

## Supercapacitor selector worksheet

1. System power requirement: \_\_\_\_\_ Watts
2. Maximum system voltage (Vm) \_\_\_\_\_ VDC
3. Normal system operating voltage (Vw) \_\_\_\_\_ VDC
4. Minimum voltage system will operate at (Vn) \_\_\_\_\_ VDC
5. Amount of time capacitor will need to supply system (dt) \_\_\_\_\_ Seconds
6. Systems maximum current (Im) = line1/ line 4 \_\_\_\_\_ Amps
7. Systems minimum current (In) = line1/ line 2 \_\_\_\_\_ Amps
8. Average system current (Is) = (line 6+line 7)/2 \_\_\_\_\_ Amps
9. Maximum Voltage drop to allow system to Function dv= line 3-line 4 \_\_\_\_\_ Volts
  
10. Calculate Capacitance needed to meet system requirements  
Ct= (line 8\* line 5/line 9) \_\_\_\_\_ Farads
11. Enter voltage rating of capacitor (2.3, 2.5, 2.7, 5.4) \_\_\_\_\_ Volts
12. Number of capacitors connected in series to meet system voltage  
#S=line 2/ line 11 \_\_\_\_\_ Capacitors
13. Parallel capacitance needed (line 10\*line 12) \_\_\_\_\_ Farads
14. Select a supercapacitor Part number \_\_\_\_\_
15. Selected supercapacitor capacitance value(Cc) \_\_\_\_\_ Farads
16. # of capacitors in parallel line 10\*line 12/line 15  
This value must by rounded to a whole number \_\_\_\_\_ Capacitors
17. Actual system capacitance Ct=line 15\*line 16/line 12 \_\_\_\_\_ Farads
18. ESR of selected supercapacitor ESR( DC) \_\_\_\_\_ Ohms
19. System Resistance Rt=line 18\*line 12/line 16 \_\_\_\_\_ Ohms
20. Updated system du=line 8\*((line 5/line 17)+line 19) \_\_\_\_\_ Volts

Is Line 20 < line 9 if no, select another capacitor. If yes good capacitor selected.