

MICROELECTRONIC CIRCUIT DESIGN

Third Edition

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Answers to Selected Problems – Updated 4/7/07

Chapter 1

- 1.3 1.52 years, 5.06 years
- 1.5 1.95 years, 6.46 years
- 1.8 113 MW, 511 kA
- 1.10 2.50 mV, 5.12 V, 5.885 V
- 1.12 19.53 mV/bit, 10001110₂
- 1.16 0.002 A, 0.002 cos (1000*t*) A
- 1.19 $v_{DS} = [5 + 2 \sin (2500t) + 4 \sin (1000t)]$ V
- 1.21 15.7 V, 2.31 V, 70.0 μA, 210 μA
- 1.23 120 μA, 125 μA, 10.3 V
- 1.25 39.6 Ω, 0.0253 *v_s*
- 1.27 56 kΩ, 1.33 x 10⁻³ *v_s*
- 1.29 1.00 MΩ, 2.50 x 10⁸ *i_s*
- 1.33 5/-45°, 100/-12°
- 1.35 -90.1 sin 750π*t* mV, 11.0 sin 750π*t* μA
- 1.37 1 + R₂/R₁
- 1.39 -1.875 V, -2.500 V
- 1.41 Band-pass amplifier
- 1.43 50.0 sin (2000π*t*) + 30.0 cos (8000 π*t*) V
- 1.45 0 V
- 1.47 [2970Ω, 3030Ω], [2850Ω, 3150Ω], [2700Ω, 3300Ω]
- 1.52 6200Ω, 800 ppm/°C
- 1.58 3.29, 0.995, -6.16; 3.295, 0.9952, -6.155