

# Capacitor Charging HIGH VOLTAGE POWER SUPPLY Application Questionnaire

Briefly describe how the High Voltage Power Supply will be used: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

### Key:

- $P_{rr}$  = Pulse Repetition Rate (Hz): Repetition rate of charge cycle.
- $t_c$  = Charge Time (seconds): Rise time required to charge C to  $V_{pk}$ .
- $t_d$  = Dwell Time (seconds): Time after the charge is complete and before discharge occurs.
- $t_D$  = Dead Time (seconds): Time between discharge and next charge.
- C = Capacitance (Farads): Capacitor or total capacitance to be charged.
- $V_{pk}$  = Charge Voltage (Volts): Maximum charge level.
- E = Energy (Joules)
- $P_{avg}$  = Average Power (Watts)
- $P_{pk}$  = Peak Power (Watts)

### Application Requirements:

C = \_\_\_\_\_

$V_{pk}$  = \_\_\_\_\_

$t_c$  = \_\_\_\_\_

$t_d$  = \_\_\_\_\_

$t_D$  = \_\_\_\_\_

$P_{rr}$  = \_\_\_\_\_

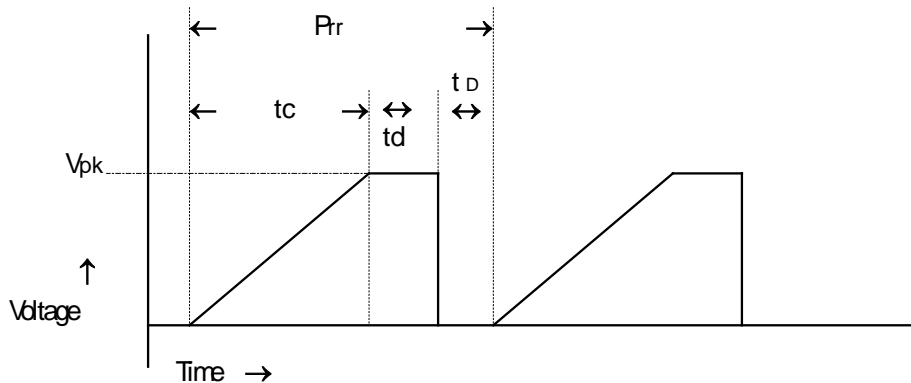
### Formulas:

$$E = C(V_{pk})^2/2$$

$$P_{avg} = E * P_{rr}$$

$$P_{pk} = V_{pk} * I$$

$$I = CV/t_c$$



Spellman High Voltage Electronics Corp.