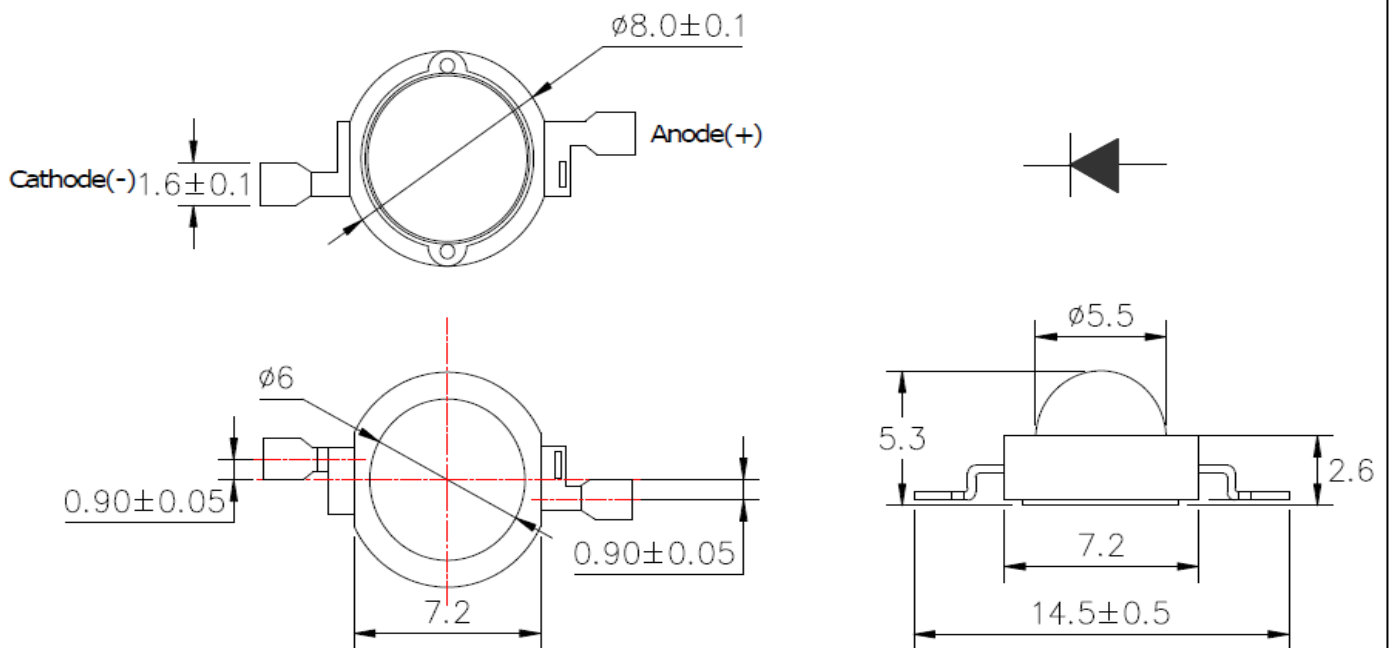


## ■ Package Dimension:



Part NO.	Chip	Emitting Color	Lens Color
AL-01R5IR3WC-A20	AlGaAs	Infrared	Water Clear

### Notes:

1. All dimensions are in millimeters (inches).
2. Tolerance is  $\pm 0.25\text{mm}$  (.010") unless otherwise noted.
3. Protruded resin under flange is  $1.0\text{mm}$  (.04") max.
4. Lead spacing is measured where the leads emerge from the package.
5. Specifications are subject to change without notice.
6. This data-sheet only valid for six months.

**■ Absolute Maximum Ratings at Ta=25°C**

Parameter	Symbol	MAX.	Unit
DC Forward Current	I <sub>F</sub>	1000	mA
Reverse Voltage	V <sub>R</sub>	5	V
Power Dissipation	P <sub>D</sub>	2200	mW
Electrostatics discharge	ESD	8000	V
Operating Temperature Range	Topr	-20 to +60	°C
Storage Temperature Range	Tstg	-20 to +80	°C
Manual Soldering Time at 260°C (Max.)	Tsol	5	seconds

**■ Electrical Optical Characteristics at Ta=25°C**

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Radiated Output Power	P <sub>O</sub>	130	250	---	mW	I <sub>F</sub> =350mA
Forward Voltage	V <sub>F</sub>	1.3	1.6	2.2	V	I <sub>F</sub> =350mA
Peak Wavelength	λ <sub>p</sub>	---	850	---	nm	I <sub>F</sub> =350mA
Spectral Bandwidth	Δλ	---	30	---	nm	I <sub>F</sub> =350mA
Reverse Current	I <sub>R</sub>	---	---	10	μA	I <sub>F</sub> =350mA
Emission Angle	2θ <sub>1/2</sub>	---	120	---	Deg	I <sub>F</sub> =350mA

## ■ Characteristics Curves $T_J=25^{\circ}\text{C}$

Fig.1 Forward current vs. Forward voltage

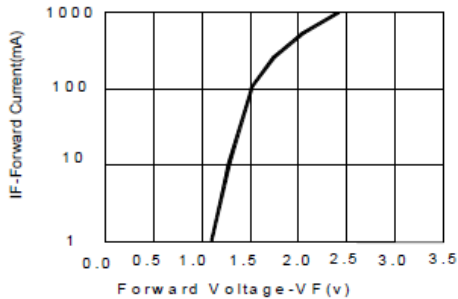


Fig.2 Relative intensity vs. Wavelength

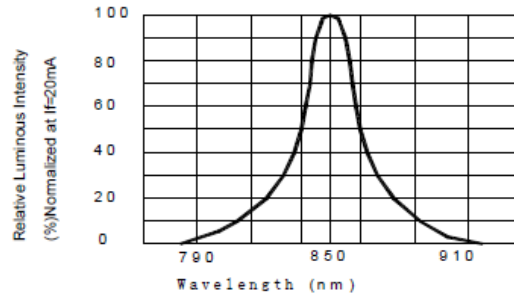


Fig.3 Relative Radiant Flux vs. Forward current

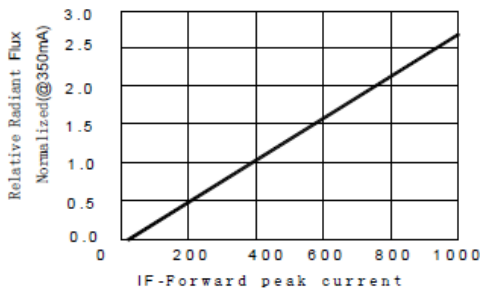


Fig.4 Forward Voltage (@ 350 mA) vs Ambient temperature

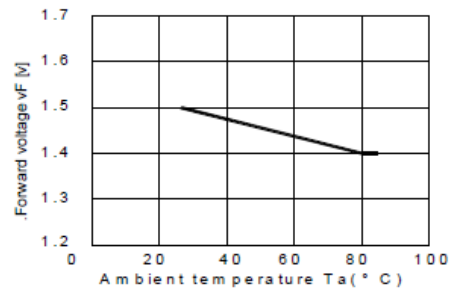


Fig.5 Relative Radiant Flux (@ 350 mA) vs. Ambient temperature

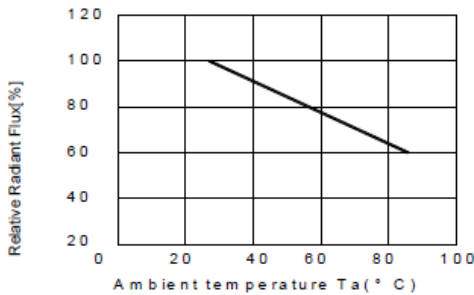


Fig.6 Maximum Driving Forward DC Current vs. Ambient Temperature (Derating based on  $T_J$  max.=115 °C)

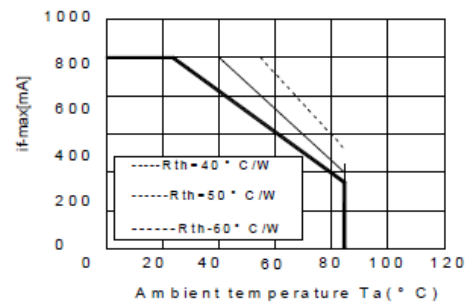
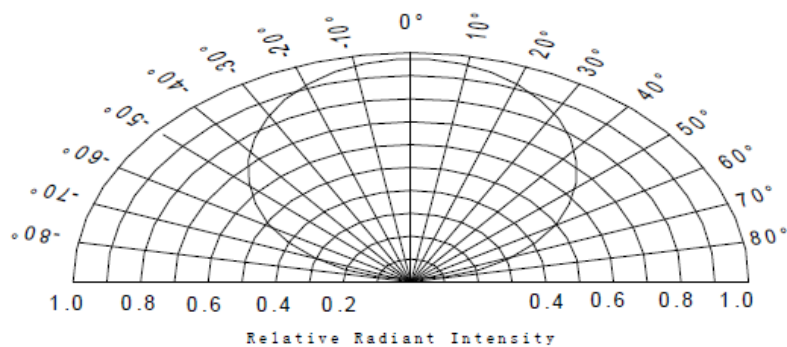


Fig.7 Radiation diagram



■ Reliability Test Item and Condition:

The reliability of products shall be satisfied with items listed below.

Confidence level : 90%

LTPD : 10%

NO.	Item	Test Conditions	Test Hours/ Cycles	Sample Sizes	Failure Judgement Criteria	Ac/Re
1	REFLOW Soldering	TEMP. : 260°C±5°C 10secs	6Mins	22pcs	$I_R \geq U \times 2$	0/1
2	Temperature Cycle	H : +100°C    15mins ↑          5mins ↓          15mins L : -40°C	300Cycles	22pcs	$I_e \leq L \times 0.8$ $V_F \geq U \times 1.2$	0/1
3	Thermal Shock	H : +100°C    5mins ↑          10secs ↓          5mins L : -10°C	300Cycles	22pcs	U : Upper Specification Limit	0/1
4	High Temperature Storage	TEMP. : +100°C	1000hrs	22pcs	L : Lower Specification Limit	0/1
5	Low Temperature Storage	TEMP. : -40°C	1000hrs	22pcs		0/1
6	DC Operating Life	$I_F = 700\text{mA}$	1000hrs	22pcs		0/1
7	High Temperature/ High Humidity	85°C / 85% R.H	1000hrs	22pcs		0/1