

Electro - Principles I

Assignment 8

ETEC 1120

This assignment is from Chapter 3, starting on page 141.

§ 3.2 11, 12, 18

§ 3.3 20, 23

§ 3.4 27, 30

§ 3.6 31, 33, 34, 36, 37, 38

§ 3.7 39, 40, 41, 43, 47, 48

§ 3.8 49, 50

11) 10.12 V

12) 6.54 V

18) $V_{L(PK)} = -27.59 V_p$

Note: You can leave the current as a positive value [$I_{ave} = 731.7 \mu A$] because the negative sign refers only to the direction of the current through the load. Either answer is acceptable.

$V_{ave} = -8.78 V$

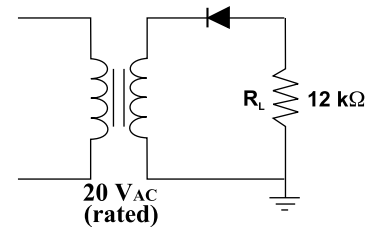
$I_{ave} = -731.7 \mu A$

PIV = 28.29 V

20) $V_{L(PK)} = 16.28 V_p$

$V_{ave} = 10.36 V$

$I_{ave} = 1.3 mA$



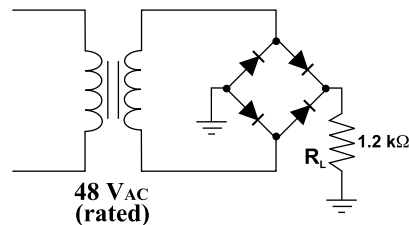
23) PIV = 33.25V

27) $V_{L(PK)} = 51.64 V_p$

$I_{(pk)} = 5.16 mA_{pk}$

$V_{ave} = 32.89 V$

$I_{ave} = 3.29 mA$



30) $V_{ave} = 42.33 V$

$I_{ave} = 35.28 mA$

31) 2.53 A.

41) 10.33 mA

33) $V_r = 56.68 mV_{p-p}$

$V_{dc} = 16.95 V_{dc}$

43) 486.6 or 487

34) $V_r = 648.24 mV_{p-p}$

$V_{dc} = 38.59 V_{dc}$

47) 25 mA, 20 mA, 5 mA

36) $V_r = 1.13 V_p$

$V_{dc} = 31.99 V_{dc}$

48) 68.96 mV_{p-p}

49) 9.1 V_{dc}, 4.55 mA

37) The PIV for each diode is equal to $V_{2(pk)} = 33.95 V_{pk}$

50) 12.77 mV_{p-p} or 12.8 mV_{p-p}

38) The PIV for the diode in a half wave filtered rectifier is $2V_{2(pk)} = (2)(17.68 V_{pk}) = 35.36 V_{pk}$

39) 13.33 mA

40) 3 mA