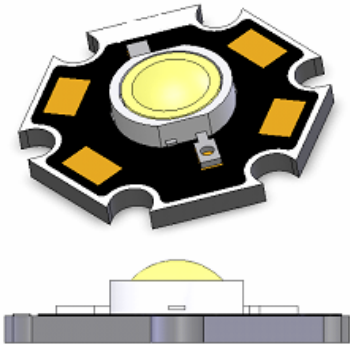
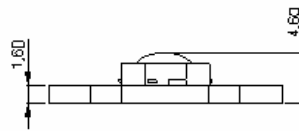
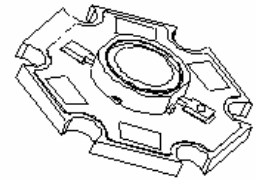
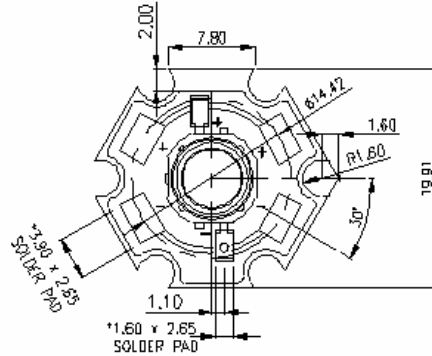


ProLite 5W SMD Star
BTP5-99XXCT-XX-X/W



Package Dimension



Features

- Highest Lumen Per Watt
- Long Operational Life
- White Housing
- Superior ESD Protection
- Instant Light (less than 100ns)
- Compatible to Luxeon's "Lambertian"
- True SMD Emitter
- IR Reflow Soldering Process

Note: Lens is low dome profile

Tolerance: ± see spec Unit: mm

Applications

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

Optical Characteristics at T_J=25°C, I_F=700mA

PART NUMBER	Emitting Color	LED Chip Material	Lens Color	Wavelength (nm)		Drive Voltage @ 700mA	Luminous Flux (lm) @700mA	VIEW ANGLE 2θ _{1/2} (deg)
				CCT (K) Range				
				Min	Max	Typ.	Typ.	
BTP5-99NRCT-XX-X/W	Normal Red	AlInGaP	Water Clear	620	645	4.40V	120	140
BTP5-99AMCT-XX-X/W	Amber		Water Clear	610	620	4.40V	144	
BTP5-99YECT-XX-X/W	Yellow		Water Clear	585	600	4.40V	112	
BTP5-99BLCT-XX-X/W	Blue	AlInGaN	Water Clear	460	490	7.10V	40	
BTP5-99PGCT-XX-X/W	Green		Water Clear	520	545	7.10V	120	
BTP5-99WWCT-XX-X/W	Warm White		Water Clear	2800K	3800K	7.10V	96	
BTP5-99WHCT-XX-X/W	White		Water Clear	5000K	8000K	7.10V	100	

Notes:

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

ProLite 5W SMD Star

BTP5-99XXCT-XX-X/W

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

Parameter	Red/Amber/Yellow	White/Blue/Green
Power Dissipation (W)	4.35	5.59
DC Forward Current (mA) ^[1]	700	700
Peak Pulsed Forward Current (mA) ^[4]	1000	1000
Average Forward Current (mA)	700	700
Reverse Voltage (V)	5	5
Reverse Current (uA)	50	50
ESD Sensitivity (V) ^[2]	16,000	16,000
LED Junction Temperature at 350mA (°C) ^[3]	120	135
Thermal Resistance Junction to Board (°C/W)	13	13
Temperature Coefficient of V_F (mV/°C)	-2	-2
Storage Temperature (°C)	-40 to +105	-40 to +105
Operating Temperature (°C)	-40 to +105	-40 to +105
Lead Soldering Temperature (°C) ^[4]	260°C for 5 seconds max	260°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 two ESD protection (+/- 16KV 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.

ProLite 5W SMD Star

BTP5-99XXCT-XX-X/W

CCT, Flux and V_F Selection Guide (@ $T_J=25^\circ\text{C}$, $I_F=700\text{mA}$)

BTP5-99XXCT-XX-X/W

White Housing

Wavelength Ranks Selection

Color	Bin	$\lambda_D(\text{nm})$	
		Min	Max
Blue	B5	460	465
	B6	465	470
	B7	470	475
	B8	475	480
	B9	480	485
	B10	485	490
	XX	460 – 490	
Green	G7	520	525
	G8	525	530
	G9	530	535
	G10	535	540
	G11	540	545
	XX	520 – 545	
Red	XX	620 – 630	
Amber	XX	610 – 620	
Yellow	XX	585 – 600	

Flux Ranks Selection

Color	Bin	Flux (lumens)
Blue	P	23~30
	Q	30~39
	R	39~50
	X	Default Full Range
Red Amber Yellow Green White	T	65~85
	U	85~111
	V	111~144
	W	144~187
	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	V12	3.6	3.8
	V13	3.8	4.0
	V14	4.0	4.2
	V15	4.2	4.4
	V16	4.4	4.6
	V17	4.6	4.8
	VXX(Full)	3.6~4.8	
Warm White White Blue Green	V27	6.8	7.0
	V29	7.0	7.2
	V30	7.2	7.4
	V31	7.4	7.6
	V32	7.6	7.8
	V33	7.8	8.0
	VXX(Full)	6.8~8.0	

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

Typical Electro-Optical Characteristics Curves

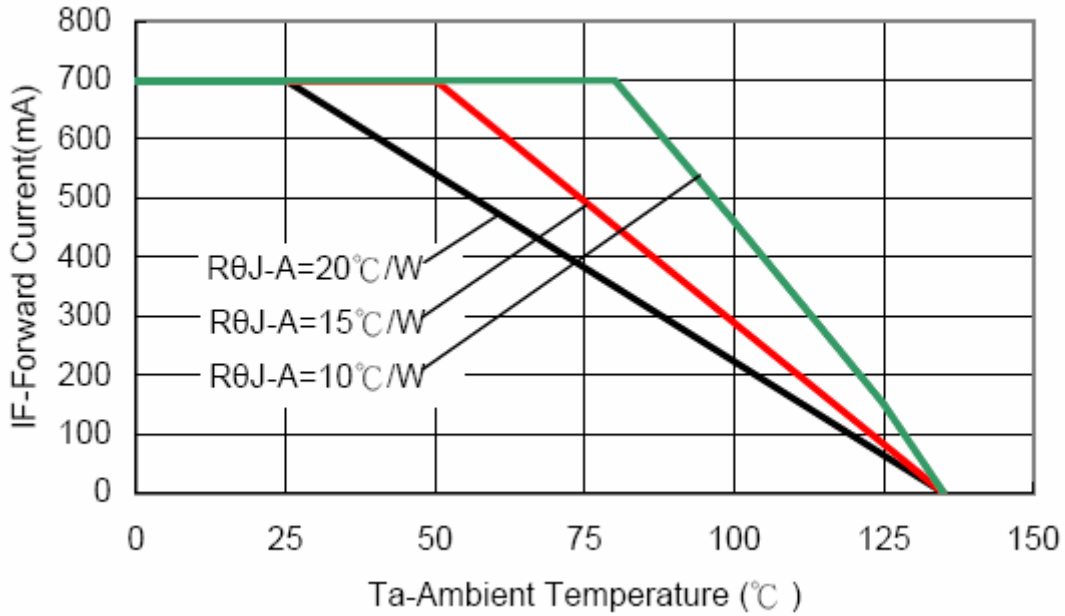


Fig. 1 Forward Current vs Ambient Temperature (Green, Blue and White)

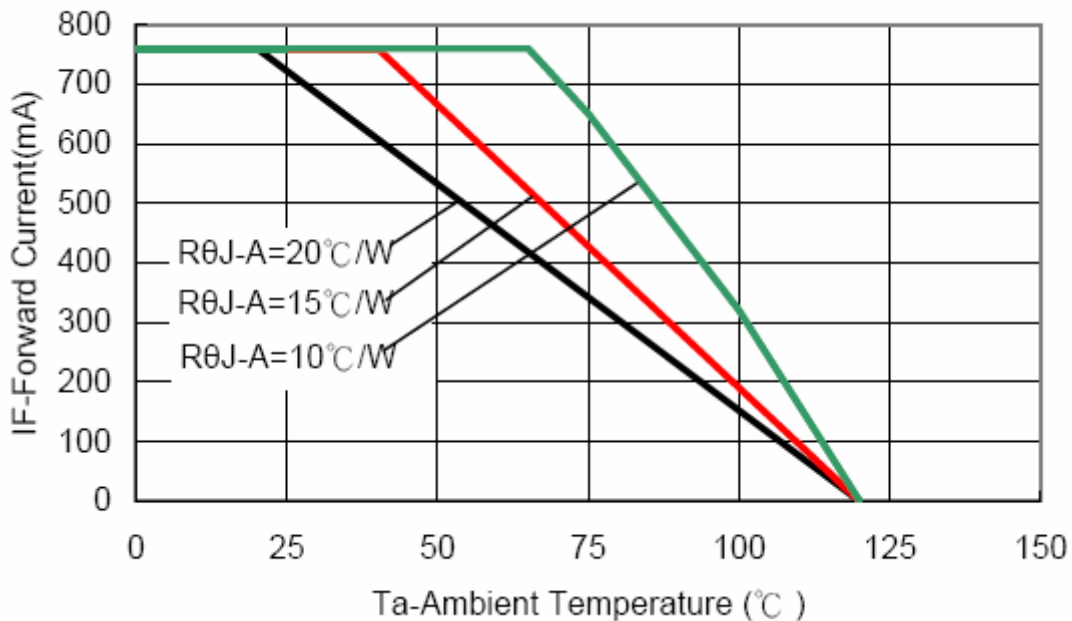


Fig. 2 Forward Current vs Ambient Temperature (Red, Amber and Yellow)

Forward Current Characteristics, Tj=25°C

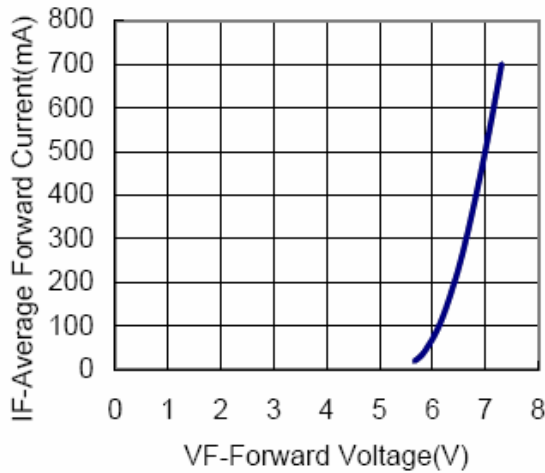


Fig 3a. Forward Current vs. Forward Voltage for White, Warm White, Blue and Green.

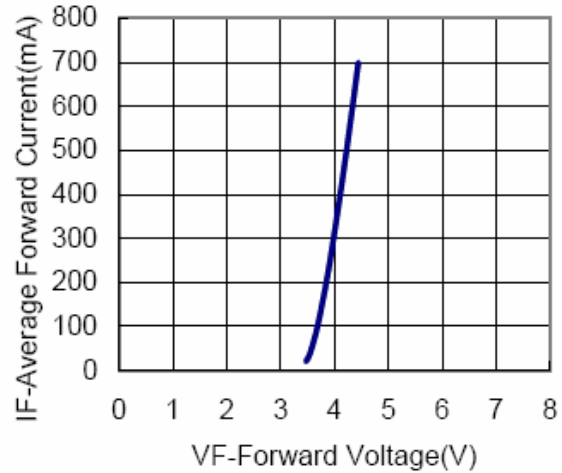


Fig 3b. Forward Current vs. Forward Voltage for Amber, Red-Orange and Red.

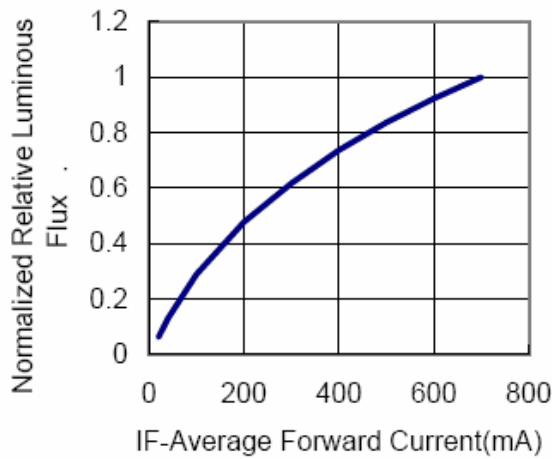


Fig 4a. Relative Luminous Flux vs. Forward Current for White, Warm White, Blue and Green at Tj=25°C maintained.

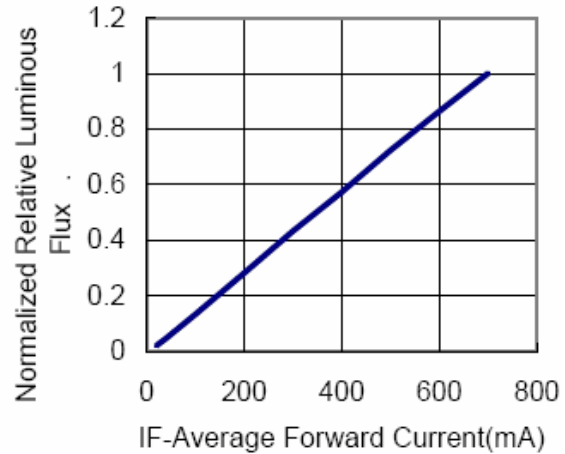


Fig 4b. Relative Luminous Flux vs. Forward Current for Amber, Red-Orange, Red at Tj=25°C maintained.

Typical Electro-Optical Characteristics Curves

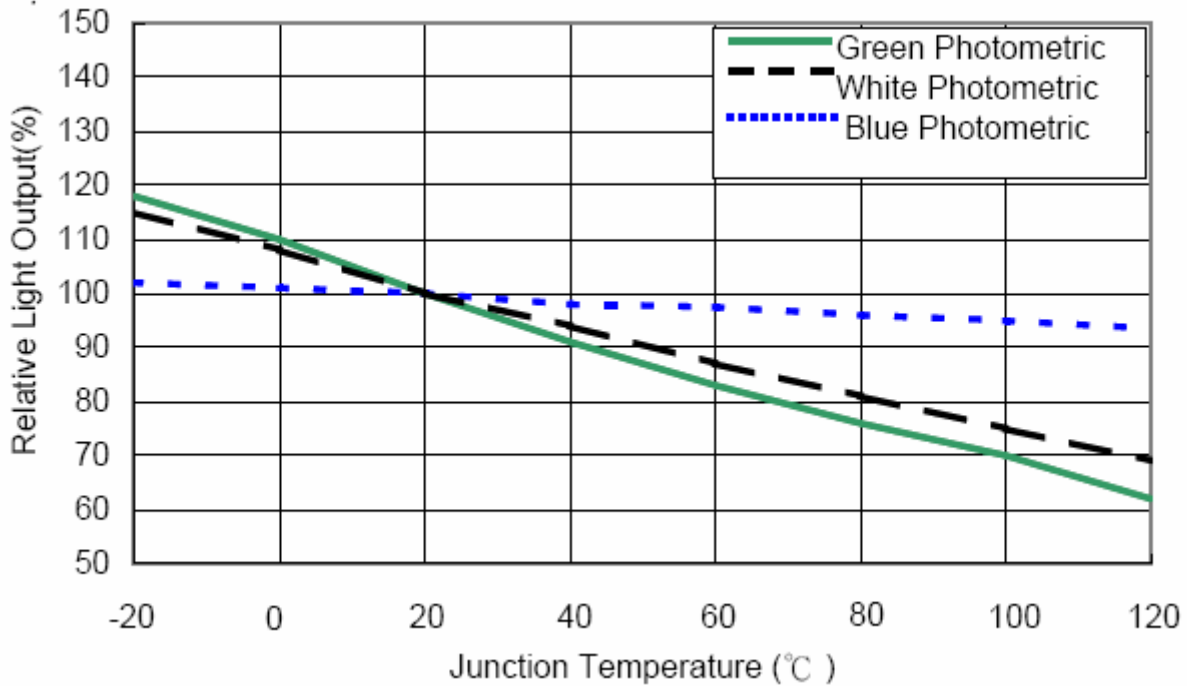


Fig. 5a Relative Light Output vs Junction Temperature

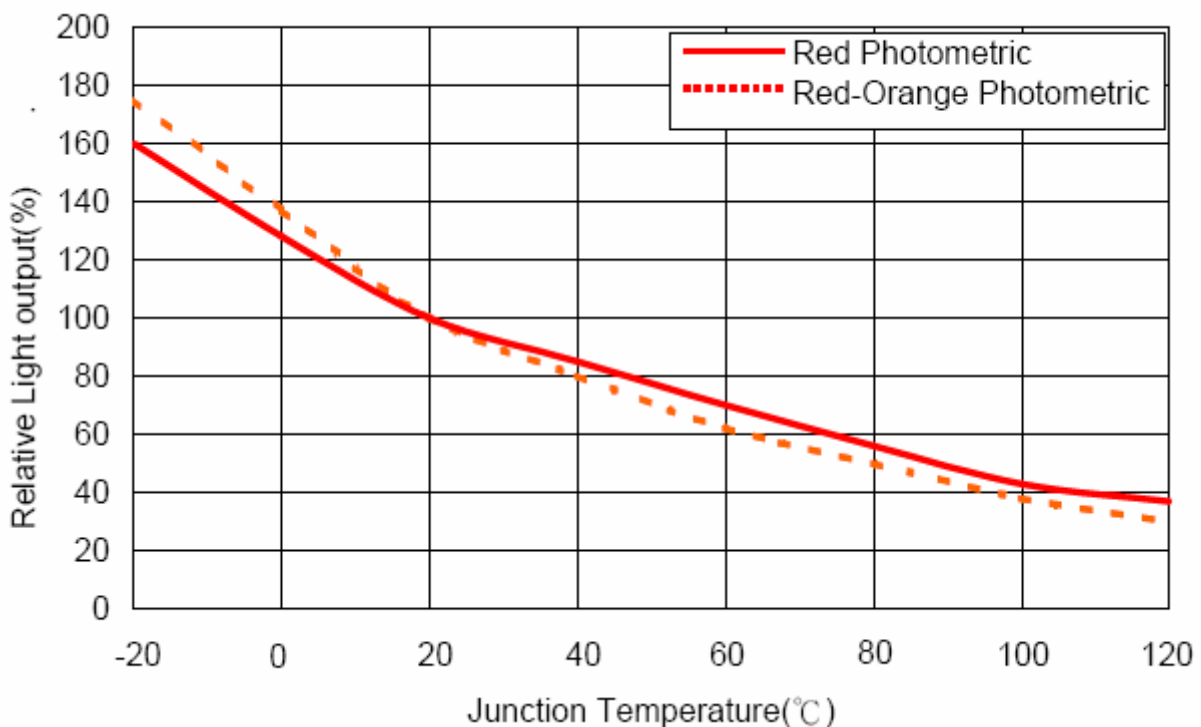


Fig. 5b Relative Light Output vs Junction Temperature

Typical Electro-Optical Characteristics Curves

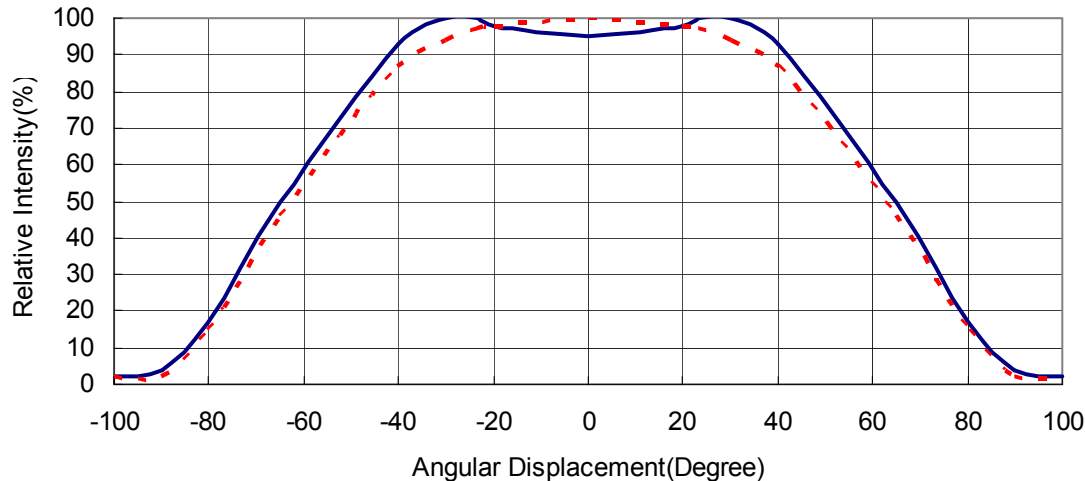


Fig. 6 Typical Radiation Pattern

Other Important Notes

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- Brilliance Technologies products listed in this data sheet are intended for usage in general electronics and/or non-commercial or industrial lighting products. These products are neither intended nor warranted for usage in equipment that requires extraordinarily high quality and/or reliability or a malfunction or failure of which may cause loss of human life or bodily injury.
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