



ATTENTION
OBSERVE PRECAUTIONS
FOR HANDLING
ELECTROSTATIC
DISCHARGE
SENSITIVE
DEVICES

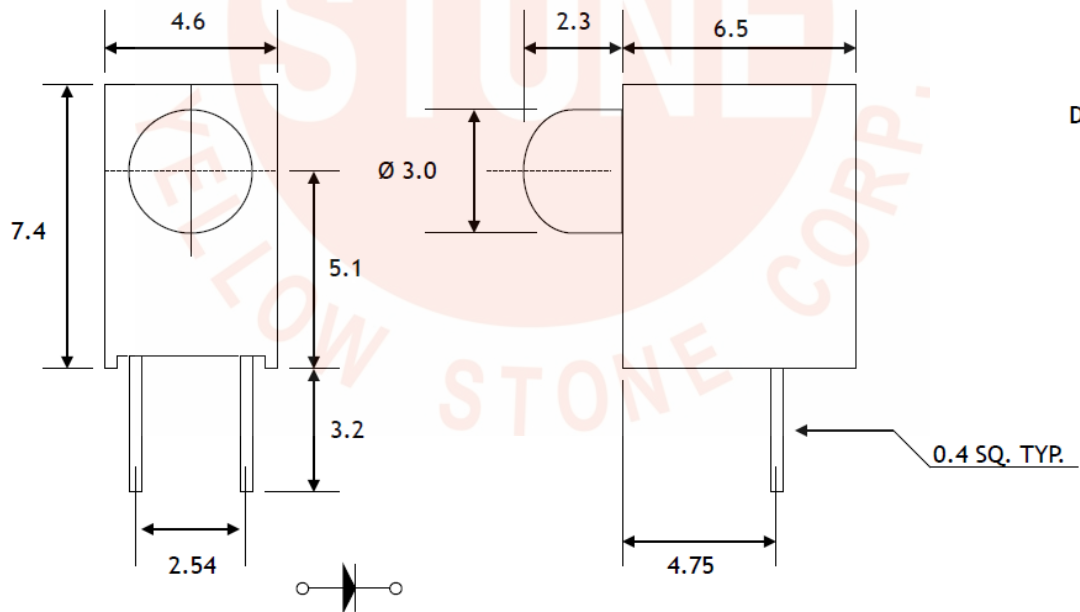
Features

- Low power consumption
- Excellent product quality and reliability
- Lead-free device.

Applications

- Electronic signs and signals
- Bright ambient lighting conditions
- Backlights
- General purpose indicators

Package Dimensions



Color
Description



Notes:

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.



◆ Device Selection Guide

Part No.	Chip		Lens color
BL-33(WWC)-1	Material	Emitted color	Water Clear
	InGaN	White	

◆ Absolute Maximum Ratings at TA=25°C

Parameter	Symbol	Value	Unit
Power Dissipation	P _D	120	mW
Forward Current	I _F	30	mA
Peak Forward Current*1	I _{FP}	100	mA
Reverse Voltage	V _R	5	V
Operating Temperature	T _{opr}	-40°C To +85°C	
Storage Temperature	T _{stg}	-40°C To +85°C	
Soldering Temperature*2	T _{sol}	260°C For 5 Seconds	

Notes:

*1: Pulse width≤0.1ms, Duty cycle≤1/10

*2: 1.6mm below package base.

◆ Electrical / Optical Characteristics at TA=25°C

Parameter	Symbol	Min.	Typ.	Max	Unit	Test Conditions
Forward Voltage	V _F	2.7	3.20	3.5	V	I _F =20mA
Reverse Current	I _R	—	—	10	μA	V _R =5V
Chromaticity Coordinates	X	—	0.270	—	—	I _F =20mA
	Y	—	0.270	—	—	I _F =20mA
Luminous Intensity	I _v	5700	8000	12000	mcd	I _F =20mA
Power Angle	2θ1/2	—	30	—	Deg.	I _F =20mA

Remarks:

If special sorting is required (e.g. binning based on forward voltage, luminous intensity, or dominant wavelength), the typical accuracy of the sorting process is as follows:

1. Dominant Wavelength: +/-1nm
2. Chromatic Coordinates: +/-0.01
3. Luminous Intensity: +/-15%
4. Forward Voltage: +/-0.1V
5. The design and working Current for Led is not less than 2mA.



◆ VF Rank

Rank	VF(V)		Condition
	Min	Max	
F1F2	2.7	2.9	IF=20mA
G1G2	2.9	3.1	
H1H2	3.1	3.3	
I1I2	3.3	3.5	

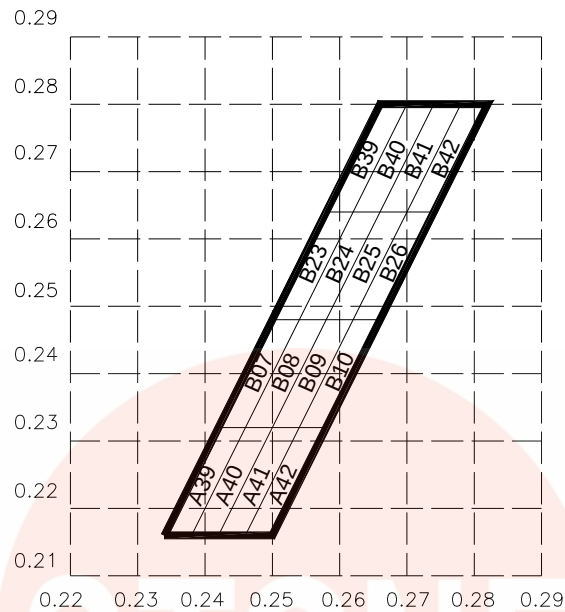
Tolerance:±0.1V

◆ IV Rank

Rank	IV(mcd)		Condition
	Min	Max	
Q	5700	8000	IF=20mA
R	8000	12000	

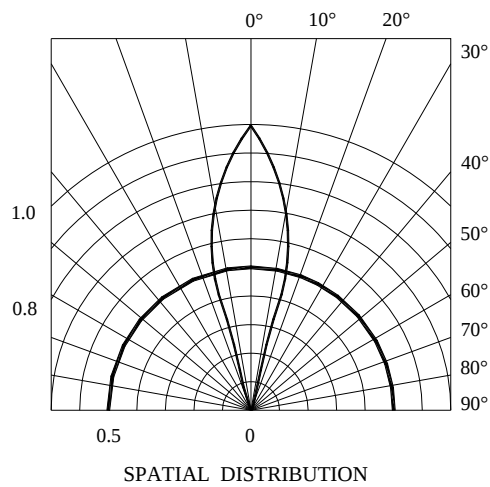
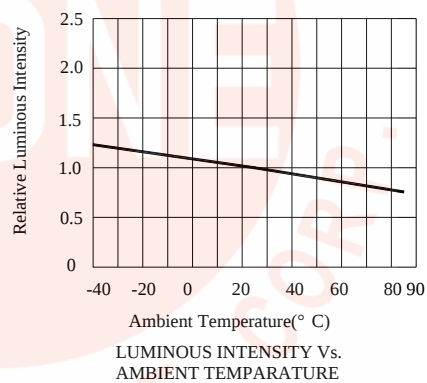
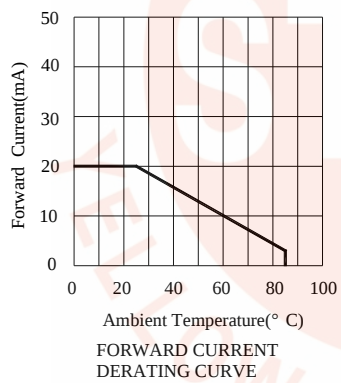
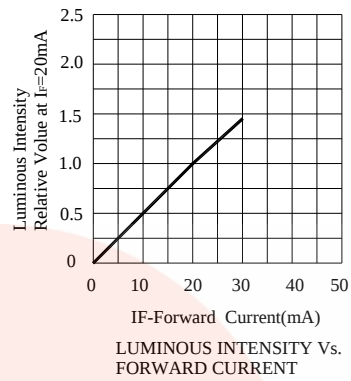
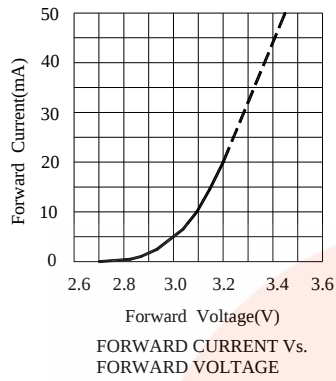
Tolerance:±15%

◆ X Y Rank

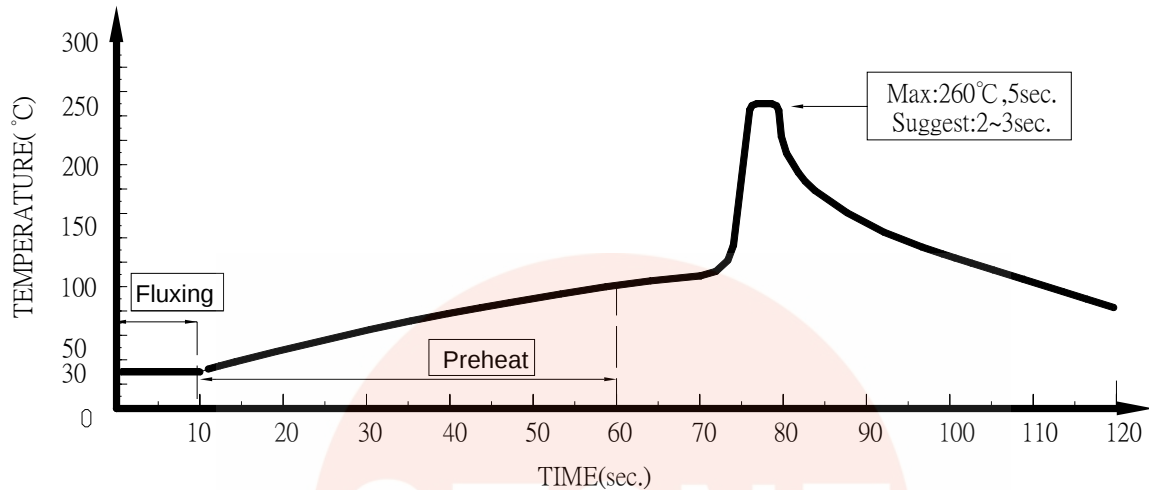


A39	X	0.234	0.242	0.246	0.238	B23	X	0.250	0.258	0.262	0.254
	Y	0.216	0.232	0.232	0.216		Y	0.248	0.264	0.264	0.248
A40	X	0.238	0.246	0.250	0.242	B24	X	0.254	0.262	0.266	0.258
	Y	0.216	0.232	0.232	0.216		Y	0.248	0.264	0.264	0.248
A41	X	0.242	0.250	0.254	0.246	B25	X	0.258	0.266	0.270	0.262
	Y	0.216	0.232	0.232	0.216		Y	0.248	0.264	0.264	0.248
A42	X	0.246	0.254	0.258	0.250	B26	X	0.262	0.270	0.274	0.266
	Y	0.216	0.232	0.232	0.216		Y	0.248	0.264	0.264	0.248
B07	X	0.242	0.250	0.254	0.246	B39	X	0.258	0.266	0.270	0.262
	Y	0.232	0.248	0.248	0.232		Y	0.264	0.280	0.280	0.264
B08	X	0.246	0.254	0.258	0.250	B40	X	0.262	0.270	0.274	0.266
	Y	0.232	0.248	0.248	0.232		Y	0.264	0.280	0.280	0.264
B09	X	0.250	0.258	0.262	0.254	B41	X	0.266	0.274	0.278	0.270
	Y	0.232	0.248	0.248	0.232		Y	0.264	0.280	0.280	0.264
B10	X	0.254	0.262	0.266	0.258	B42	X	0.270	0.278	0.282	0.274
	Y	0.232	0.248	0.248	0.232		Y	0.264	0.280	0.280	0.264

◆ Typical Electrical/Optical Characteristics Curves
(Ta=25°C Unless Otherwise Noted)



◆ Dip Soldering



1. Please avoid any external stress applied to the lead-frames and epoxy while the LEDs are at high temperature, especially during soldering
2. DIP soldering and hand soldering should not be done more than one time.
3. After soldering, avoid the epoxy lens from mechanical shock or vibration until the LEDs are back to room temperature.
4. Avoid rapid cooling during temperature ramp-down process
5. Although the soldering condition is recommended above, soldering at the lowest possible temperature is feasible for the LEDs

● IRON Soldering

A : Max : 350°C Within 3 sec. One time only.

B : For 3mm LED without flange, if the LED epoxy lays flat on the PCB, the welding condition is 350°C within 2 seconds, one time only.

