

Problem 5-22

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Prob5_22.cir
* Neutral Current in a 3-Phase, 4-Wire Distribution System
* Power Electronics: Simulation, Analysis & Education....by N. Mohan.
.PARAM FREQ = 60.0
*
RNEUT 10 0 1m
*
RMEASA 1 11 1m
RMEASB 2 12 1m
RMEASC 3 13 1m
*
XRECTA 11 10 1_PHASE_RECTIFIER PARAMS: IC_CAP = 160V LOAD_RES = 20
XRECTB 12 10 1_PHASE_RECTIFIER PARAMS: IC_CAP = 140V LOAD_RES = 20
XRECTC 13 10 1_PHASE_RECTIFIER PARAMS: IC_CAP = 180V LOAD_RES = 20
*
VSA 1 0 SIN(0 170 {FREQ} 0 0 0)
VSB 2 0 SIN(0 170 {FREQ} 0 0 -120)
VSC 3 0 SIN(0 170 {FREQ} 0 0 -240)
*
.TRAN 50us 150ms 0s 50us UIC
.PROBE i(RNEUT) i(RMEASA) i(RMEASB) i(RMEASC) v(1)
*
.SUBCKT 1_PHASE_RECTIFIER 101 100 PARAMS: IC_CAP = 150V LOAD_RES = 20
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.ENDS
*
.END

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← 1-phase rectifier subcircuit statements should go in here.

