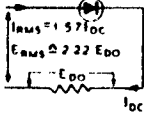
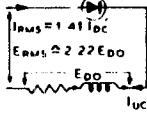
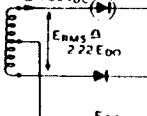
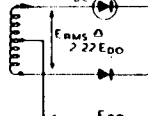
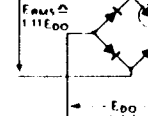
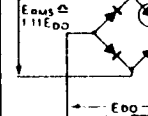
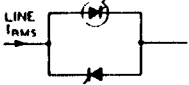
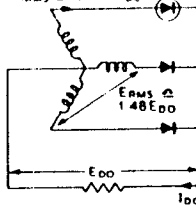
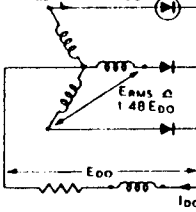
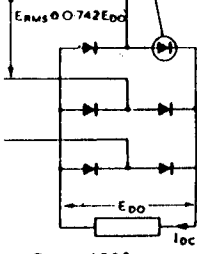
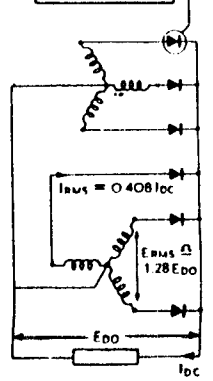
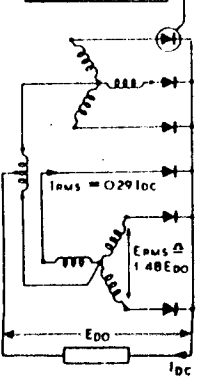
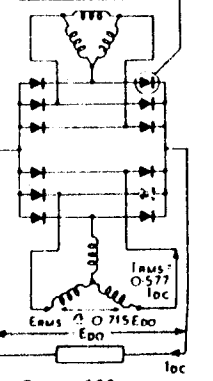
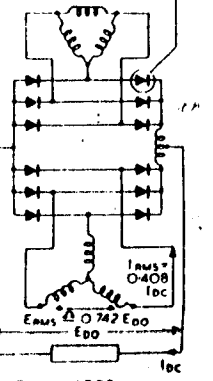
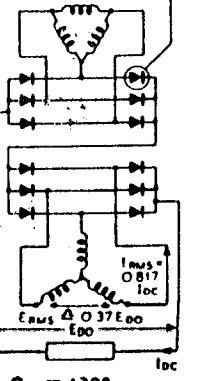


Rectifier Circuits

Single Phase					
HALF WAVE		FULL WAVE CENTRE TAP		FULL WAVE BRIDGE	
Resistive Load	Inductive Load	Resistive Load	Inductive Load	Resistive Load	Inductive Load
Figure 26 $I_{RMS} = 1.57 I_{DC}$ $I_{MEAN} = I_{DC}$  $\beta = 180^\circ$ $EPR = 1.41 E_{RMS}$ $F_D = 1 F_S$	Figure 27 $I_{RMS} = 1.41 I_{DC}$ $I_{MEAN} = I_{DC}$  $\beta = 180^\circ$ $EPR = 1.41 E_{RMS}$ $F_D = 1 F_S$	Figure 28 $I_{RMS} = 0.786 I_{DC}$ $I_{MEAN} = 0.5 I_{DC}$  $\beta = 180^\circ$ $EPR = 1.41 E_{RMS}$ $F_D = 2 F_S$	Figure 29 $I_{RMS} = 0.707 I_{DC}$ $I_{MEAN} = 0.5 I_{DC}$  $\beta = 180^\circ$ $EPR = 1.41 E_{RMS}$ $F_D = 2 F_S$	Figure 30 $I_{RMS} = 0.786 I_{DC}$ $I_{MEAN} = 0.5 I_{DC}$  $\beta = 180^\circ$ $EPR = 1.41 E_{RMS}$ $F_D = 2 F_S$	Figure 31 $I_{RMS} = 0.707 I_{DC}$ $I_{MEAN} = 0.5 I_{DC}$  $\beta = 180^\circ$ $EPR = 1.41 E_{RMS}$ $F_D = 2 F_S$
Three Phase					
A.C. REGULATOR	STAR		BRIDGE		
Resistive or Inductive Load	Resistive Load	Inductive Load	Resistive or Inductive Load		
Figure 32 $I_{RMS} = 1.57 I_{MEAN}$ $I_{MEAN} = 0.45 I_{RMS}$  $\beta = 180^\circ$ $EPR = 1.41 E_{RMS}$ $F_D = 1 F_S$ Above diagram represents single phase regulator. For three phase applications a similar arrangement is used in each line.	Figure 33 $I_{RMS} = 0.587 I_{DC}$ $I_{MEAN} = 0.333 I_{DC}$  $\beta = 120^\circ$ $EPR = 1.41 E_{RMS}$ $F_D = 3 F_S$	Figure 34 $I_{RMS} = 0.577 I_{DC}$ $I_{MEAN} = 0.333 I_{DC}$  $\beta = 120^\circ$ $EPR = 1.41 E_{RMS}$ $F_D = 3 F_S$	Figure 35 $I_{RMS} = 0.58 I_{DC}$ $I_{MEAN} = 0.333 I_{DC}$  $\beta = 120^\circ$ $EPR = 1.41 E_{RMS}$ $F_D = 6 F_S$		
Six Phase					
Double Star (without I.P.T.)	Double Star (with I.P.T.)	Parallel Bridge (without I.P.T.)	Parallel Bridge (with I.P.T.)	Series Bridge	
Resistive or Inductive Load	Resistive or Inductive Load	Resistive or Inductive Load	Resistive or Inductive Load	Resistive or Inductive Load	
Figure 36 $I_{RMS} = 0.408 I_{DC}$ $I_{MEAN} = 0.167 I_{DC}$  $\beta = 60^\circ$ $EPR = 1.63 E_{RMS}$ $F_D = 6 F_S$	Figure 37 $I_{RMS} = 0.29 I_{DC}$ $I_{MEAN} = 0.167 I_{DC}$  $\beta = 120^\circ$ $EPR = 1.63 E_{RMS}$ $F_D = 6 F_S$	Figure 38 $I_{RMS} = 0.408 I_{DC}$ $I_{MEAN} = 0.167 I_{DC}$  $\beta = 60^\circ$ $EPR = 1.52 E_{RMS}$ $F_D = 12 F_S$	Figure 39 $I_{RMS} = 0.29 I_{DC}$ $I_{MEAN} = 0.167 I_{DC}$  $\beta = 120^\circ$ $EPR = 1.52 E_{RMS}$ $F_D = 12 F_S$	Figure 40 $I_{RMS} = 0.58 I_{DC}$ $I_{MEAN} = 0.333 I_{DC}$  $\beta = 120^\circ$ $EPR = 1.41 E_{RMS}$ $F_D = 12 F_S$	

β Maximum Device Conduction Period (Degrees)
 EPR Maximum Peak Repetitive Voltage appearing across device

F_D D.C. Ripple Frequency (Hz.)
 F_S Line Frequency (Hz.)