

## Round Type LED lamp

BL-L513

### ■ Features:

- 5mm Round Type LED lamp
- Ultra brightness.
- Choice of various viewing angles.
- Diffused, Transparent and Water clear lens
- IC compatible /Low current capability.
- 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 2θ1/2 (deg)
	Emitted Color	Material	λ <sub>p</sub> (nm)		Typ	Max	Min.	Typ.	
BL-L513SRC	Hi Red	AlGaAs,SH	660	Water Clear	1.85	2.20	50	250	20
BL-L513LRC	Super Red	AlGaAs,DH	660		1.85	2.20	250	600	
BL-L513URC	Ultra Red	AlGaAs,DDH	660		1.95	2.20	600	1000	
BL-L513UEC	Ultra Orange	AlGaInP	630		2.10	2.50	800	2000	
BL-L513UYC	Ultra Yellow	AlGaInP	590		2.10	2.50	1000	2200	
BL-L513UGC	Ultra Green	AlGaInP	574		2.20	2.50	300	700	
BL-L513PGC	Ultra Pure Green	InGaN	525		3.80	4.50	2000	5000	
BL-L513BGC	Ultra Bluish Green	InGaN	505		3.80	4.50	1800	4000	
BL-L513UBC	Ultra Blue	InGaN	470		2.70	4.20	2000	5000	
BL-L513UVC	UV	InGaN	405		3.80	4.50	80	150	
BL-L513UWC	Ultra White	InGaN	/		2.70	4.20	3000	10000	
BL-L513SRD	Hi Red	AlGaAs,SH	660		Diffused	1.85	2.20	20	
BL-L513LRD	Super Red	AlGaAs,DH	660	1.85		2.20	50	120	
BL-L513URD	Ultra Red	AlGaAs,DDH	660	1.95		2.20	100	220	
BL-L513UED	Ultra Orange	AlGaInP	630	2.10		2.50	120	300	
BL-L513UYD	Ultra Yellow	AlGaInP	590	2.10		2.50	120	320	
BL-L513UYOD	Ultra Yellow	AlGaInP	619	2.10		2.50	120	320	
BL-L513UGD	Ultra Green	AlGaInP	574	2.20		2.50	45	100	
BL-L513PGD	Ultra Pure Green	InGaN	525	3.80		4.50	400	900	
BL-L513BGD	Ultra Bluish Green	InGaN	505	3.80		4.50	300	800	
BL-L513UBD	Ultra Blue	InGaN	470	2.70		4.20	400	900	
BL-L513UWW	Ultra White	InGaN	/	2.70		4.20	1000	2000	

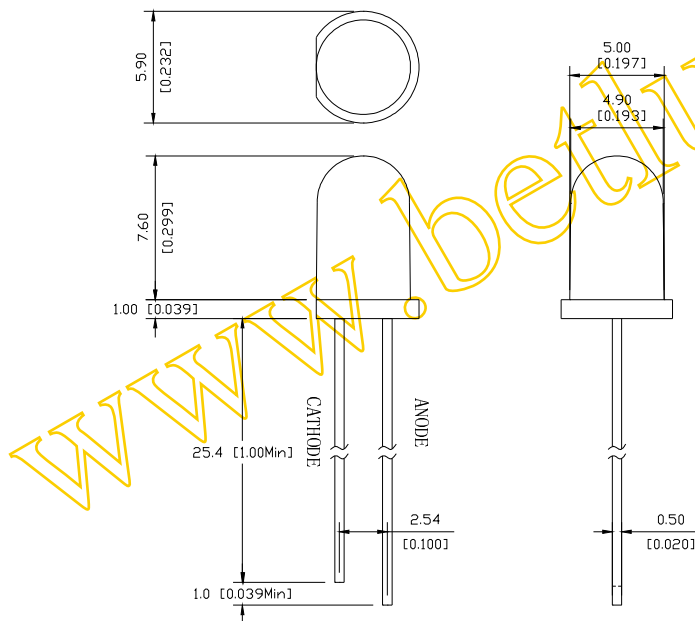
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### Absolute maximum ratings (Ta=25°C)

Parameter	SR	LR	UR	UE	UY	UG	PG	BG	B	UB	UV	W	Unit
Forward Current $I_F$	25	25	25	30	30	30	30	30	30	30	30	30	mA
Power Dissipation $P_d$	60	60	60	65	65	75	110	110	120	120	120	120	mW
Reverse Voltage $V_R$	5	5	5	5	5	5	5	5	5	5	5	5	V
Peak Forward Current $I_{PF}$ (Duty 1/10 @1KHZ)	150	150	150	150	150	150	150	150	100	100	100	100	mA
Operation Temperature $T_{OPR}$	-40 to +80												°C
Storage Temperature $T_{STG}$	-40 to +85												°C
Lead Soldering Temperature TSOL	Max.260±5°C for 3 sec Max. (1.6mm from the base of the epoxy bulb)												°C

### 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.

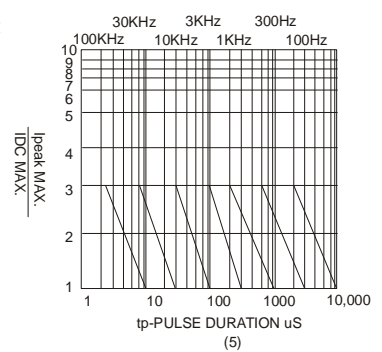
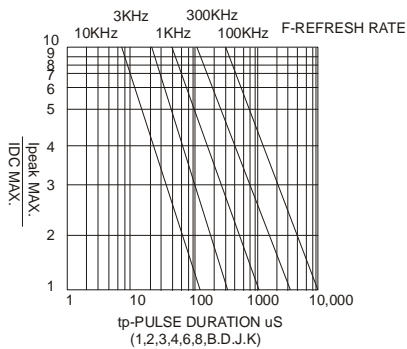
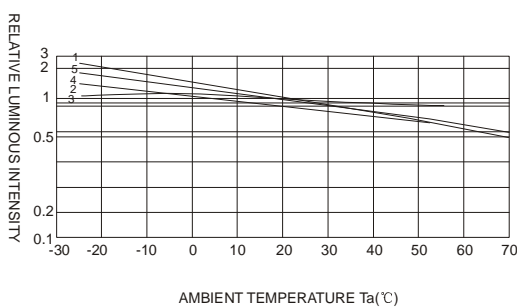
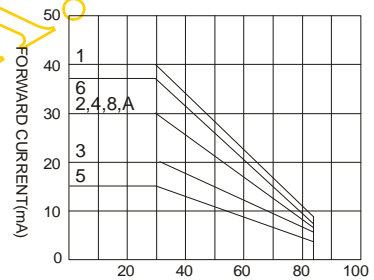
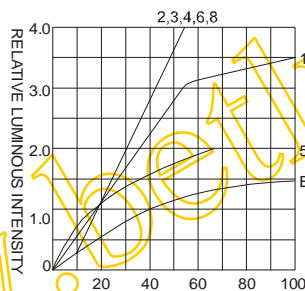
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### Typical electrical-optical characteristics curves:



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



NOTE:25°C free air temperature unless otherwise specified