



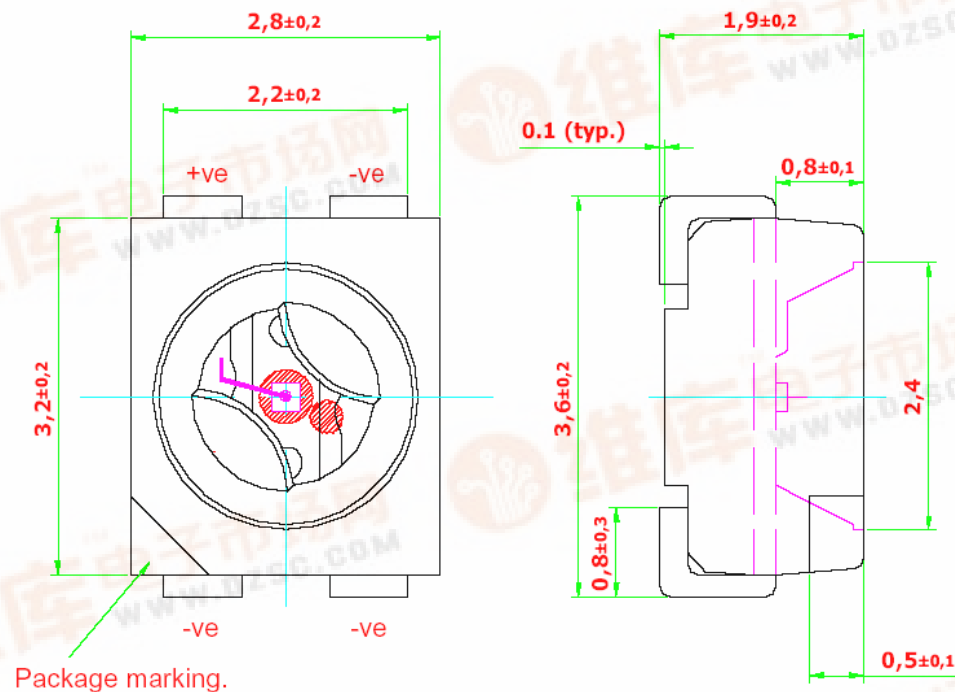
AMERICAN BRIGHT OPTOELECTRONICS CORP.

Power DOMILED AlInGaP BL-PW Series

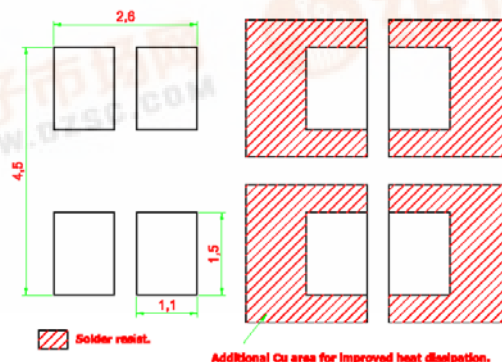
● Feature:

1. High brightness surface mount LED.
2. 120° viewing angle.
3. Small package outline (LxWxH) of 2.8 x 3.2 x 1.8 mm.
4. Qualified according to JEDEC moisture sensitivity Level 2.
5. Compatible to both IR reflow soldering and TTW soldering.

● Package Dimension:



Recommended Solder Pad





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● Optical Characteristics:

Part Number	Chip Technology Color	Viewing angle	Total Flux @ IF=50mA, mlm (typ)	Luminous Intensity @ IF=50mA
BL-PWS-SJS-C10 • BIN S1 • BIN S2 • BIN T1 • BIN T2	AlInGaP / Super Red, 632nm	120	750	180.0 – 450.0 180.0 – 224.0 224.0 – 285.0 285.0 – 355.0 355.0 – 450.0
BL-PWR-SJS-C10 • BIN T1 • BIN T2 • BIN U1 • BIN U2	AlInGaP / Red, 625nm	120	900	285.0 – 715.0 285.0 – 355.0 355.0 – 450.0 450.0 – 560.0 560.0 – 715.0
BL-PWR-TJS-C10 • BIN U1 • BIN U2 • BIN V1 • BIN V2	TS AlInGaP / Red, 625nm	120	2000	450.0 – 1125.0 450.0 – 560.0 560.0 – 715.0 715.0 – 900.0 900.0 – 1125.0
BL-PWA-SJS-C10 • BIN U1 • BIN U2 • BIN V1 • BIN V2	AlInGaP / Amber, 615nm	120	1400	450.0 – 1125.0 450.0 – 560.0 560.0 – 715.0 715.0 – 900.0 900.0 – 1125.0
BL-PWA-TJS-C10 • BIN V1 • BIN V2 • BIN W1 • BIN W2	TS AlInGaP / Amber, 615nm	120	3000	715.0 – 1800.0 715.0 – 900.0 900.0 – 1125.0 1125.0 – 1400.0 1400.0 – 1800.0
BL-PWO-SJS-C10 • BIN U1 • BIN U2 • BIN V1 • BIN V2	AlInGaP / Orange, 605nm	120	1400	450.0 – 1125.0 450.0 – 560.0 560.0 – 715.0 715.0 – 900.0 900.0 – 1125.0
BL-PWY-SJS-C10 • BIN U1 • BIN U2 • BIN V1	AlInGaP / Yellow, 587nm	120	1000	450.0 – 900.0 450.0 – 560.0 560.0 – 715.0 715.0 – 900.0
BL-PWY-TJS-C10 • BIN U1 • BIN U2 • BIN V1 • BIN V2	TS AlInGaP / Yellow, 587nm	120	1600	450.0 – 1125.0 450.0 – 560.0 560.0 – 715.0 715.0 – 900.0 900.0 – 1125.0



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Note:

1. Other luminous intensity groups are also available upon request.
2. Luminous intensity is measured with an accuracy of $\pm 11\%$.
3. Wavelength binning is carried for all units as per the wavelength-binning table. Only one wavelength group is allowed for each reel.
4. An optional Vf binning is also available upon request. Binning scheme is as per following table.

● Absolute Maximum Ratings:

Parameter	Maximum Value	Unit
DC forward current.	70	mA
Peak pulse current; ($t_p \leq 10 \mu s$, Duty cycle = 0.1)	100	mA
Reverse voltage.	5	V
LED junction temperature.	125	°C
Operating temperature.	-40 ... +100	°C
Storage temperature.	-40 ... +100	°C
Power dissipation (at room temperature)	225	mW

● Vf Binning:

Vf Bin @ 50mA	Forward voltage (V)
Standard	2.1 (typ. - AlInGaP), 2.5 (typ. – TS AlInGaP), 3.20 (max)
50	1.70 ... 2.00
51	2.00 ... 2.30
52	2.30 ... 2.60
53	2.60 ... 2.90
54	2.90 ... 3.20

Forward voltage, Vf is measured with an accuracy of ± 0.1 V.



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● Wavelength Grouping:

Color	Group	Wavelength distribution (nm)
BL-PWS, Super-red	Full	625 – 640
BL-PWR-SJ, Red	Full	620 – 630
BL-PWR-TJ; Red (TS)	Full	620 - 635
BL-PWA, Amber	Full	610 – 621
	W	610 - 615
	X	615 - 621
BL-PWO, Orange	Full	600 - 612
	W	600 - 603
	X	603 - 606
	Y	606 - 609
	Z	609 - 612
BL-PWY, Yellow	Full	582 - 594
	W	582 - 585
	X	585 - 588
	Y	588 - 591
	Z	591 - 594

Wavelength is measured with an accuracy of ± 1 nm.



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● Typical electro-optical characteristics curves:

Fig.1 Relative luminous intensity vs. forward current.

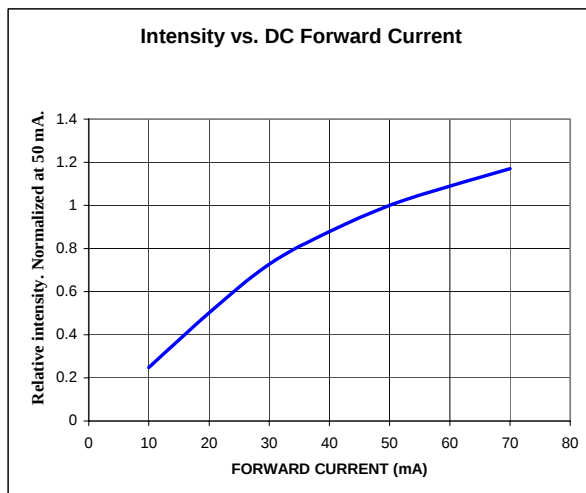


Fig.2 Forward current vs. forward voltage.

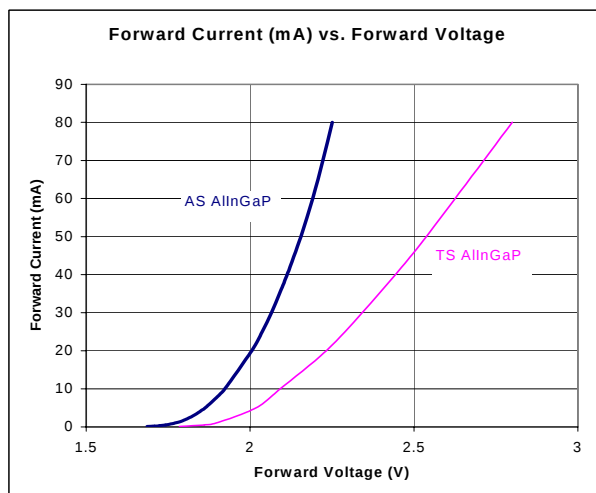


Fig.3 Radiation pattern.

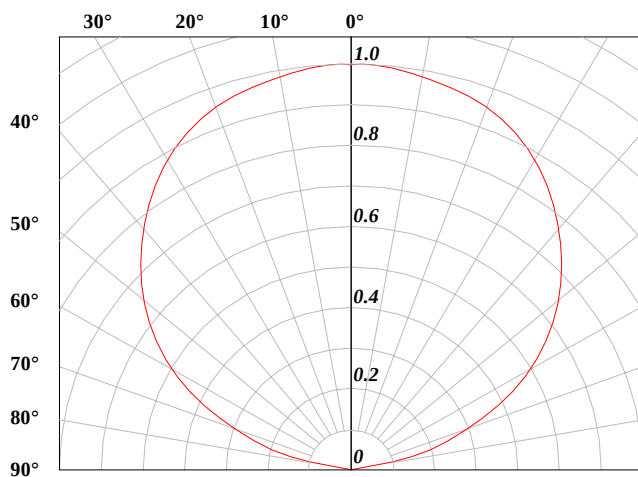


Fig.4 Maximum forward current vs. ambient temperature.

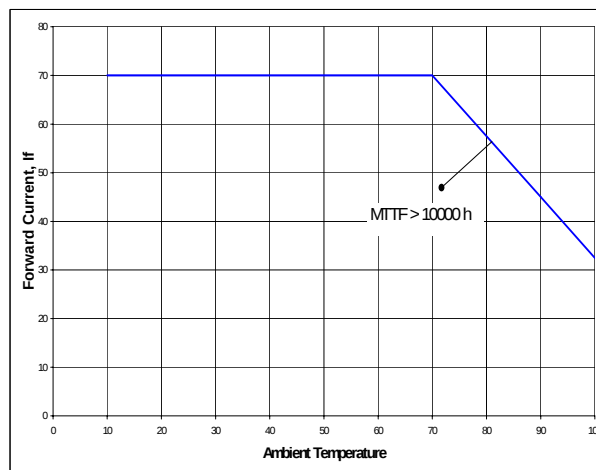


Fig.5 Relative Intensity vs. Wavelength

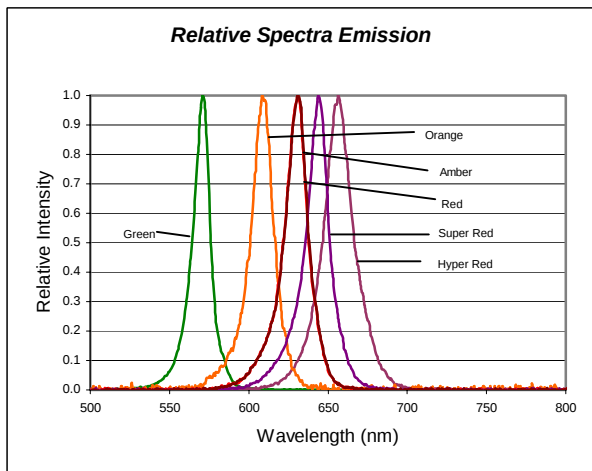




Fig.6 Recommended IR-reflow Soldering Profile (acc. To IPC 9501).

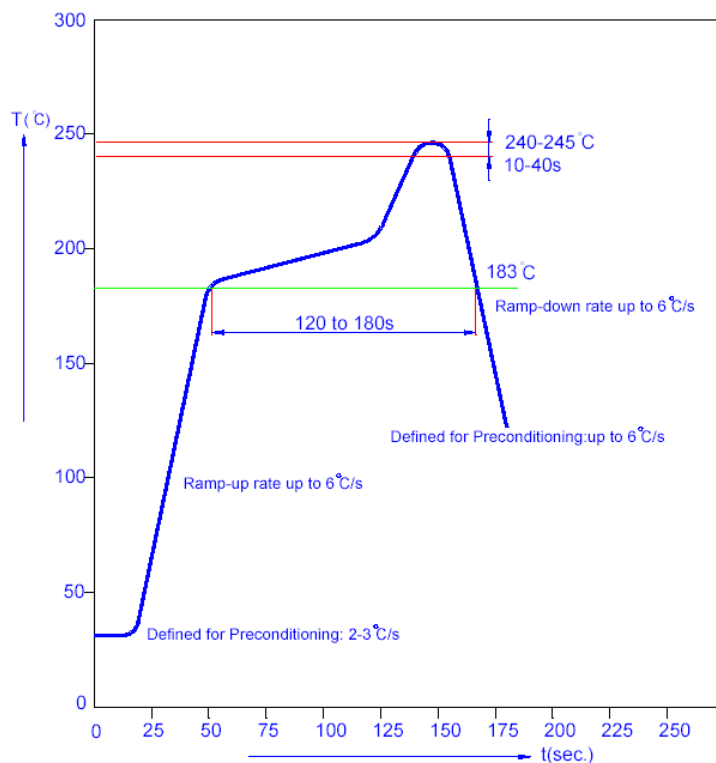
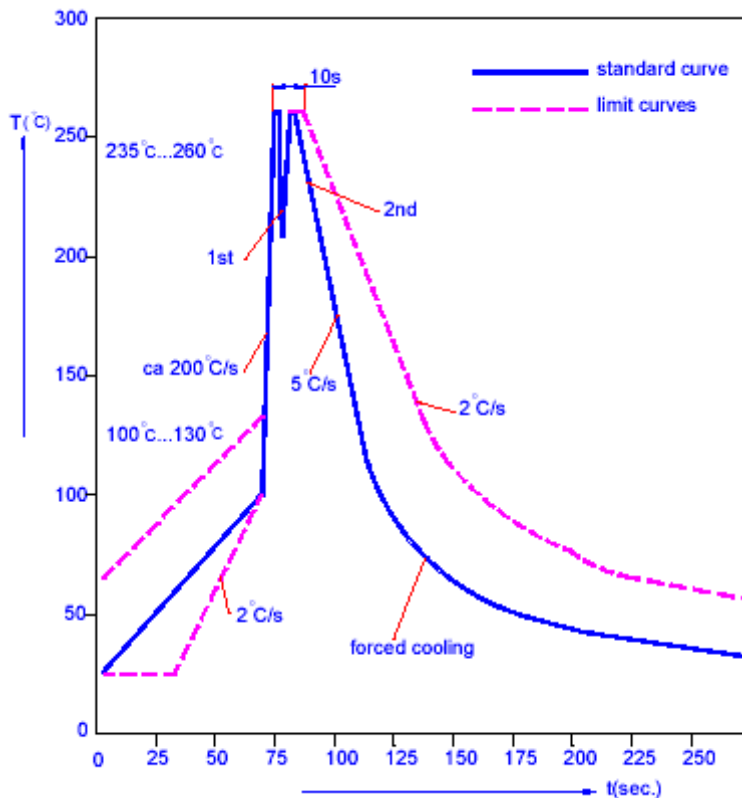


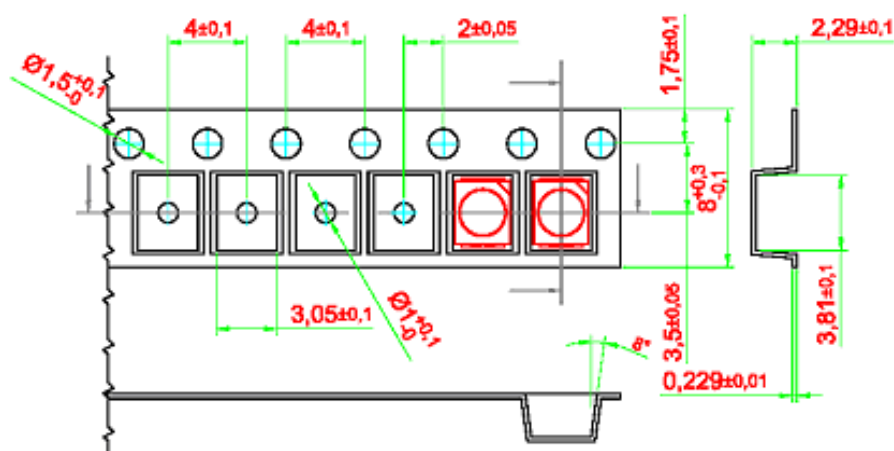
Fig.7 Recommended TTV Soldering Profile (acc. to CECC 00802).



- **Taping And Orientation:**

Reels come in quantity of 2000 units.

Reel diameter is 180 mm.



200 mm min. for Ø180 reel.

200 mm min. for Ø330 reel.

480 mm min. for Ø180 reel.

960 mm min. for Ø330 reel.

