



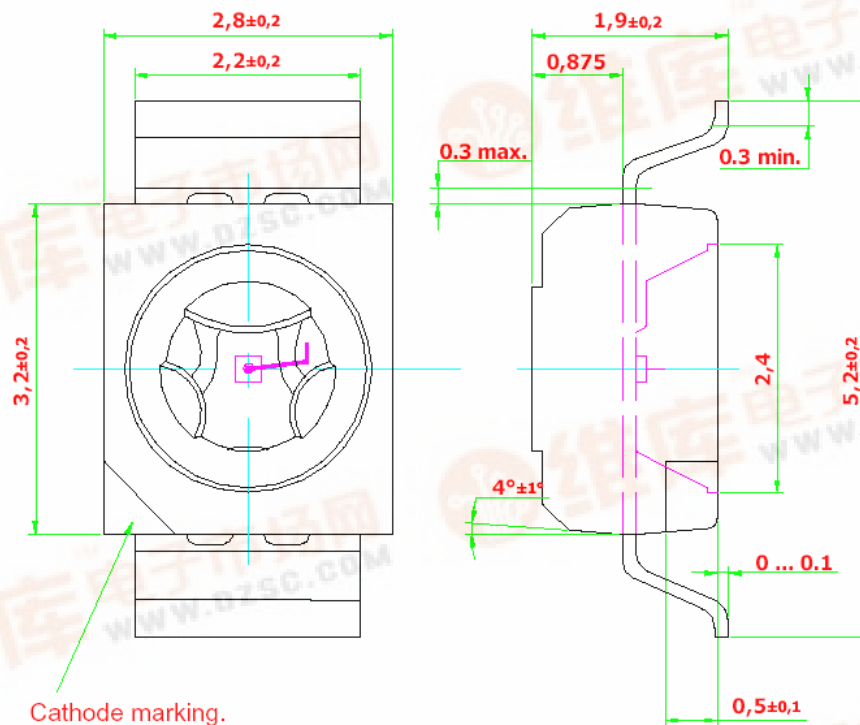
AMERICAN BRIGHT OPTOELECTRONICS CORP.

Z-BEND DOMILED Gap BL-PDx-GRS Series

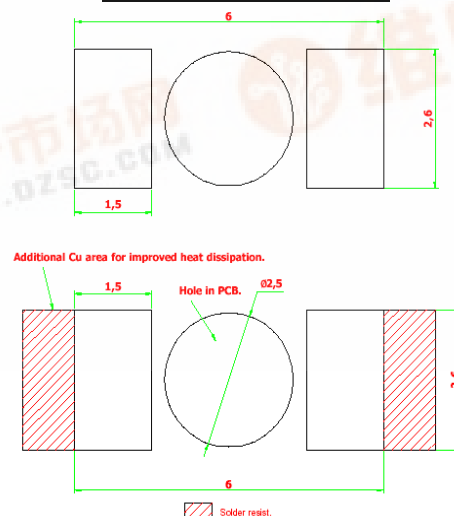
● **Feature:**

1. Surface mount LED.
2. 120° viewing angle.
3. Small package outline (LxWxH) of 3.2 x 2.8 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	Luminous Intensity @ If = 20mA Iv (mcd)
BL-PDR-GRS-C10 • BIN L1 • BIN L2 • BIN M1 • BIN M2	GaP / Red, 625 nm	11.2 ... 28.5 11.2 ... 14.0 14.0 ... 18.0 18.0 ... 22.4 22.4 ... 28.5
BL-PDR-GRS-C20 • BIN M1 • BIN M2 • BIN N1 • BIN N2		28.5 ... 71.5 28.5 ... 35.5 35.5 ... 45.0 45.0 ... 56.0 56.0 ... 71.5
BL-PDO-GRS-C10 • BIN L1 • BIN L2 • BIN M1 • BIN M2	GaP / Orange, 605 nm	11.2 ... 28.5 11.2 ... 14.0 14.0 ... 18.0 18.0 ... 22.4 22.4 ... 28.5
BL-PDY-GRS-C10 • BIN L1 • BIN L2 • BIN M1 • BIN M2	GaP / Yellow, 587 nm	11.2 ... 28.5 11.2 ... 14.0 14.0 ... 18.0 18.0 ... 22.4 22.4 ... 28.5
BL-PDY-GRS-C20 • BIN M1 • BIN M2 • BIN N1 • BIN N2		28.5 ... 71.5 28.5 ... 35.5 35.5 ... 45.0 45.0 ... 56.0 56.0 ... 71.5
BL-PDG-GRS-C10 • BIN L1 • BIN L2 • BIN M1 • BIN M2	GaP / Green, 570 nm	11.2 ... 28.5 11.2 ... 14.0 14.0 ... 18.0 18.0 ... 22.4 22.4 ... 28.5
BL-PDG-GRS-C20 • BIN M1 • BIN M2 • BIN N1 • BIN N2		18.0 ... 45.0 18.0 ... 22.4 22.4 ... 28.5 28.5 ... 35.5 35.5 ... 45.0



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Forward voltage @ $I_f=20$ mA.	Chip Type	Viewing angle at 50% I_v	Reverse current, I_R @ $V_R = 5V$, (max)
2.2 V (typ.); 2.6 V (max)	GaP	120°	100 μA

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 V_f binning is also available upon request. Binning scheme is as per following table.

● Absolute Maximum Ratings:

Parameter	Maximum Value	Unit
DC forward current.	30	mA
Peak pulse current; ($t_p \leq 10 \mu s$, Duty cycle = 0.005)	500	mA
Reverse voltage.	5	V
LED junction temperature.	100	°C
Operating temperature.	-40 ... +100	°C
Storage temperature.	-40 ... +100	°C
Power dissipation (at room temperature)	75	mW

● V_f Binning:

V_f Bin @ 20mA	Forward voltage (V)
01	1.55 ... 1.85
02	1.85 ... 2.15
03	2.15 ... 2.45
04	2.45 ... 2.60

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



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● Wavelength Grouping:

Color	Group	Wavelength distribution (nm)
BL-PDR; Red	Full	620 – 635
BL-PDO; Orange	Full	600 – 612
	W	600 - 603
	X	603 - 606
	Y	606 - 609
	Z	609 - 612
BL-PDY; Yellow	Full	582 – 594
	W	582 – 585
	X	585 – 588
	Y	588 - 591
	Z	591 - 594
BL-PDG; Green	Full	564.5 – 576.5
	W	564.5 – 567.5
	X	567.5 – 570.5
	Y	570.5 – 573.5
	Z	573.5 – 576.5

Wavelength is measured with an accuracy of ± 1 nm.

● Typical electro-optical characteristics curves:

Fig. 1 Relative luminous intensity vs. forward current.

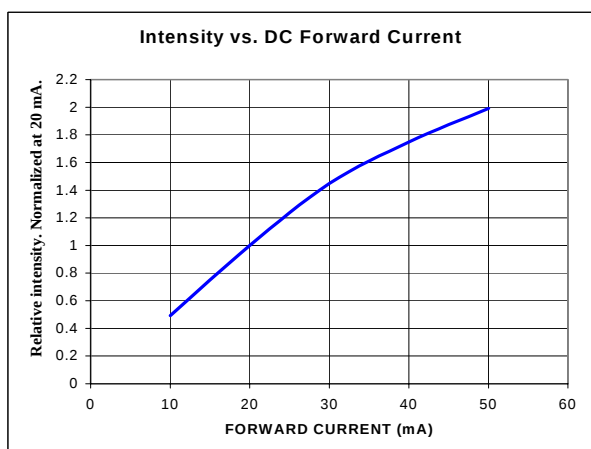
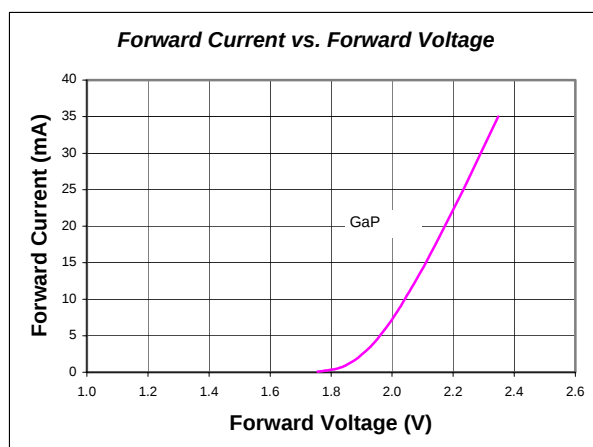


Fig. 2 Forward current vs. forward voltage.





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Fig. 3 Radiation pattern.

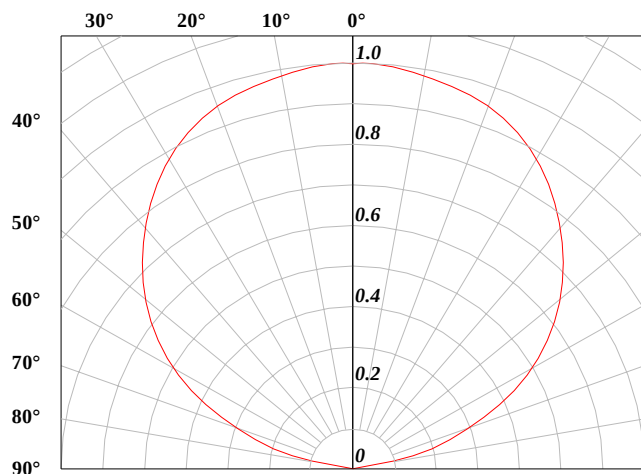


Fig. 4 Maximum forward current vs. temperature.

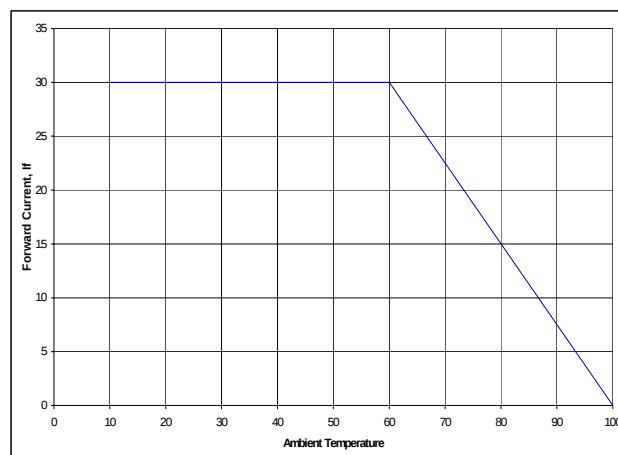


Fig. 5 Recommended IR-reflow Soldering Profile

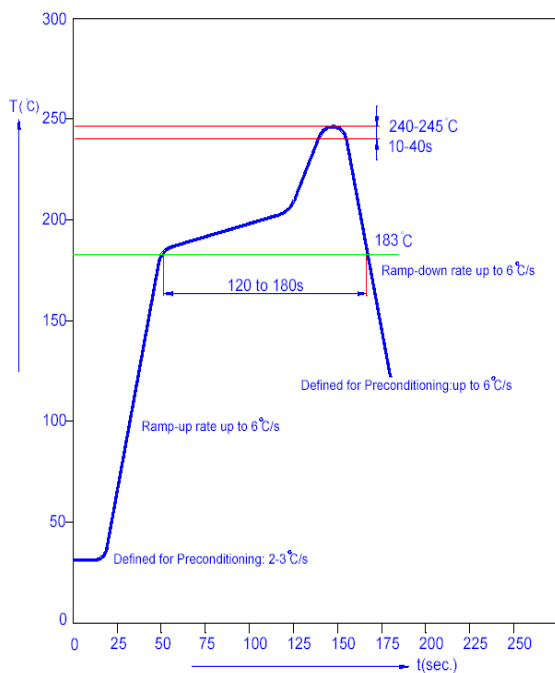
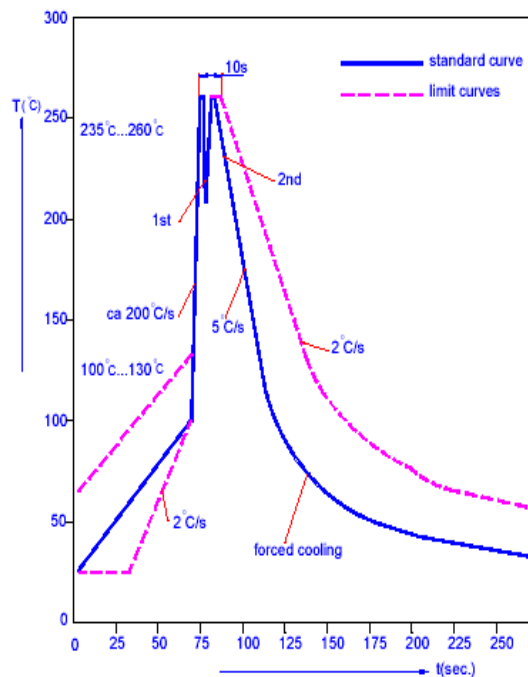


Fig. 6 Recommended TTW Soldering Profile





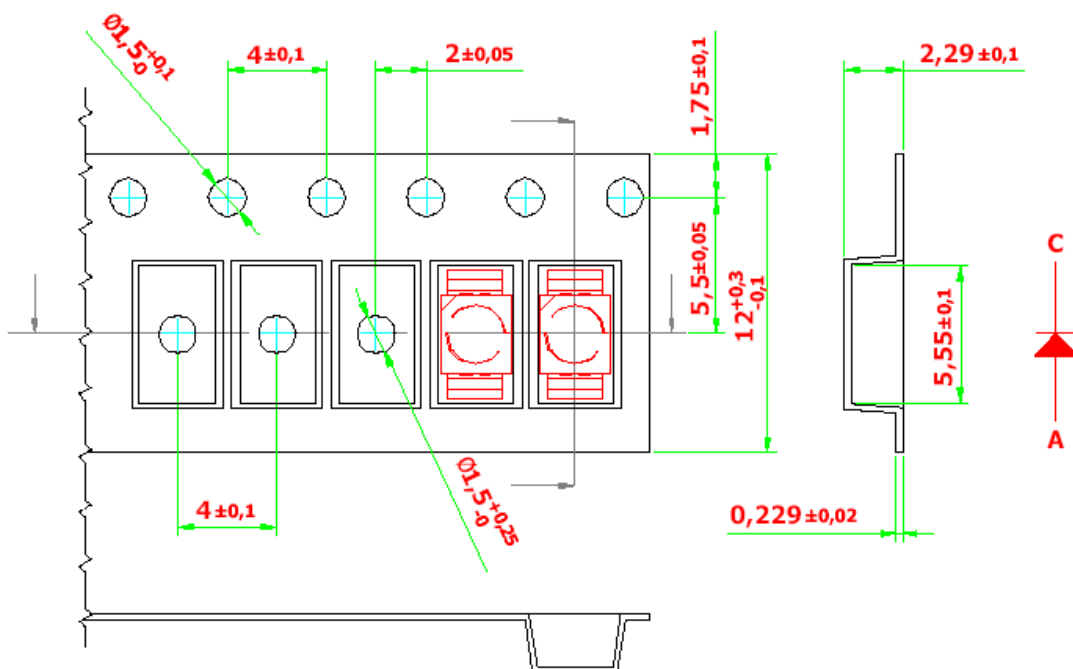
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● Taping And Orientation

Reels come in quantity of 8000 units or 2000 units.

Reel diameters are 330 mm and 180 mm respectively.



200 mm min. for Ø180 reel.

480 mm min. for Ø180 reel.

200 mm min. for Ø330 reel.

960 mm min. for Ø330 reel.

