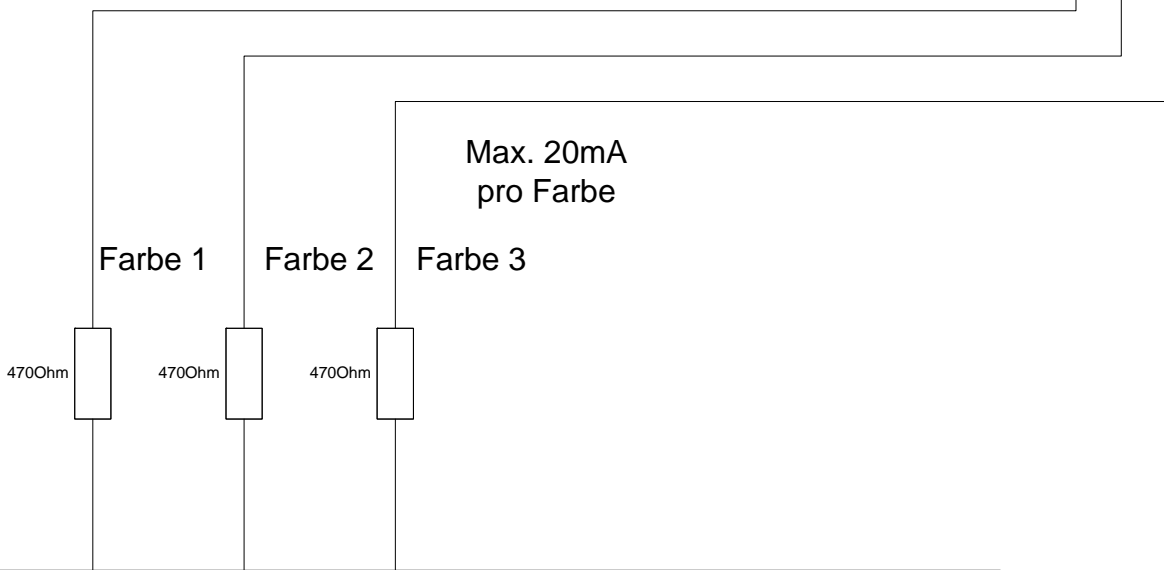
Since the heat resistant ability of the LED resin is low, SMD components are used on the same PCB, please mount the LED after adhesive baking process for SMD components. In case adhesive baking is done after LED lamp insertion due to a production process reason, make sure not to apply external force, stress, and excessive vibration to the LED and follow the conditions below.

Baking temperature: 120°C max. Baking time: Within 60 seconds.

If soldering is done sequentially after the adhesive baking, please perform the soldering after cooling down the LED to normal temperature.



+12V bei gemeinsamen Plus (Anode)
0V Masse bei gemeinsamen Minus (Kathode)



Bei Ausführung gemeinsamer Plus 0V Masse
Bei Ausführung gemeinsamer Minus +12V