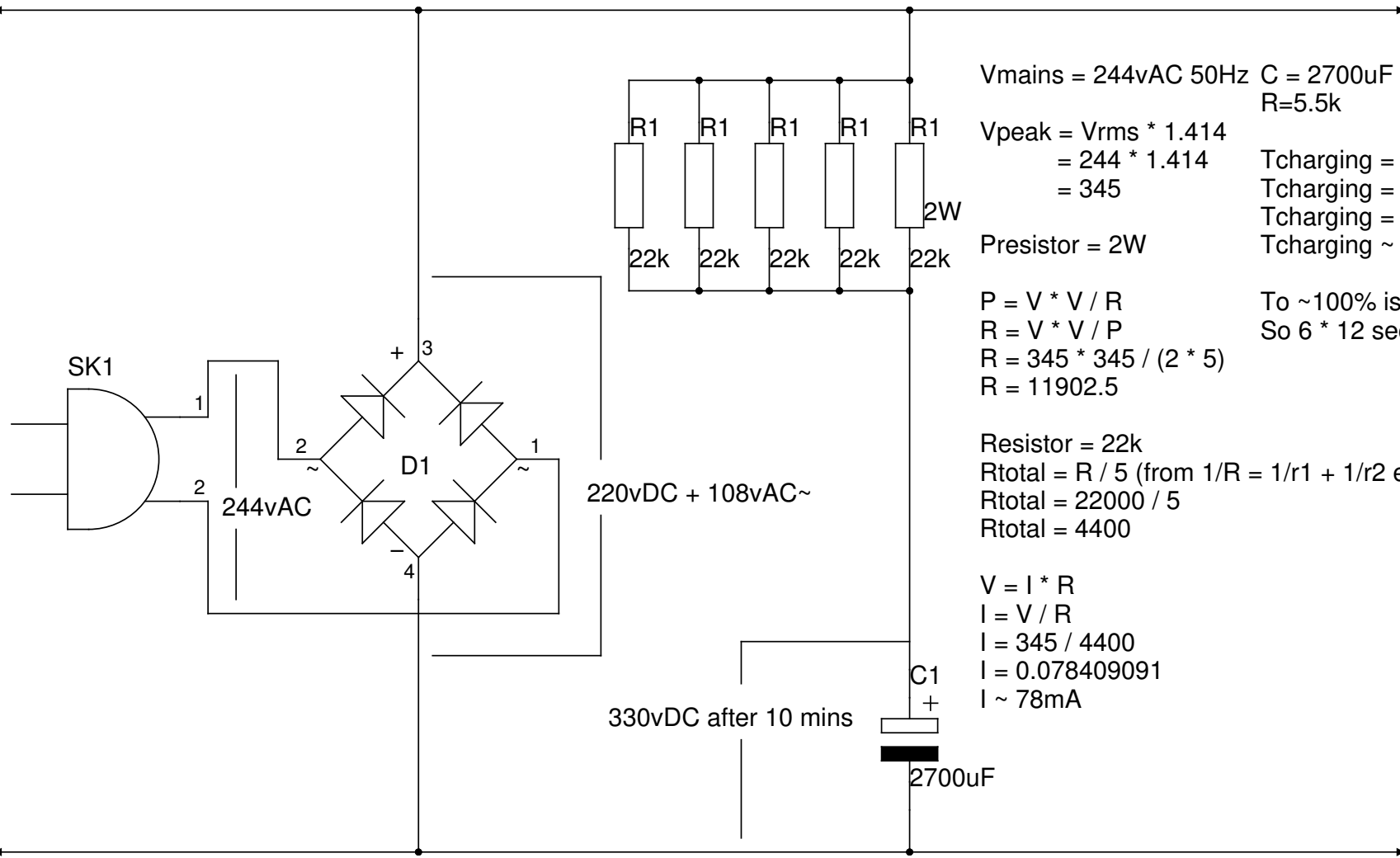


<http://hyperphysics.phy-astr.gsu.edu/HBase/electric/capchg.html>



$V_{mains} = 244vAC$ 50Hz $C = 2700uF$
 $R = 5.5k$

$V_{peak} = V_{rms} * 1.414$
 $= 244 * 1.414$
 $= 345$

$T_{charging} = R * C$
 $T_{charging} = 4400 * 0.0027$
 $T_{charging} = 11.88$
 $T_{charging} \sim 12$ secs

Presistor = 2W

$P = V * V / R$
 $R = V * V / P$
 $R = 345 * 345 / (2 * 5)$
 $R = 11902.5$

To ~100% is 6 periods
 So $6 * 12$ secs or 72secs

Resistor = 22k
 $R_{total} = R / 5$ (from $1/R = 1/r1 + 1/r2$ etc)
 $R_{total} = 22000 / 5$
 $R_{total} = 4400$

$V = I * R$
 $I = V / R$
 $I = 345 / 4400$
 $I = 0.078409091$
 $I \sim 78mA$

330vDC after 10 mins

C1
 +
 2700uF