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Cool! I'am really happy

#Markus Jensen



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so many fake sites. this is the first one which worked! Many thanks

2 Solutions to Case Studies and Exercises

Chapter 1 Solutions

Case Study 1: Chip Fabrication Cost

- 1.1 a. Yield = $\left(1 + \frac{0.30 \times 3.89}{4.0}\right)^{-4} = 0.36$
- b. It is fabricated in a larger technology, which is an older plant. As plants age, their process gets tuned, and the defect rate decreases.
- 1.2 a. Dies per wafer = $\frac{\pi \times (30/2)^2}{1.5 \times \text{sq}(1.5 \times 1.5)} = 471 - 54.4 = 416$
Yield = $\left(1 + \frac{0.30 \times 1.5}{4.0}\right)^{-4} = 0.65$
Profit = $416 \times 0.65 \times \$20 = \5408
- b. Dies per wafer = $\frac{\pi \times (30/2)^2}{2.5 \times \text{sq}(2 \times 2.5)} = 283 - 42.1 = 240$
Yield = $\left(1 + \frac{0.30 \times 2.5}{4.0}\right)^{-4} = 0.50$
Profit = $240 \times 0.50 \times \$25 = \3000
- c. The Woods chip
- d. Woods chips: $50,000/16 = 1250$ wafers needed
Mickin chips: $25,000/20 = 1250$ wafers needed
Therefore, the most lucrative split is 120 Woods wafers, 30 Mickin wafers.
- 1.3 a. Defect - Free single cost = $\left(1 + \frac{0.75 \times 1.89/2}{4.0}\right)^{-4} = 0.28$
No defects = $0.28^4 = 0.008$
One defect = $0.28 \times 0.72 \times 2 = 0.40$
No more than one defect = $0.08 + 0.40 = 0.48$
- b. Wafer size = $442 \text{ dpw} = 21.1$
 $\$20 = 0.28 \times \text{Wafer size} \times \text{dpw}$
Wafer size = $\frac{\$20 \times 442}{0.28 \times 21.1} = \23.33

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