IBHC0358

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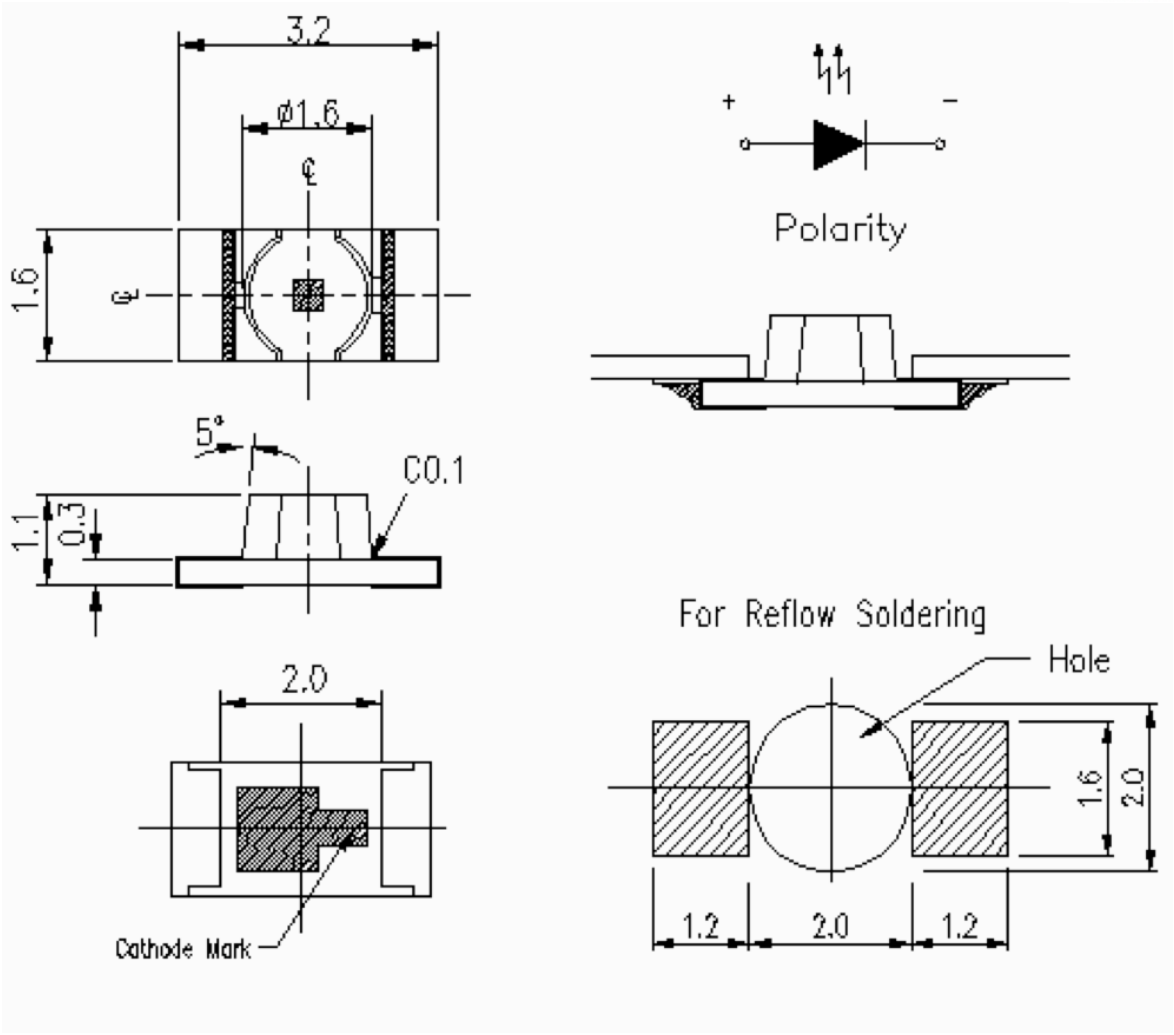
IDEA, Inc.

RoHS Compliant
Aug 2004



PART NO.	Chip		Lens Color
	Material	Emitted Color	
IBHC0358	InGaN	Blue	Water Clear

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Absolute Maximum Ratings at T_a = 25 ˚C

Parameter	Symbol	Rating	Units
Forward Current	I_F	25	mA
Reverse Voltage	V_R	5	V
Operating Temperature	T_{opr}	-40 to +85	˚C
Storage Temperature	T_{stg}	-40 to +90	˚C
Electrostatic Discharge	ESD	150	V
Power Dissipation	P_d	110	mW
Peak Forward Current (Duty 1/10 @ 1KHz)	I_{FP}	100	mA
Soldering Temperature	T_{sol}	Reflow Soldering: 260°C for 10 sec. Hand Soldering: 350°C for 3 sec.	

Electronic Optical Characteristics (T_a = 25 ˚C)

Parameter	Symbol	Min.	Typ.	Max.	Units	Condition
Luminous Intensity	I_V	45	—	90	mcd	I_F = 5 mA
Viewing Angle	$2\theta_{1/2}$	—	60	—	deg	
Peak Wavelength	λ_p	—	468	—	nm	
Dominant Wavelength	λ_d	470	—	475	nm	
Spectrum Radiation Bandwidth	$\Delta\lambda$	—	25	—	nm	
Forward Voltage	V_F	2.60	—	3.00	V	
Reverse Current	I_R	—	—	50	μA	V_R = 5 V

Notes:
1. Tolerance of Luminous Intensity: ±11%
2. Tolerance of Dominant Wavelength: ±1 nm
3. Tolerance of Forward Voltage: ±0.05 V

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Bin Range of Dominant Wavelength

Bin	Min	Max	Unit	Condition
Y	470	475	nm	I_F = 5 mA

Bin Range of Luminous Intensity

Bin	Min	Max	Unit	Condition
P1	45	57	mcd	I_F = 5 mA
P2	57	72		
Q1	72	90		

Bin Range of Forward Voltage

Group	Min	Max	Unit	Condition
T	2.60	2.70	V	I_F = 5 mA
	2.70	2.80		
	2.80	2.90		
	2.90	3.00		

Notes:
1. Tolerance of Luminous Intensity: ±11%
2. Tolerance of Dominant Wavelength: ±1 nm
3. Tolerance of Forward Voltage: ±0.05 V

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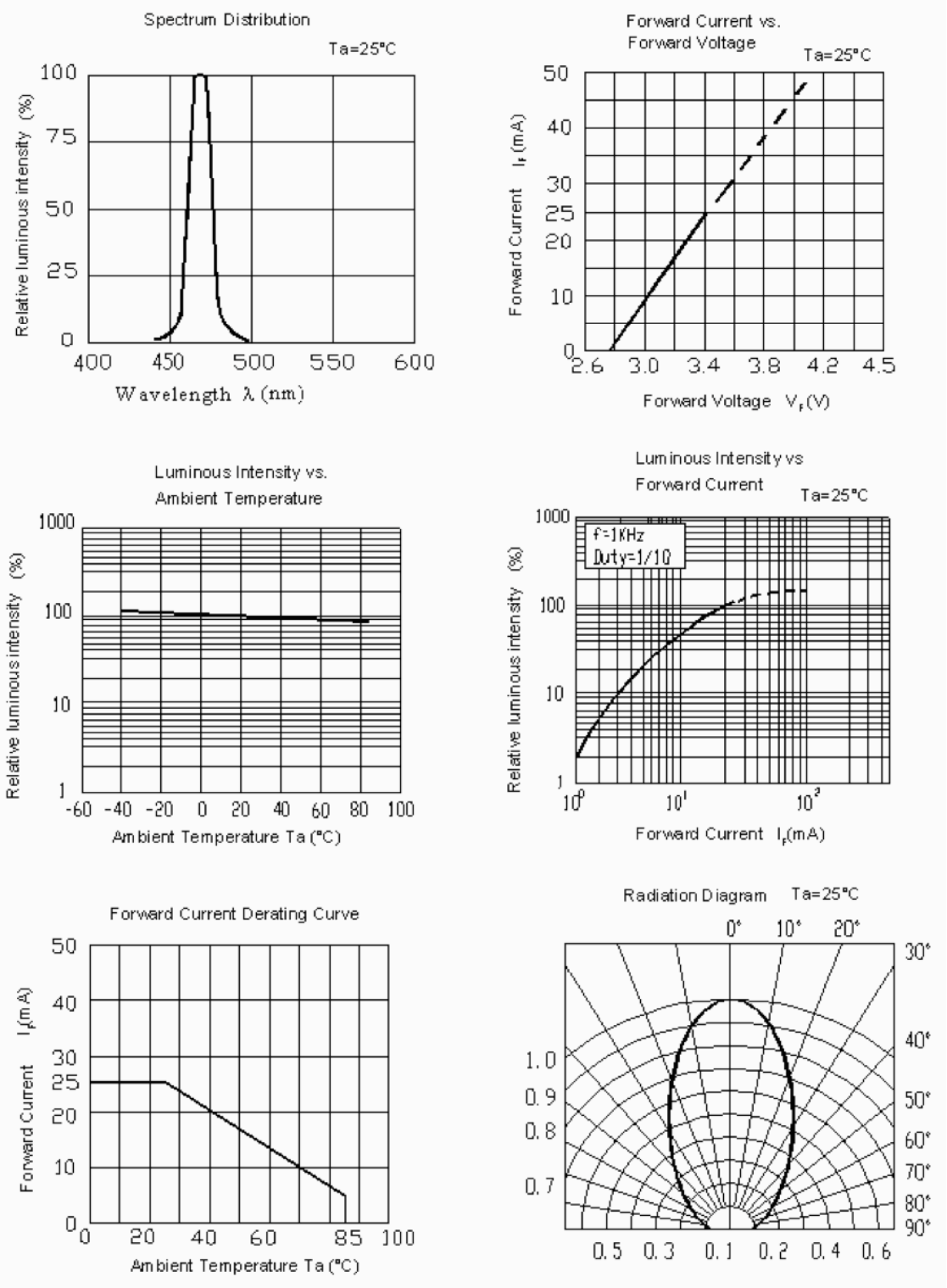
Typical Electro-Optical Characteristics Curves:



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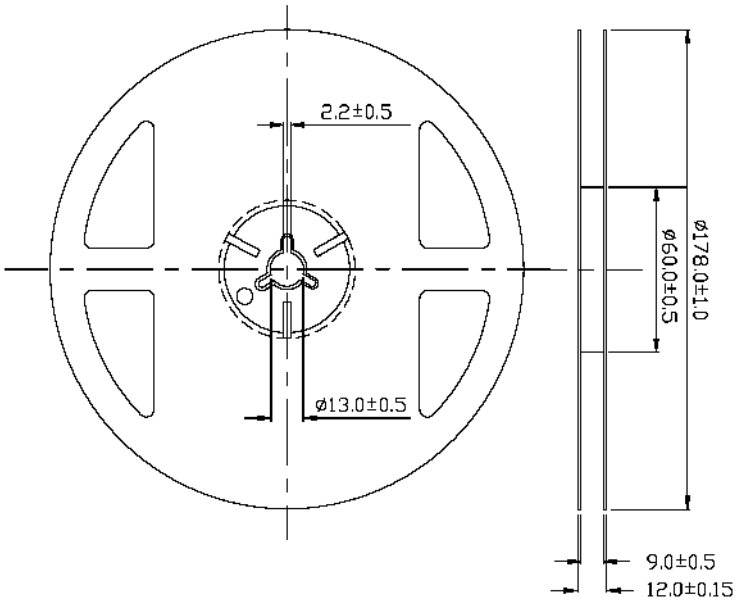
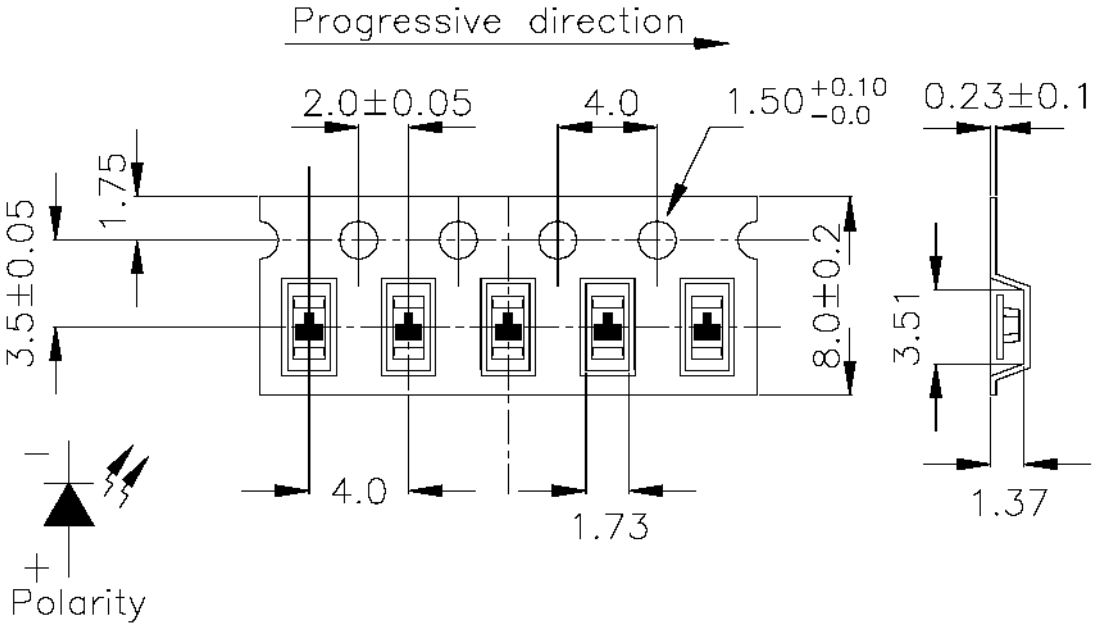
Reel Dimensions:



Carrier Tape Dimensions:



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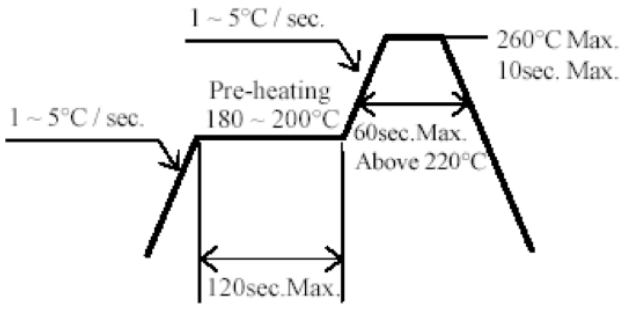
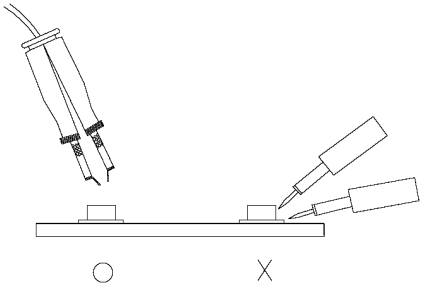
Precautions for Use

1. Over-current prevention:
   A series resistor must be used for protection against over-current. Since slight voltage shifts can cause large current changes and possibly damage the LED.
2. Storage:
   2.1. Store the LEDs in the sealed moisture proof bag until ready to use.
   2.2. The storage conditions should be below 30°C and 90% RH or less.
   2.3. Unused portions of LEDs may be stored in moisture proof packages for up to 1 year if kept under 30°C and at no more than 60% RH.
   2.4. If there is evidence of moisture absorption or if the LEDs have been stored for a long time, bake the LEDs at 60°C ± 5°C for 24 hours prior to using.
3. Reflow Soldering Conditions:
   3.1. Pb-free solder temperature profile (see figure):



   3.2. Reflow solder no more than two times and must include time interval for the board to cool.
   3.3. When soldering, do not put stress on the LEDs during heating.
   3.4. After soldering, do not warp the circuit board.
4. Hand Soldering:
   Use a low wattage soldering iron (below 25 watts) with a tip temperature no more than 350°C for 3 sec or less on one terminal. Wait at least two seconds before soldering the next terminal to avoid overheating the LED and damaging it.
5. Avoid reworking a soldered LED. It is best to simply replace it with a new part.



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