

Sample Approval Sheet

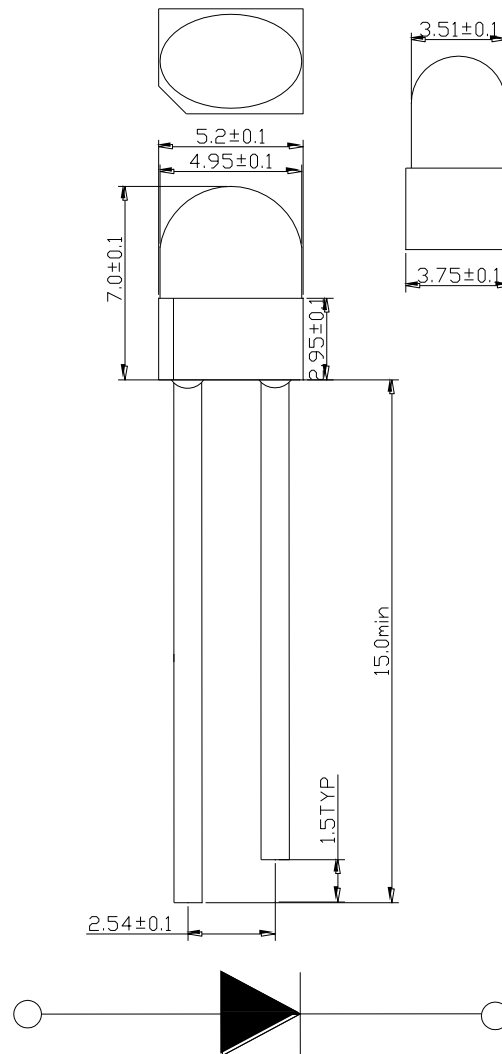
(Product type):DIP LED		
(Product name): 5mm IR LED		
(Part No.):		
(Sample No.):		(version):A3
(Acknowledgement Numbers):S20160216003		
(Signatures)		
(Approved)	(Checked)	(Drawn)

(Customer)		
(Corporation):		
(Material No.):		
(Part No.):		
(Customer Signatures)		

Feature

- *Low power consumption
- *Long life-solid state reliability
- *Available on tape and reel
- *RoHS compliant

Package outline dimensions



Note:

1. All dimensions are in millimeters;
2. Tolerance is ± 0.25 unless otherwise noted;
3. Lead spacing is measured where the leads emerge from the package;
4. Specifications are subject to change without notice.

Electrical characteristics data sheet

Selection Guide

Part No.	Chip Material	Lens Color
	AlGaAs	Clear

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Rated Value	Unit
Power dissipation	Pd	70	mW
DC Forward Current	If	50	mA
Peak Forward Current ⁽¹⁾	Ifp	1000	mA
Reverse Voltage	Vr	5	V
Operating Temperature	Topr	-25to+85	°C
Storage Temperature	Tstg	-40to+100	°C

Notes:

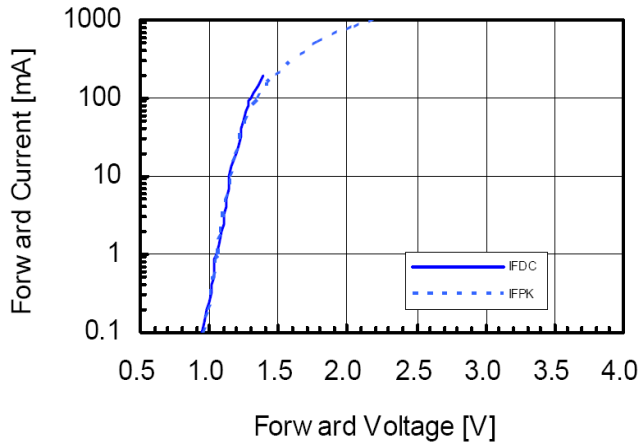
1.1/10 duty cycle, 0.1 ms pulse width;

Electrical/Optical Characteristics Ta=25°C

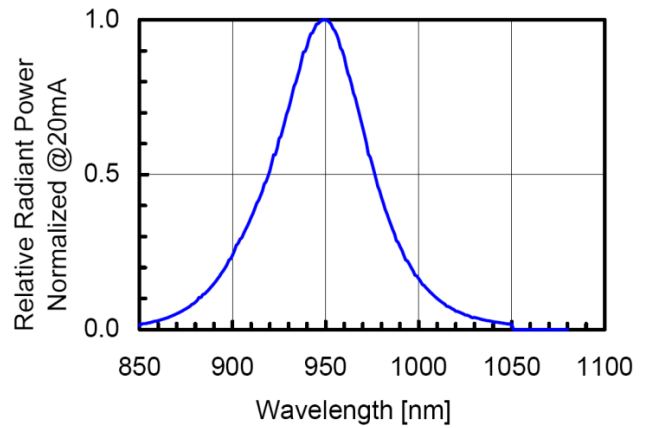
Parameter	Symbol	Condition	Value			Unit	
			Min.	Typ.	Max.		
Forward voltage	Vf	If=20mA	1.1	1.2	1.4	V	
		If=100mA	1.2	1.5	1.6	V	
Radiant Intensity	Ie	If=20mA	14	--	18	mW/Sr	
		If=100mA Pulse Width ≤ 100μs Duty ≤ 1%	30	35	---	mW/Sr	
		If=500mA Pulse Width ≤ 100μs Duty ≤ 1%	150	180	---	mW/Sr	
		If=1000mA Pulse Width ≤ 1μs Duty ≤ 1%	300	350	---	mW/Sr	
Peak wavelength	λp	If=20mA	---	940	---	nm	
Reverse current	Ir	Vr=5V	---	---	5	μA	
Viewing Angle θ	2θ 1/2	If=20mA	x	60	70	80	°
			y	25	30	35	°

Typical Electro-Optical Characteristics Curves

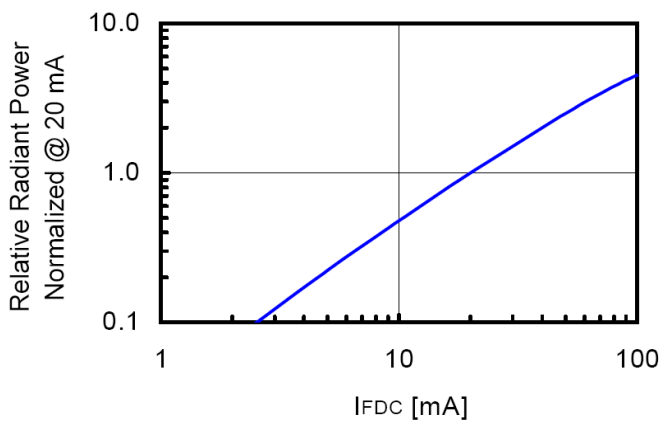
FORWARD CURRENT VS. FORWARD VOLTAGE



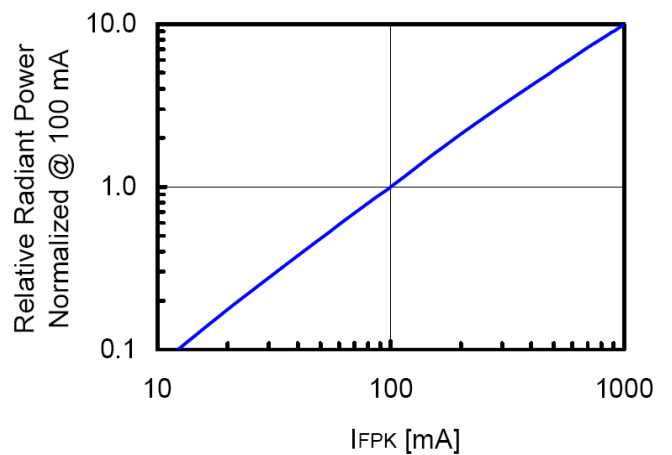
RELATIVE RADIANT POWER VS. WAVELENGTH



RELATIVE RADIANT POWER VS. FORWARD DC CURRENT

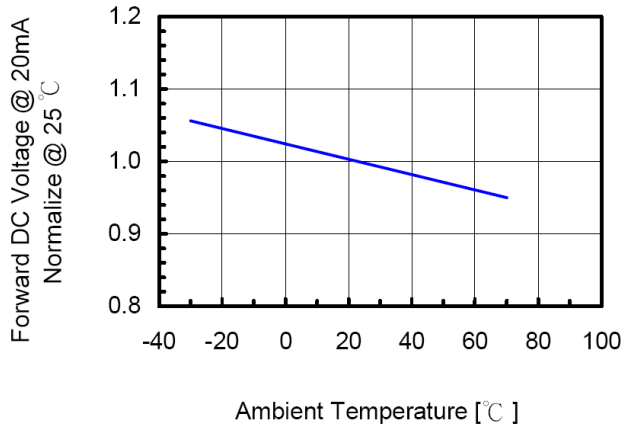


RELATIVE RADIANT POWER VS. FORWARD PEAK CURRENT

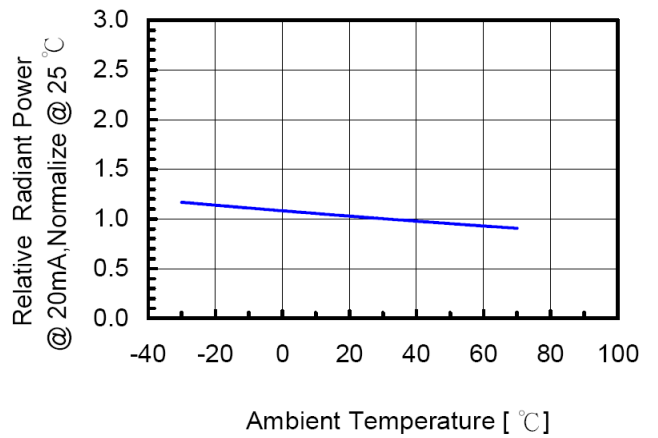


Typical Electro-Optical Characteristics Curves

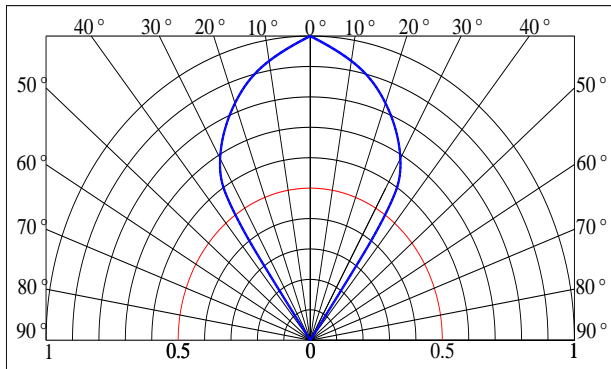
**FORWARD DC VOLTAGE
VS. AMBIENT TEMPERATURE**



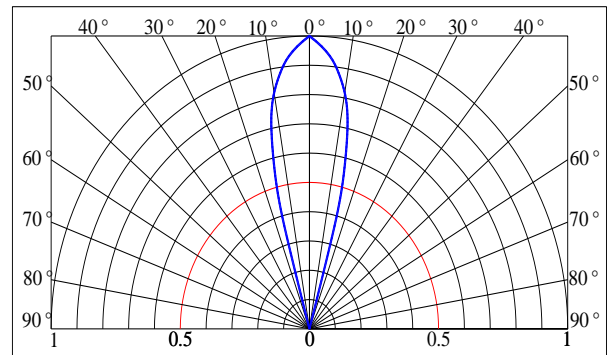
**FORWARD POWER
VS. AMBIENT TEMPERATURE**



RADIATION DIAGRAM-X



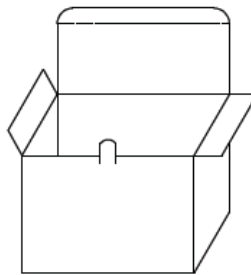
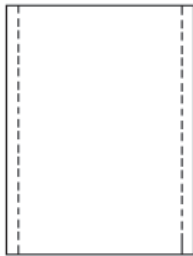
RADIATION DIAGRAM-Y



Bin Range of Technical Data Sheet (IF=20mA)

Voltage Code			Radiant Intensity Code		
BIN CODE	Forward voltage		BIN CODE	Radiant Intensity	
	Min (v)	Max (v)		Min (mw/sr)	Max (mw/sr)
A	1.1	1.2	3	14	16
B	1.2	1.4	4	16	18

Packaging Dimensions Specification



Notes:

- 1) 1000 PCS/1 Bag
- 2) 14 Bags/ 1 Box

Precautions

1. Storage

Under the storage conditions of 30°C or less and humidity less than 60%RH, the LEDs can be storage for 3months. Storage in a sealed container with moisture absorbent material can prolong the storage time to a certain extent bad storage conditions may cause the lead frames to corrode or degradation of LED characteristics. It is recommended that the LEDs be used as soon as possible.

2. Static electricity

Static electricity of surge voltage damages the LED .Damaged LED will show some unusual chrematistics such as the forward voltage becomes lower or the LED do not light at the low current even not light. All devices equipment and machinery must be properly grounded. At the same time, it is recommended that wrist Bands or anti-electrostatic gloves anti-electrostatic containers be used when dealing with the LED.

3. Design Consideration

When designing a circuit, the current through each LED must not exceed the absolute maximum rating specified for each LED .In the meanwhile , resistors for protection should be applied otherwise slight voltage shift will cause big current change, bum out may happen.

Thermal Design is paramount important in because heat generation may result in the Characteristics decline, such as brightness decreased, Color changed and so on. Please consider the heat generation of the LED when making the system design.

4. Lead Forming

Any lead forming must be done before soldering, not during or after soldering. When forming leads ,the leads should bent at a point at least 3mm from the base of the expose bulb. Bending at the same point twice or even more should be avoided.

Please use proper tools to hold and bent the leads, do not use the base of the lead frame as a fulcrum during lead forming .Bending s tress to the base of the lead frame may cause character is tics change on LED or even break it.

Just for the same reason, when mounting the LED on to printed circuit board, the holes on the circuit board should be exactly aligned with the leads of the LED.

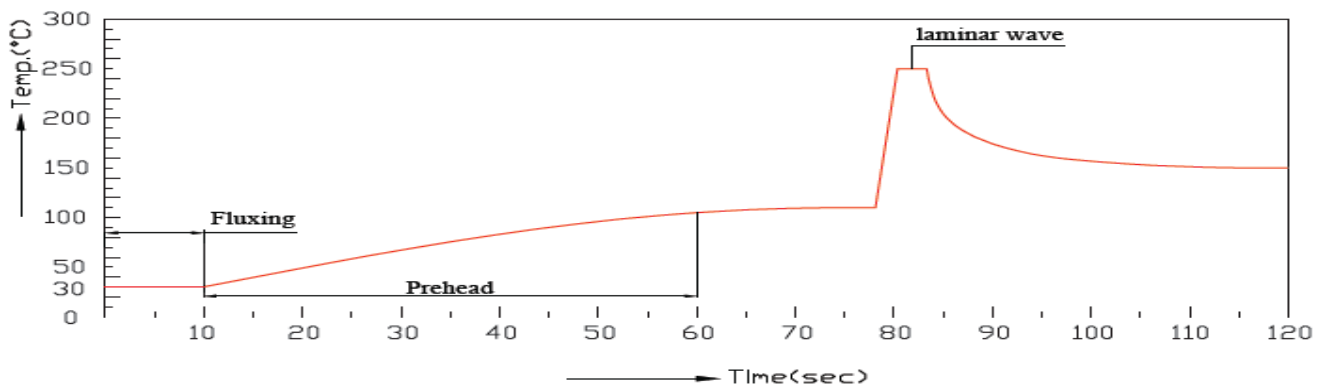
5. Soldering

Be careful because damages always caused during soldering. Please note that stress to the leads and expose bulb should be avoided during soldering particularly when heated. When soldering, leave certain distance from soldering joint to base, the distance is determined by different soldering techniques. It is recommended that soldering be performed base on the following conditions.

Recommended Soldering Conditions:

DIP Soldering		Hand Soldering	
Pre-Heat	100°C Max. 60 sec. Max	Temperature	350°C Max
Dipping Time	260°C Max. 5 sec Max	Soldering Time	3 Sec. Max
Dipping Position	2mm ,Min From soldering joint to base	Soldering Position	2mm ,Min From soldering joint to base

Reommended soldering profile



Decide Standard of The Ball Shear and The Wire Pull

Testing items	Decide Standard
Ball Shear	$\geq 35g$
Wire Pull	$\geq 7g$