

BriLux 1W Emitter

BTP-89XXCG-XX-X/X

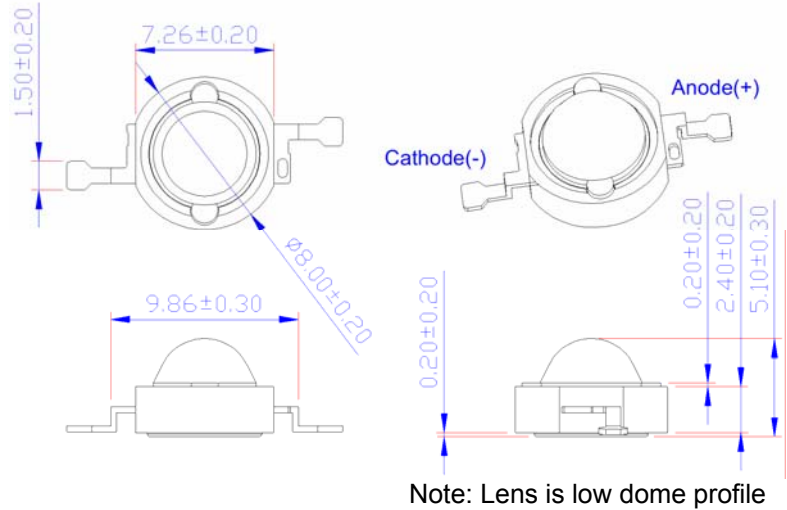


[Note 1]

Features

- Highest Lumen Per Watt
- Long Operational Life
- White or Black Housing
- Superior ESD Protection
- Instant Light (less than 100ns)
- Compatible to Luxeon's "Lambertian"

Package Dimension



Tolerance: ± see spec Unit: mm

Applications

- Accent Light/Down Light/Spot Light
- Automotive Exterior/Interior Light
- Large Area LCD Backlights
- Reading Light
- Marine/Miner's Lighting
- Portable Flashlight/ General Lighting

Optical Characteristics at $T_J=25^\circ\text{C}$, $I_F=350\text{mA}$

PART NUMBER	Emitting Color	LED Chip Material	Lens Color	Wavelength (nm)		Drive Voltage @ 350mA	Luminous Flux (lm) @350mA	VIEW ANGLE $2\theta_{1/2}$ (deg)
				CCT (K) Range				
				Min	Max	Typ.	Typ.	
BTP-89NRCG-XX-X/X	Normal Red	AllnGaP	Water Clear	620	630	2.20V	27 lm	140
BTP-89AMCG-XX-X/X	Amber	AllnGaP	Water Clear	610	620	2.20V	30 lm	140
BTP-89YECG-XX-X/X	Yellow	AllnGaP	Water Clear	585	595	2.20V	25 lm	140
BTP-89BLCG-XX-X/X	Blue	AllnGaN	Water Clear	460	475	3.50V	7 lm	140
BTP-89PGCG-XX-X/X	Green	AllnGaN	Water Clear	515	535	3.20V	25 lm	140
BTP-89WWCG-XX-X/X	Warm White	AllnGaN	Water Clear	2800K	3800K	3.50V	20 lm	140
BTP-89WHCG-XX-X/X	White	AllnGaN	Water Clear	5000K	8000K	3.50V	25 lm	140

Notes:

- 1) Picture for illustration purpose only. Please refer to outline dimension for actual package size.
- 2) Flux is measured with the accuracy of $\pm 15\%$. Please refer to Flux Selection Guide
- 3) CCT is measured with the accuracy of $\pm 400\text{K}$. Please refer to CCT Selection Guide
- 4) V_F is measured with the accuracy of $\pm 0.15\text{V}$. Please refer to V_F Selection Guide

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Absolute Maximum Ratings at $T_J=25^{\circ}\text{C}$

Parameter	Red/Amber/Yellow	White/Blue/Green
Power Dissipation (W)	0.77	1.22
DC Forward Current (mA) ^[1]	350	350
Peak Pulsed Forward Current (mA) ^[4]	1000	1000
Average Forward Current (mA)	350	350
Reverse Voltage (V)	5	5
Reverse Current (uA)	50	50
ESD Sensitivity (V) ^[2]	2,000	2,000
LED Junction Temperature at 350mA (°C) ^[3]	125	125
Thermal Resistance Junction to Board (°C/W)	15	15
Temperature Coefficient of V_F (mV/°C)	-2	-2
Storage Temperature (°C)	-40 to +120	-40 to +120
Operating Temperature (°C)	-30 to +110	-30 to +110
Lead Soldering Temperature (°C) ^[4]	240°C for 5 seconds max	240°C for 5 seconds max

Application Notes:

1. Proper forward current must be observed to maintain the junction temperature below maximum rating
2. Although all products listed are class one ESD protection (+/- 2KV by HBM mode), care must be fully taken when handling products
3. Specification is subjected to change for improvements without notice.
4. Test conditions: $t_p \leq 10\mu\text{s}$, duty cycle = 0.005
5. CAUTION: When lighting up, the emitter will become very hot if it is not attached to a heat sink. Please provide proper heat management to prevent damage to the emitter.



WARNING

This range of LEDs is produced with die having a high radiant flux. Care must be taken when viewing the product at close range as the light may be intense enough to cause damage to the human eye.

Note: Industry standard procedures regarding static must be observed when handling this product.

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CCT, Flux and V_F Selection Guide (@ I_F=350mA)

BTP-89XXCG-XX-X/W/B

White Housing (Optional: B=Black)

Wavelength Ranks Selection

Color	Bin	λ _D (nm)	
		Min	Max
Blue	B5	460	465
	B6	465	470
	B7	470	475
	XX	460 – 475	
Green	G6	515	520
	G7	520	525
	G8	525	530
	G9	530	535
	XX	515 – 535	
Red	XX	620 – 630	
Amber	XX	610 – 620	
Yellow	XX	585 – 595	

Flux Ranks Selection

Color	Bin	Flux (lumens)
Blue	H	4.5~6
	J	6~8
	K	8~10
	X	Default Full Range
Red Amber Yellow Green White	M	14~18
	N	18~23
	P	23~30
	Q	30~39
	R	39~50
	X	Default Full Range

CCT Ranks Selection

Color Temp	Bin	CCT(K)	
		Min	Max
Warm White	00	2800	3300
	01	3300	3800
	XX	2800K – 3800K	
White	02	5000	6000
	03	6000	7000
	04	7000	8000
	XX	5000K – 8000K	

V_F Ranks Selection

Color	Bin	V _F (V)	
		Min	Max
Red Amber Yellow	V04	2.0	2.2
	V05	2.2	2.4
	V06	2.4	2.6
	V07	2.6	2.8
	VXX(Full)	2.0~2.8	
White Blue Green	V08	2.8	3.0
	V09	3.0	3.2
	V10	3.2	3.4
	V11	3.4	3.6
	V12	3.6	3.8
	VXX(Full)	2.8~3.8	

(Please specify on order, otherwise, default full range of V_F)

Typical Radiation Pattern for Lambertian Emitter

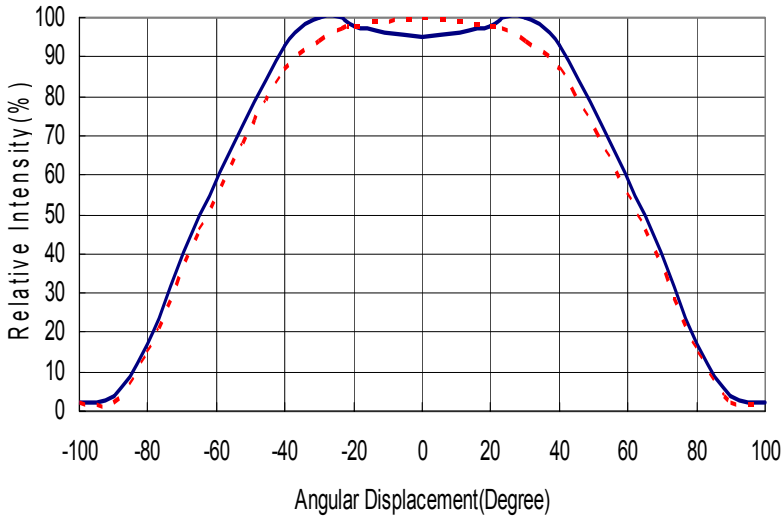


Fig. 1 Typical Radiation Pattern

Operating Current & Ambient Temperature

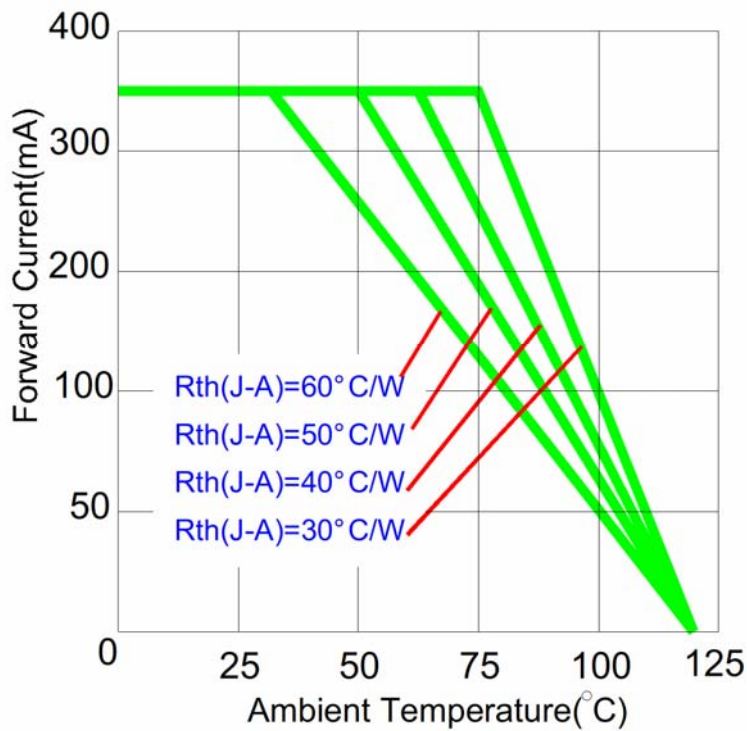


Fig. 2 Forward Current vs Ambient Temperature

Operating Current & Forward Voltage

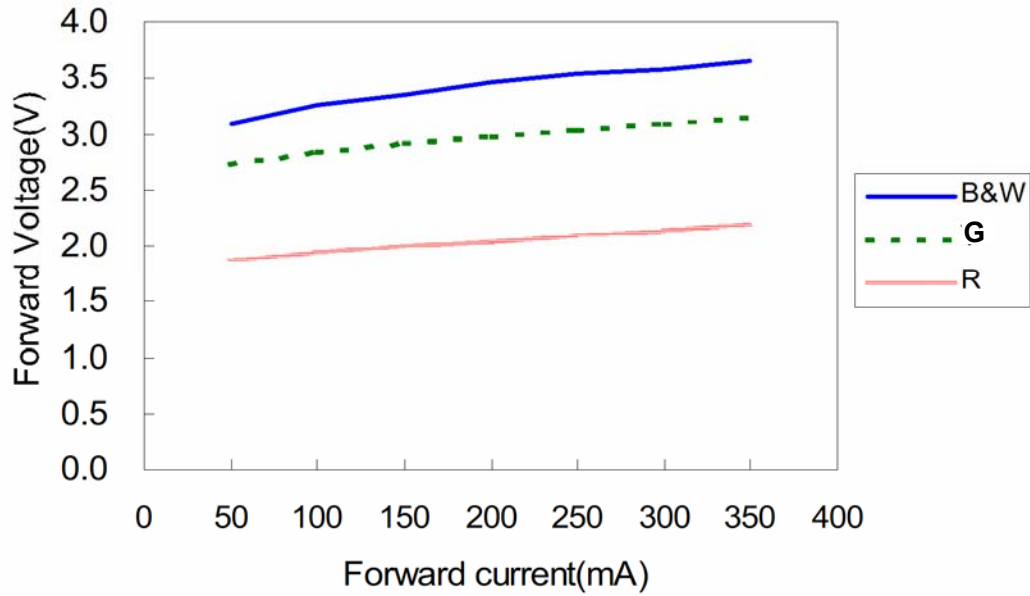


Fig. 3. Forward Current vs Forward Voltage

Current & Luminous Flux

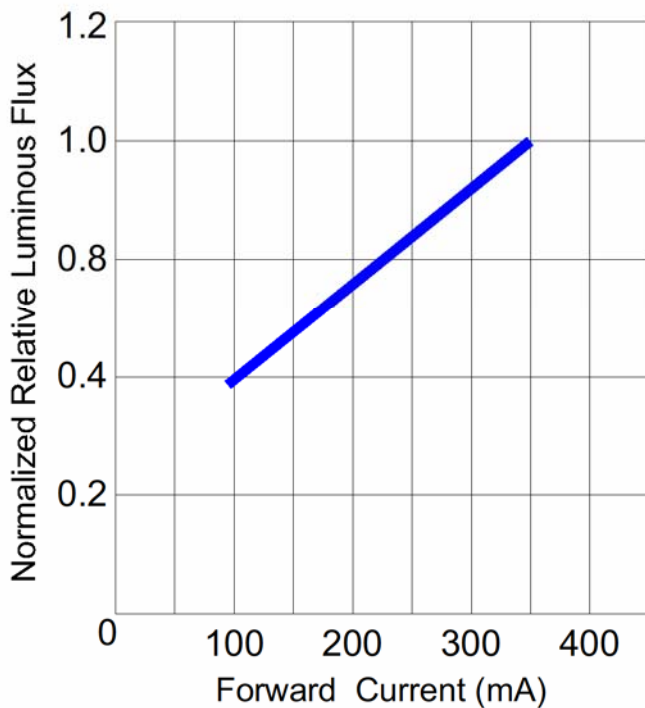


Fig. 4 Forward Current vs Luminous Flux



DB LECTRO
COMPOSANTS ÉLECTRONIQUES
ELECTRONIC COMPONENTS



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