

Nov. 25, 2003

8(i) Each N atom contributes 5 electrons bonding with its near neighbor Al, Ga or Cd.; while Al and Ga contribute 4 electrons bonding with N.

(ii) Compare Figures HW6-4 and HW6-3, you can tell that curve (a) is the calculated values. It is 0.5eV more than the emitted energy, which means the assumption of Problem 7 is wrong. Moreover, the bowing parameter is not very accurate. You can repeat problem 7 again.



An LED full color display.

Well, it is a good time for me to quit now. Although it is boring to type, I am very glad to provide nearly all these problems and solutions. You know, to learn stuff and read good book is a great thing.

Please let me share a dream with all of you. As Professors Shuji Nakamura and Gerhard Fasol wrote in the preface to their book, *The Blue Laser Diode: GaN based light emitters and lasers*, "Silicon circuit have replaced vacuum tubes in radios and computers. Gallium-Nitrides (together with other compound semiconductors) may well soon replace light bulbs and fluorescent tubes in a similar way. And they have other nice applications, too."

Finally, I hope you succeed in your final exam and have a good memory for this course. (It might be very useful for your career!)