

**Round Helmet Type LED lamp**
**BL-L102**
**Features:**

- Ø 10mm Round-Helmet LED Lamps
- Ø Ultra brightness.
- Ø Choice of various viewing angles.
- Ø Diffused, Transparent and Water clear lens
- Ø IC compatible /Low current capability.
- Ø RoHs Compliance


**Electrical-optical characteristics: (Ta=25°C) (Test Condition: IF=20mA)**

Part Number	Chip			Lens Type	Forward Voltage(VF) Unit:V		Luminous Intensity (Iv) Unit:mcd		Viewing Angle 2θ/2 (deg)
	Emitted Color	Material	λp (nm)		Typ	Max	Min.	Typ.	
					BL-L102SRC	Hi Red	AlGaAs,SH	660	
BL-L102LRC	Super Red	AlGaAs,DH	660	1.85	2.20	350	800		
BL-L102URC	Ultra Red	AlGaAs,DDH	660	1.95	2.20	800	1200		
BL-L102UEC	Ultra Orange	AlGaInP	630	2.10	2.50	800	1800		
BL-L102UYC	Ultra Yellow	AlGaInP	590	2.10	2.50	600	1500		
BL-L102UGC	Ultra Green	AlGaInP	574	2.20	2.50	300	800		
BL-L102PGC	Ultra Pure Green	InGaN	525	3.80	4.50	1500	6000		
BL-L102BGC	Ultra Bluish Green	InGaN	505	3.80	4.50	1000	5000		
BL-L102BC	Blue	InGaN	430	3.80	4.50	500	1000		
BL-L102UBC	Ultra Blue	InGaN	470	2.70	4.20	1000	3000		
BL-L102VC	UV	InGaN	405	3.80	4.50	80	200		
BL-L102UWC	Ultra White	InGaN	/	2.70	4.20	5000	10000		

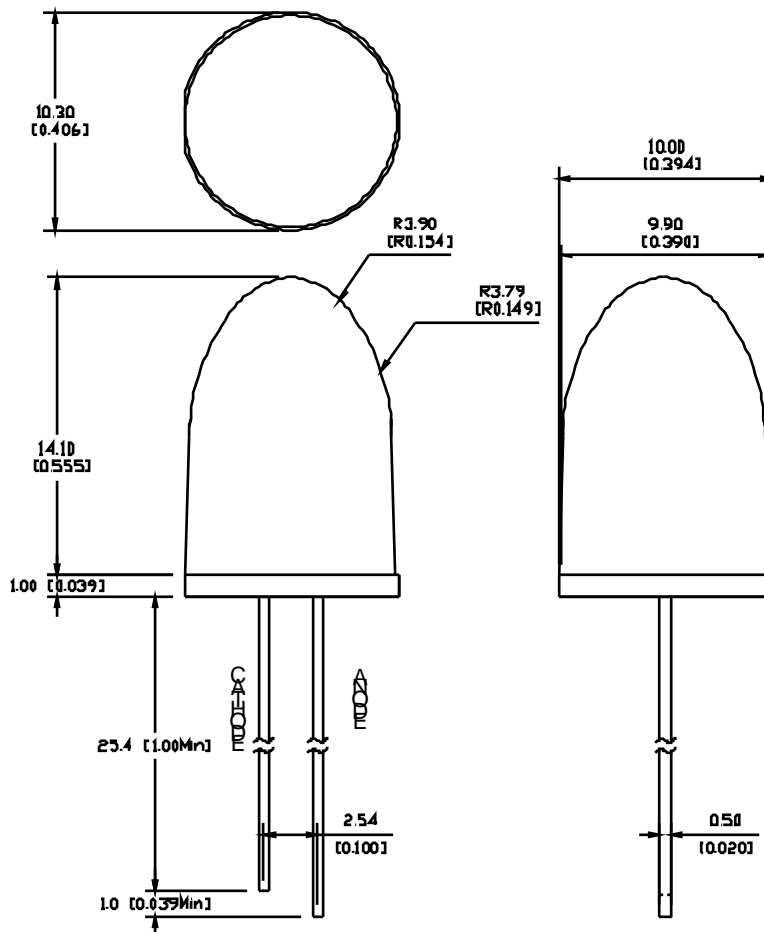
**Absolute maximum ratings (Ta=25°C)**

Parameter	SR	LR	UR	UE	UY	UG	PG	BG	B	UB	UV	W	Unit
Forward Current I <sub>F</sub>	25	25	25	30	30	30	30	30	30	30	30	30	mA
Power Dissipation P <sub>d</sub>	60	60	60	65	65	75	110	110	120	120	120	120	mW
Reverse Voltage V <sub>R</sub>	5	5	5	5	5	5	5	5	5	5	5	5	V
Peak Forward Current I <sub>PF</sub> (Duty 1/10 @1KHZ)	150	150	150	150	150	150	150	100	100	100	100	100	mA
Operation Temperature T <sub>OPR</sub>	-40 to +80												°C
Storage Temperature T <sub>STG</sub>	-40 to +85												°C
Lead Soldering Temperature T <sub>SOL</sub>	Max.260±5°C for 3 sec Max. (1.6mm from the base of the epoxy bulb)												°C

Round Helmet Type LED lamp

BL-L102

Package configuration & Internal circuit diagram



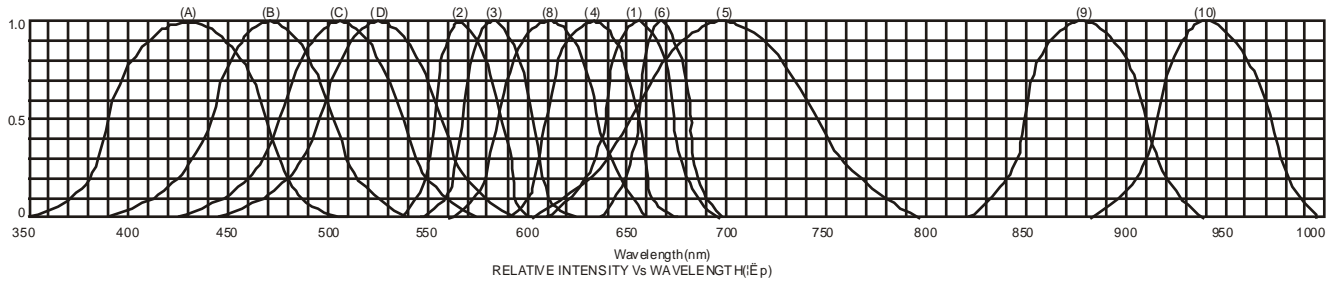
Notes:

1. All dimensions are in millimeters (inches)
2. Tolerance is  $\pm 0.25$  (0.01") unless otherwise noted.
3. Specifications are subject to change without notice.

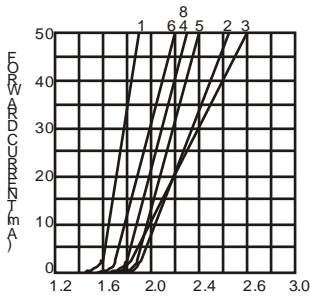
**Round Helmet Type LED lamp**

**BL-L102**

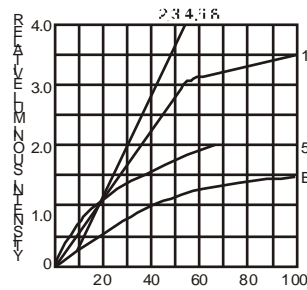
**Typical electrical-optical characteristics curves:**



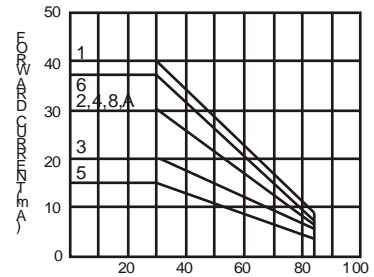
- (1) - GaAsP/GaAs 655nm/Red
- (2) - GaP 570nm/Yellow Green
- (3) - GaAsP/GaP 585nm/Yellow
- (4) - GaAsP/GaP 635nm/Orange & Hi-Eff Red
- (5) - GaP 700nm/Bright Red
- (6) - GaAlAs/GaAs 660nm/Super Red
- (8) - GaAsP/GaP 610nm/Super Red
- (9) - GaAlAs 880nm
- (10) - GaAs/GaAs & GaAlAs/GaAs 940nm
- (A) - GaN/SiC 430nm/Blue
- (B) - InGaN/SiC 470nm/Blue
- (C) - InGaN/SiC 505nm/Ultra Green
- (D) - InGaAlSiC 525nm/Ultra Green



FORWARD VOLTAGE (Vf)  
FORWARD CURRENT VS.  
FORWARD VOLTAGE



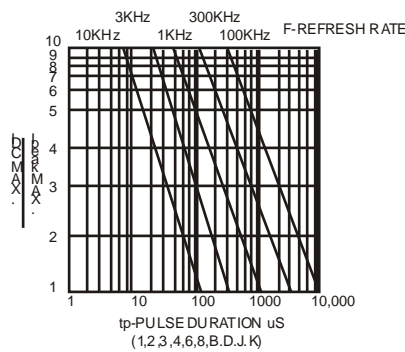
FORWARD CURRENT (mA)  
RELATIVE LUMINOUS  
INTENSITY VS. FORWARD  
CURRENT



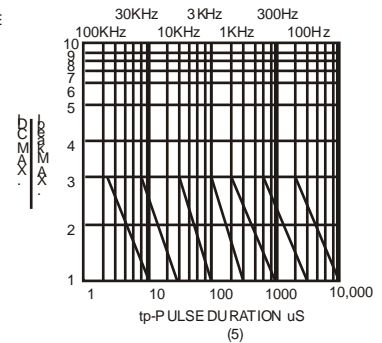
AMBIENT TEMPERATURE Ta(°C)  
FORWARD CURRENT VS. AMBIENT  
TEMPERATURE



AMBIENT TEMPERATURE Ta(°C)



tp-PULSE DURATION  $\mu$ s  
(1,2,3,4,6,8,B,D,J,K)



(5)

NOTE:25 free air temperature unless otherwise specified