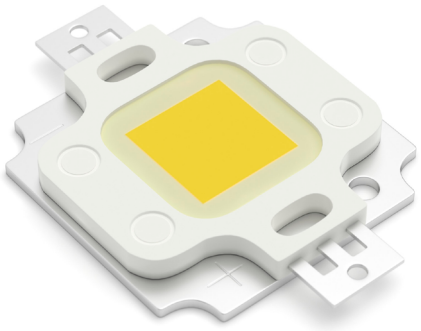
ТЕХНИЧЕСКОЕ ОПИСАНИЕ

МОЩНЫЙ СВЕТОДИОД ARPL-8W-BCA-2020-WW (VF12V, 700MA)



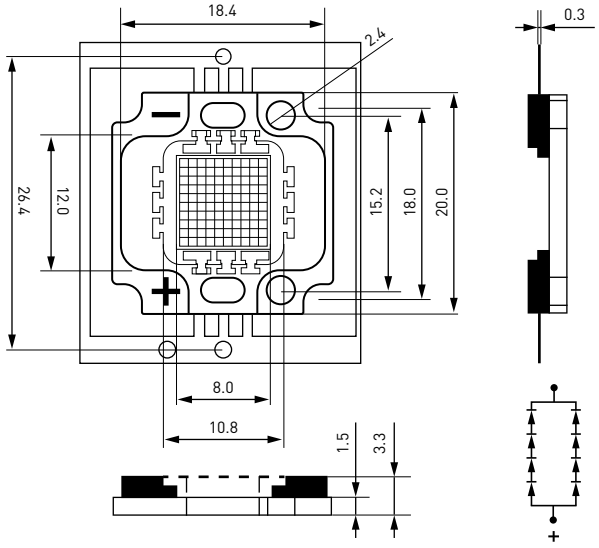
FEATURES

- Low voltage operation.
- Instant light.
- Long operating life.

APPLICATIONS

- Mining lamp.
- Floodlight, project-light lamp.
- Tunnel light.

PACKAGE DIMENSIONS



Note: all dimensions in mm tolerance is ±0.1mm unless otherwise noted.

PARAMETERS

ABSOLUTE MAXIMUM RATINGS (AT T_A= +25 °C)

Parameter	Symbol	Rating	Unit
DC Forward Current	I_F	**700**	**mA**
Peak Pulse Current*	I_{FP}	**1000**	**mA**
Reverse Voltage	V_R	**20**	**V**
Reverse Current	I_R	**10**	**μA**
Power Dissipation	P_D	**8**	**W**
Operating Temperature Range	T_{OPR}	**–40... +85**	**°C**
Storage Temperature Range	T_{STG}	**–40... +100**	**°C**
LED Junction Temperature	T_J	**120**	**°C**

Notes:
1. 1/10 Duty cycle, 0.1ms pulse width.
2. Care is to be taken that power dissipation does not exceed the absolute maximum rating of the product.
3. When the LEDs are in operation the maximum current should be decided after measuring the package temperature, junction temperature should not exceed the maximum rate.

ELECTRO-OPTICAL CHARACTERISTICS (AT T_A= +25 °C)

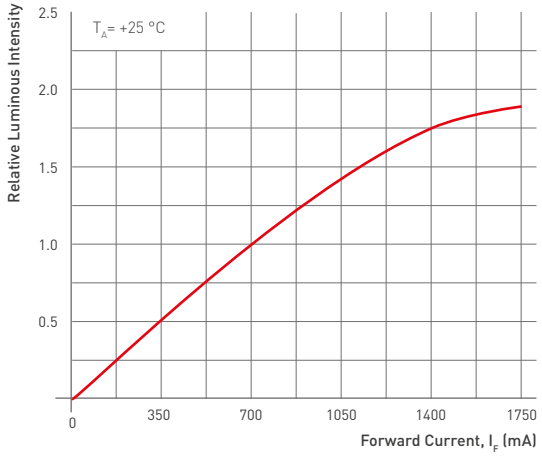
Parameter	Symbol	Min.	Avg.	Max.	Units	Conditions
Forward Voltage	V_F	**12.0**	**—**	**14.0**	**V**	**I_F=700mA**
Thermal Resistance Junction To Board	$R\Theta_{J-B}$	**—**	**8**	**—**	**°C/W**	**I_F=700mA**
Luminous Flux	Φv	**900**	**—**	**1000**	**lm**	**I_F=700mA**
Color Temperature	CCT	**3000**	**—**	**3200**	**K**	**I_F=700mA**
CRI	Ra	**—**	**—**	**—**	**—**	**I_F=700mA**
Temperature Coefficient of Forward Voltage	$\Delta V_F/\Delta T$	**—**	**-2**	**—**	**mV/°C**	**I_F=700mA**
Reverse Current	I_R	**—**	**—**	**10**	**μA**	**V_R=20V**
Viewing Angle[1]	2θ½	**—**	**120**	**—**	**Deg**	**I_F=700mA**

Notes:
1. The above forward voltage measurement allowance tolerance is ±0.1V.
2. The above luminous flux measurement allowance tolerance is ±10%.
3. The above Color Rendering Index measurement allowance tolerance is ±2.
4. The above color coordinates measurement allowance tolerance is ±0.003.
5. 2θ½ is the angle from optical centerline where the luminous intensity is ½ the optical centerline value.

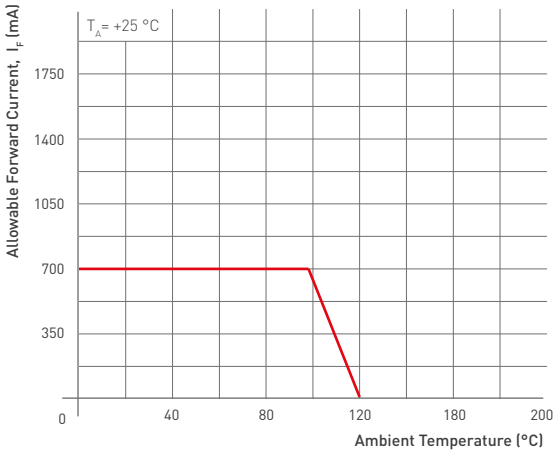
TYPICAL ELECTRO-OPTICAL CHARACTERISTICS CURVES

(T_A=+25 °C, I_F=700mA, Unless Otherwise Noted)

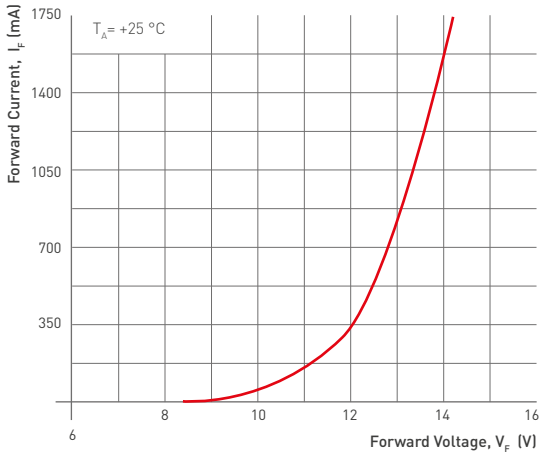
Relative Luminous Intensity — I_F



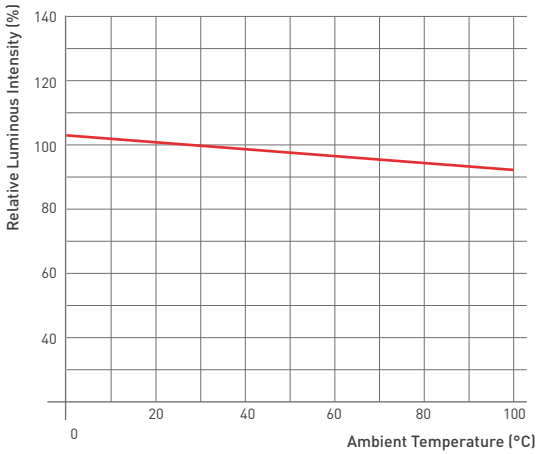
Allowable Forward Current — T_A



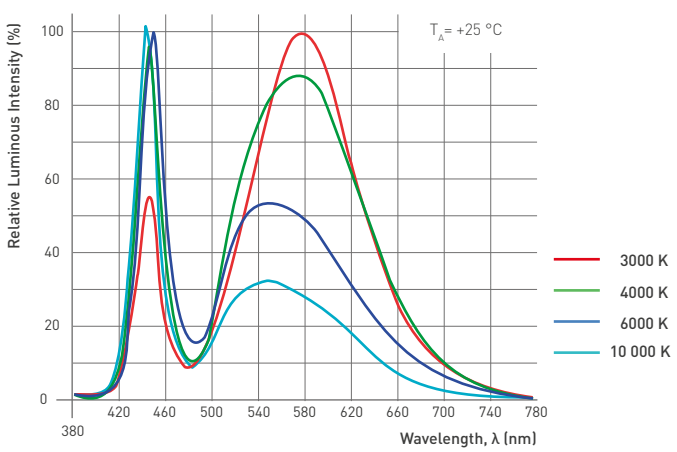
I_F — V_F



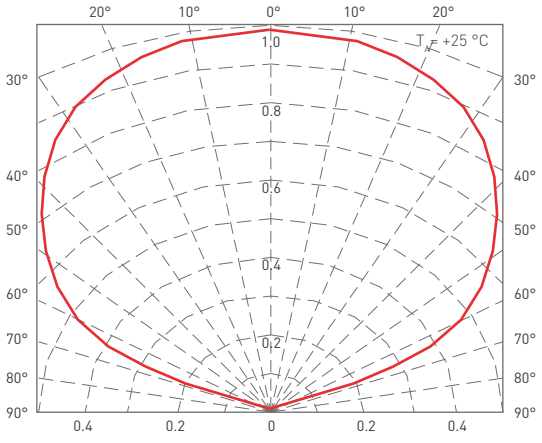
Relative Luminous Intensity — T_A



Wavelength Characteristics



Radiation Angle



RELIABILITY TEST STANDARDS

Test Item	REF. Standard	Test condition	Duration	Sample count	Accept
Temperature cycle	**JESD22-A104-A**	**100 ±5 °C... +25 °C 30 min, 5 min, 30 min, 5 min**	**100 cycles**	**22**	**0/22**
High temperature storage	**JEITA ED-4701 200 201**	**Ta=100 ±5 °C**	**1000 hrs**	**22**	**0/22**
Low temperature storage	**JEITA ED-4701 200 202**	**Ta=–40 ±5 °C**	**1000 hrs**	**22**	**0/22**
Humidity heat storage	**JIS C 7021 (1977) B-11**	**Ta=60 °C RH=85%**	**1000 hrs**	**22**	**0/22**
Life test	**JESD22-A108-A**	**Ta=25 °C I_F=700mA**	**1000 hrs**	**22**	**0/22**
High humidity heat life test	**JESD22-A101**	**Ta=60 °C RH=85% I_F=700mA**	**1000 hrs**	**22**	**0/22**

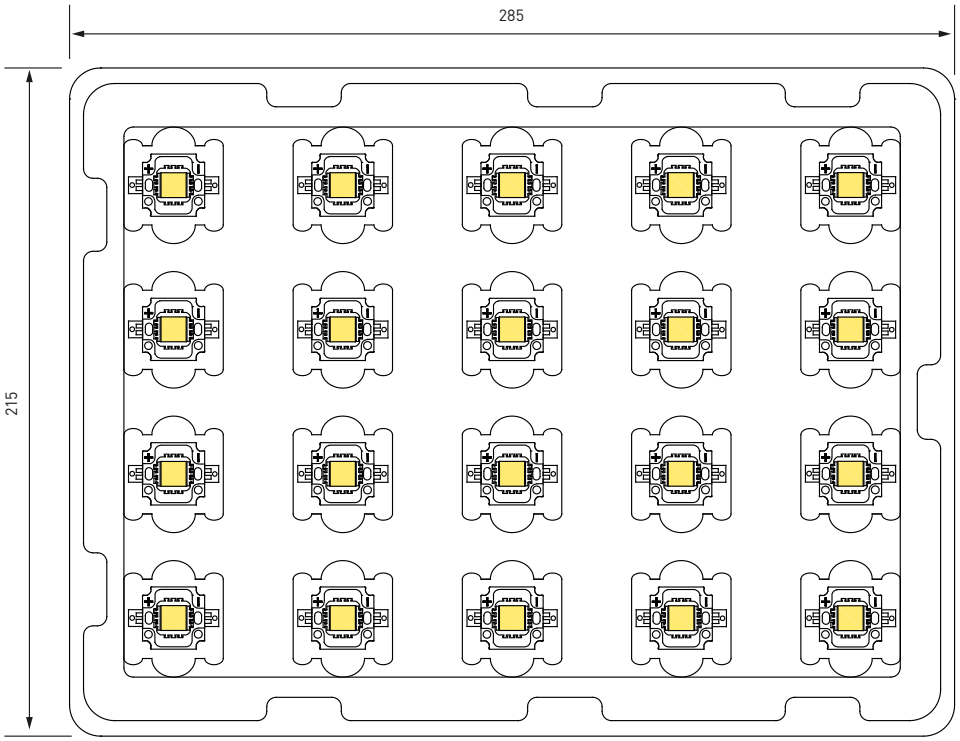
CRITERIA FOR JUDGING DAMAGE

Test Item	Symbol	Test condition	Criteria For Judgement	
			Min	Max
Forward Voltage	**V_F**	**I_F=700mA**	**—**	**U.S.L*)1.1**
Reverse Current	**I_R**	**V_R=20V**	**—**	**10μA**
Luminous Flux	**Lm**	**I_F=700mA**	**L.S.L*)0.7**	**—**
Lamp bead lighting test		**I_F=700mA**		

U.S.L: Upper standard level.
L.S.L: Lower standard level.

Note:
The above technical data is only the typical value of the product, not as any application conditions and application mode guarantee.

PACKING STANDARD



PRODUCT SPECIFICATION

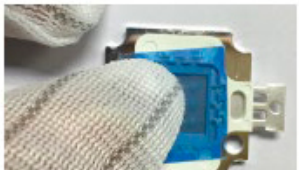
Storage/use

1. In order to avoid moisture absorption, it is suggested to store the products in a drying cabinet with desiccant. The storage temperature is 5–30 °C, and the humidity is ⩽60% HR.
2. After storage for six months, it is recommended to reuse the spectral separation to prevent changes in photoelectric parameters.
3. It is recommended to dry products that have been sealed and stored for more than six months before use. The drying condition is 65 ±5 °C for 10 hours.
4. The product shall be used within 24 hours after opening, otherwise it shall be baked at 65 °C for 4–6 hours before reflow welding.
5. Do not press the gel surface with any sharp object (such as tweezers). Do not leave fingerprints on the surface of the colloid. The positive normal pressure of the colloid should be less than 2 newtons and the number of press should be less than 3 times. The lateral pressure of the lens body is less than 1.5 newtons and the number of press is less than 3 times. Pick up materials correctly (as shown below).

   Products should not be in contact with water, oil or organic solutions.
   The operating current value of the product should consider LED junction temperature.
   Repackage unused products in moisture-proof bags and store in a dry place.
   External dimensions are subject to change without prior notice.
   Anti-static requirements: when using products, must wear anti-static ring or anti-static gloves, all equipment, devices, machines must be effectively grounded. This product belongs to electrostatic sensitive device, pay attention to anti-static protection!



OK



NO

When LED working, push the temperature of PCB board should not exceed 60 °C.
Anti–vulcanization, chlorination, bromination and other treatments.
In the closed, high temperature environment, the lamp may contain sulfur/chlorine/bromine and other substances, these sulfur, chlorine and bromine elements will volatilize into gas and corrosion LED light source. Because the LED seal silica gel has porous structure, and the light source silver plating reaction occurred. After curing reaction of LED light source, the functional area of the product will darken, the luminous flux will gradually decline until it becomes slightly bright, and the color temperature will drift obviously, and the LED light source will eventually fail. It is recommended to conduct sulfur emission test of lamps first to ensure that LED light source works in sulfur-free/chlorine/bromine and other material environment.
When the customer applies LED, it shall refer to the parameters of this specification and the requirements of operating environment. If the LED is used beyond the parameters or standard conditions without verification, our company will not make any quality guarantee.
Other points for attention, please refer to our LED user manual.



ATTENTION!
ELECTROSTATIC SENSITIVE DEVICES.
OBSERVE PRECAUTIONS FOR HANDLING.