MOTIONLESS BATTERY SHOCK CHARGER

THE DEVICE THAT EXTRACTS EXCESS ENERGY FROM THE ACTIVE VACUUM (ZPE, OR AETHER)

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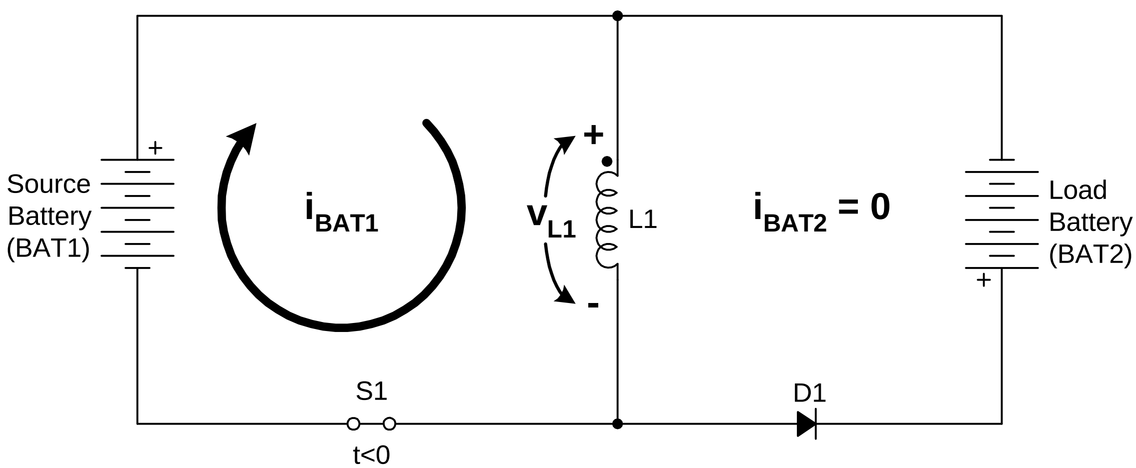
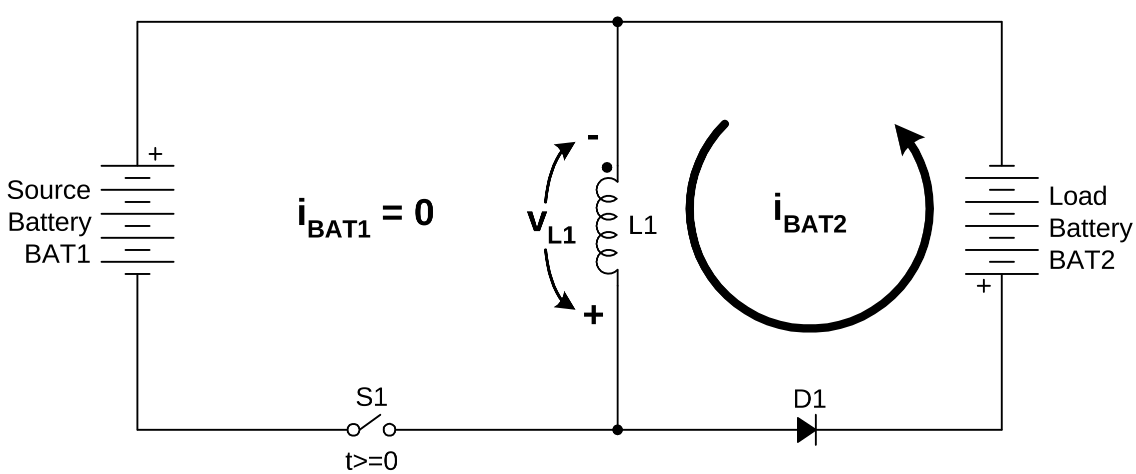
Basic Shock Charger Model

When Switch S1 Is Closed, The Current (i_{BAT1}) Flows From The Source Battery (BAT1) And Energizes Coil L1. This Action Transfers Or Discharges Energy From The Source Battery (BAT1) And Stores It In L1.

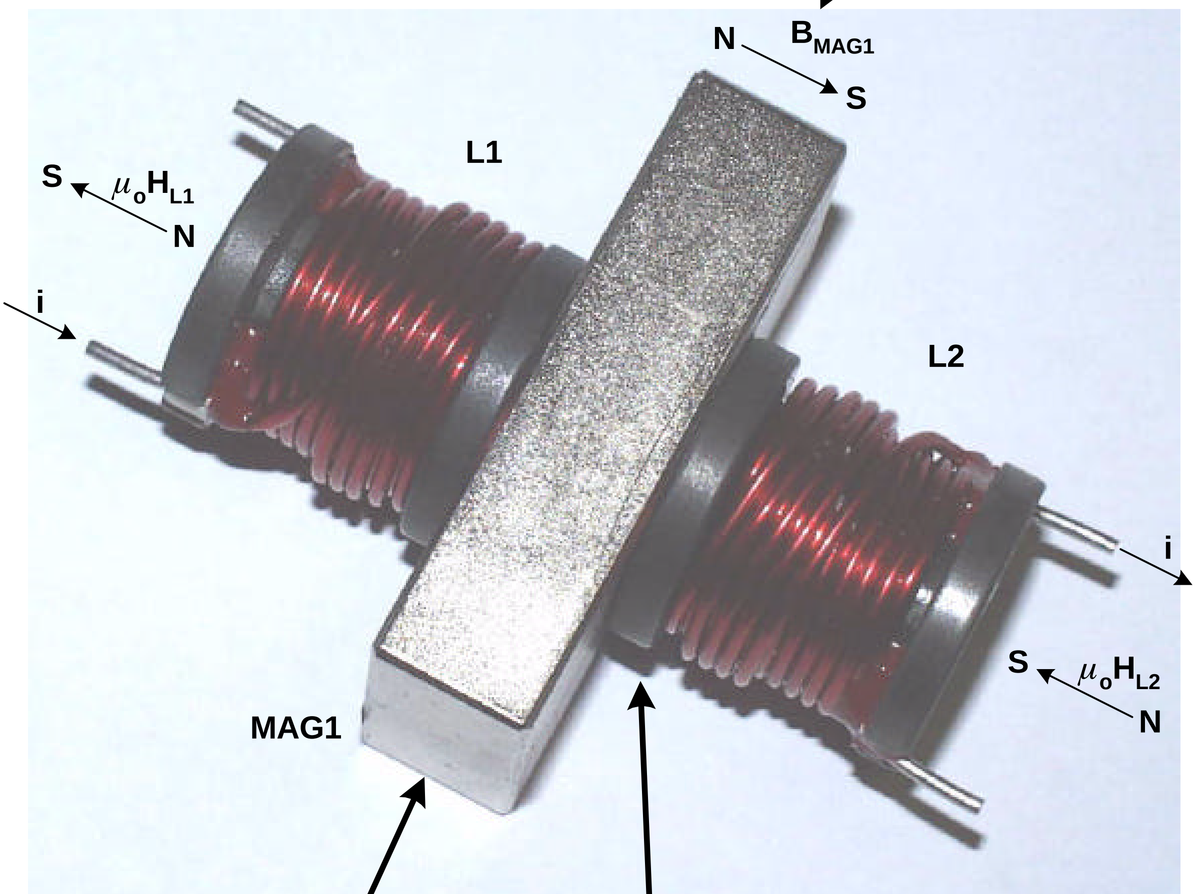


When Switch S1 Opens, The Voltage (v_{L1}) Across The Coil L1 Reverses (Lenz's Law) And The Energy Stored In L1 Flows Out As A High-Current Pulse (i_{BAT2}). This Action Very Efficiently Transfers Energy From L1 To The Load Battery (BAT2).



The Coil/Magnet/Coil Assembly

Flux Density at Center of Magnet



Ferrite Bobbin

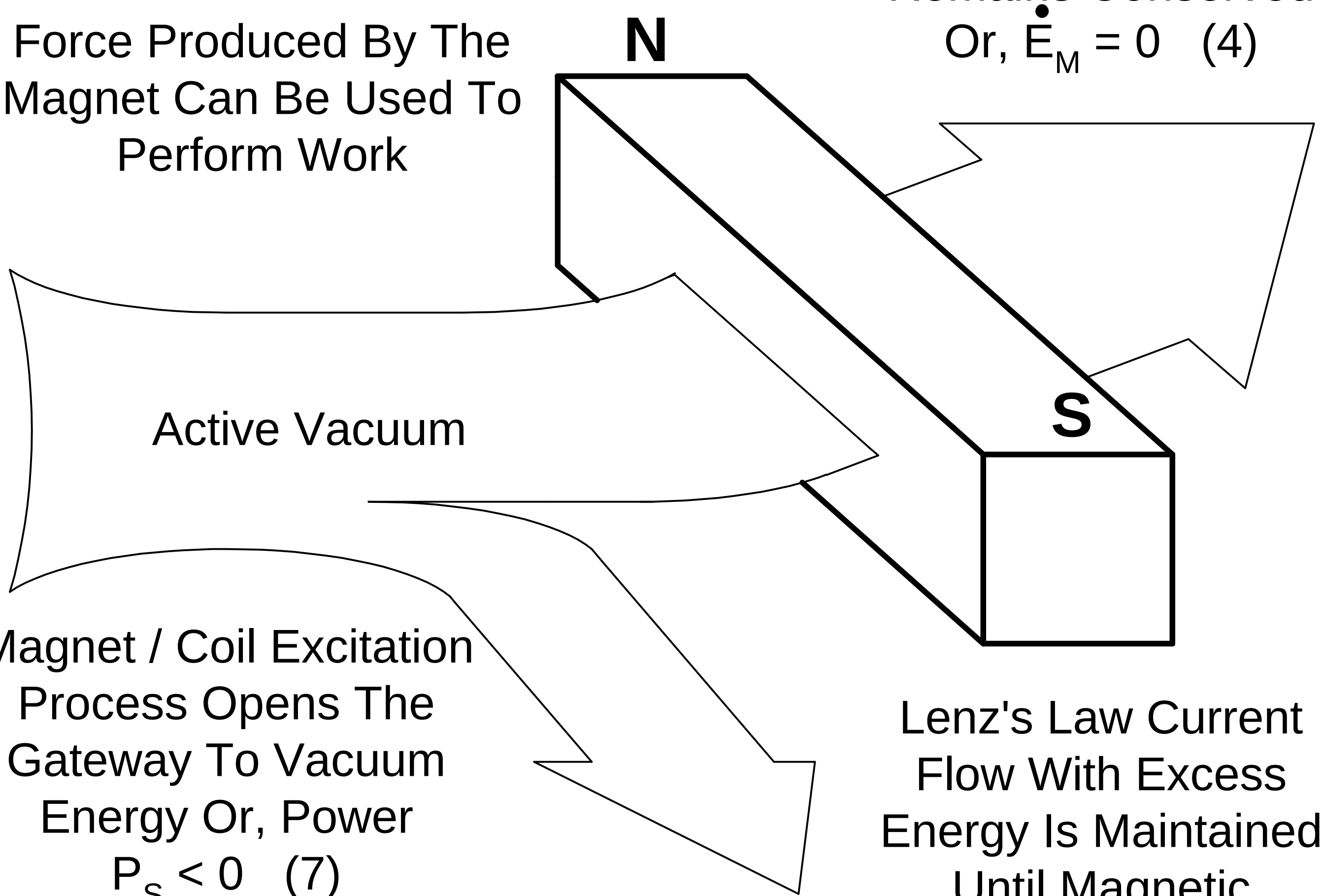
1" x 2" x 1/2" NIB Type Magnet

L1 or L2: Coilcraft, Part No.: PCV2-274-10,
R_{DC} = 0.06Ω, L = 282μH

Mechanism For Extracting Excess Energy From The Active Vacuum

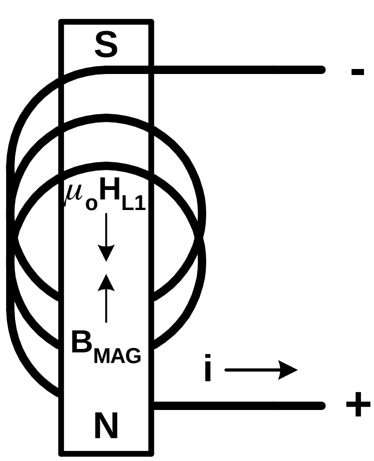
Force Produced By The Magnet Can Be Used To Perform Work

Energy Of The Magnet Is Conserved, And Remains Conserved Or, $\dot{E}_M = 0$ (4)

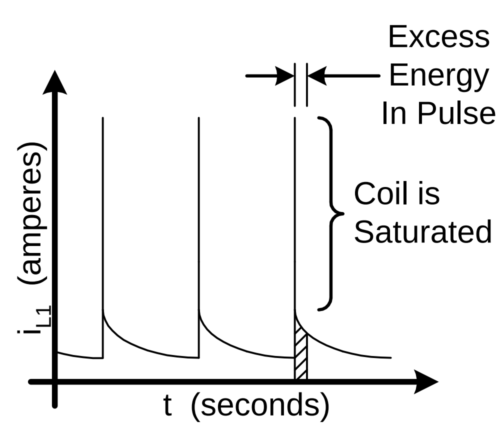


Magnet / Coil Excitation Process Opens The Gateway To Vacuum Energy Or, Power $P_S < 0$ (7)

Lenz's Law Current Flow With Excess Energy Is Maintained Until Magnetic Domains Stabilize



Magnetic Field Produced By Current Flow, i, "Opposes" The Magnetic Field Of The Magnet; Hence, The Fields Are Mutually Coupled (1).



Energetics of Ferromagnetism Theory

The total energy of the system is,

$$E_S = E_M + E_C - E_{MUTUAL} \qquad 1$$

A permanent magnet is assumed to behave as a virtual solenoid, so,

$$E_S = \tfrac{1}{2} L_C I_C^2 + \tfrac{1}{2} L_M I_M^2 - M I_C I_M \qquad 2$$

where,

E_S is total energy.
L_C is total inductance, or 8 x 282μH, or 2.26mH.
I_C is current through the coils.
L_M is virtual constant inductance of magnets.
I_M is virtual constant atomic amperian flow.
M is the mutual inductance between coil and magnet or, $M = k\,(L_C L_M)^{1/2}$.

Differentiating E_S with respect to time is the instantaneous power P_S or,

$$\dot{E}_S = P_S \qquad 3$$

Because E_M is conserved and does NOT change over time,

$$\dot{E}_M = L_M I_M \dot{I}_M = 0 \qquad 4$$

So,

$$P_S = L_C I_C \dot{I}_C - M I_M \dot{I}_C \qquad 5$$

Since power is dissipated from the coils, the power P_S becomes,

$$P_S = L_C I_C \dot{I}_C + R I_C^2 - M I_M \dot{I}_C \qquad 6$$

where,
R is 8 x 0.06Ω, or 0.48Ω.

By examining the equation above, the power P_S can be "less than zero" for certain values of I_C and $\dot{I}_C$,

$$P_S = L_C I_C \dot{I}_C + R I_{C2} - M I_M \dot{I}_C < 0 \qquad 7$$

Or,

$$L_C I_C \dot{I}_C + R I_C^2 < M I_M \dot{I}_C \qquad 8$$

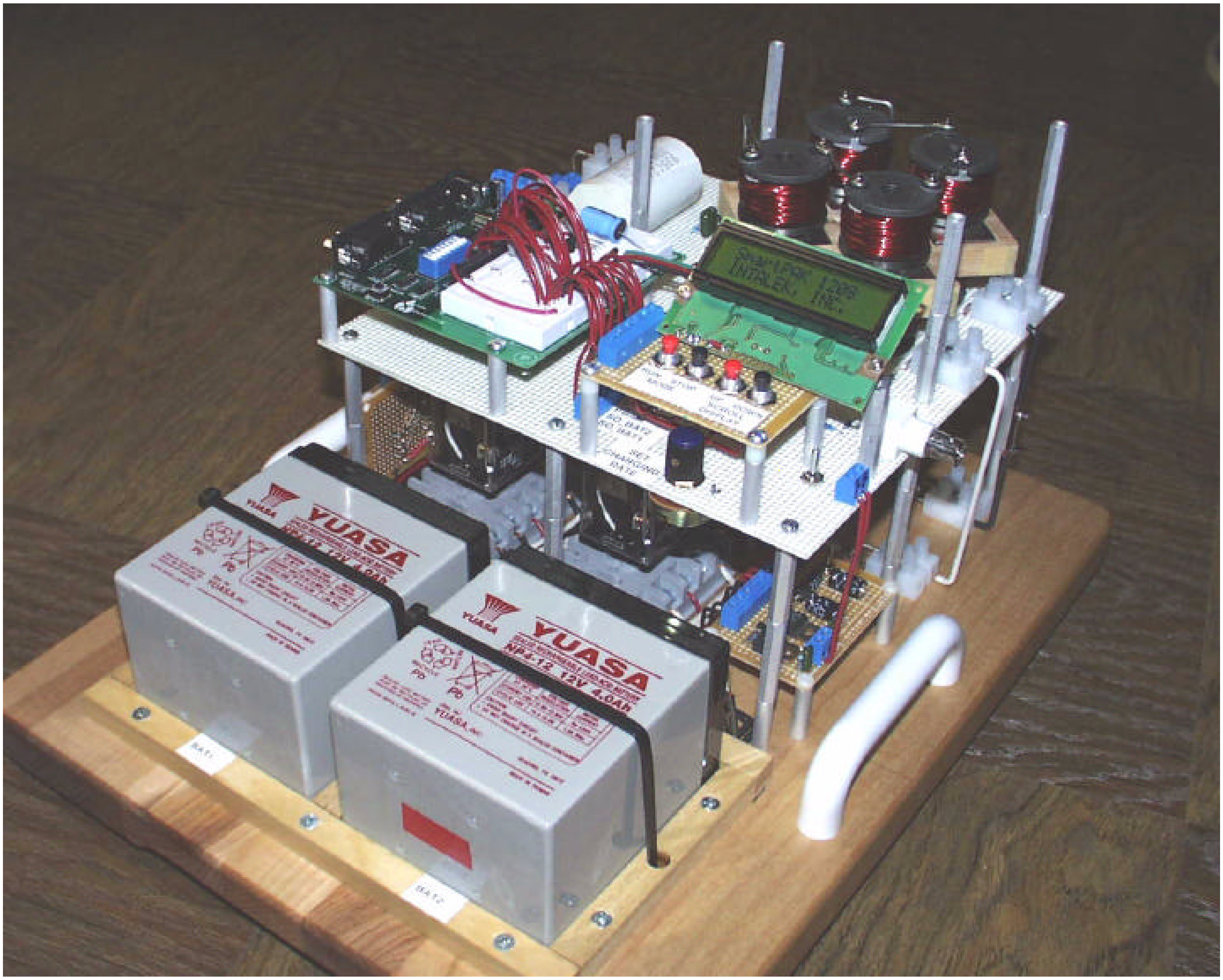
Dividing by $\dot{I}_C$,

$$L_C I_C + R I_C^2 / \dot{I}_C < M I_M \qquad 9$$

Now, if $\dot{I}_C$ became large possibly by an impulse then,

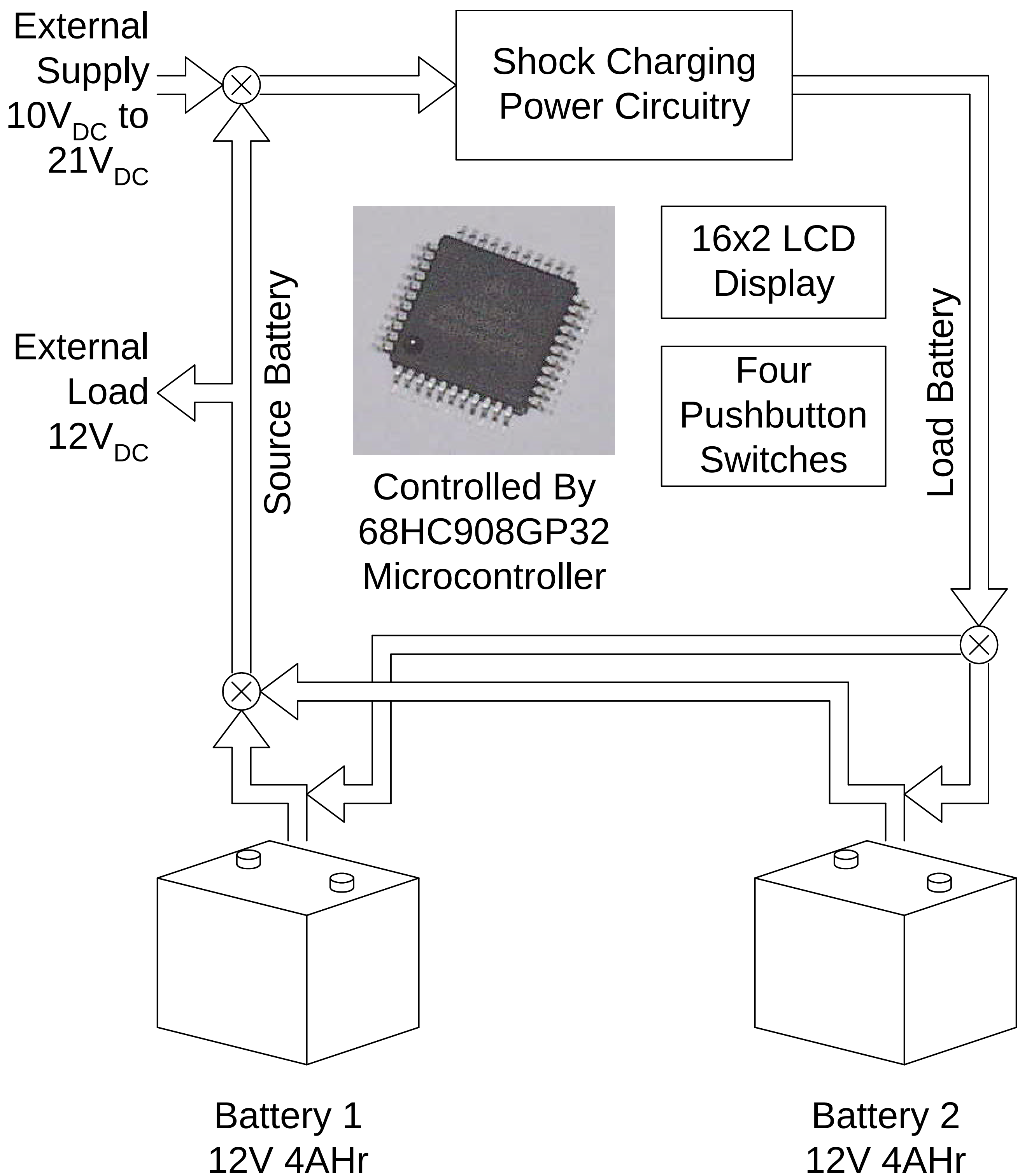
$$L_C I_C < M I_M \qquad 10$$

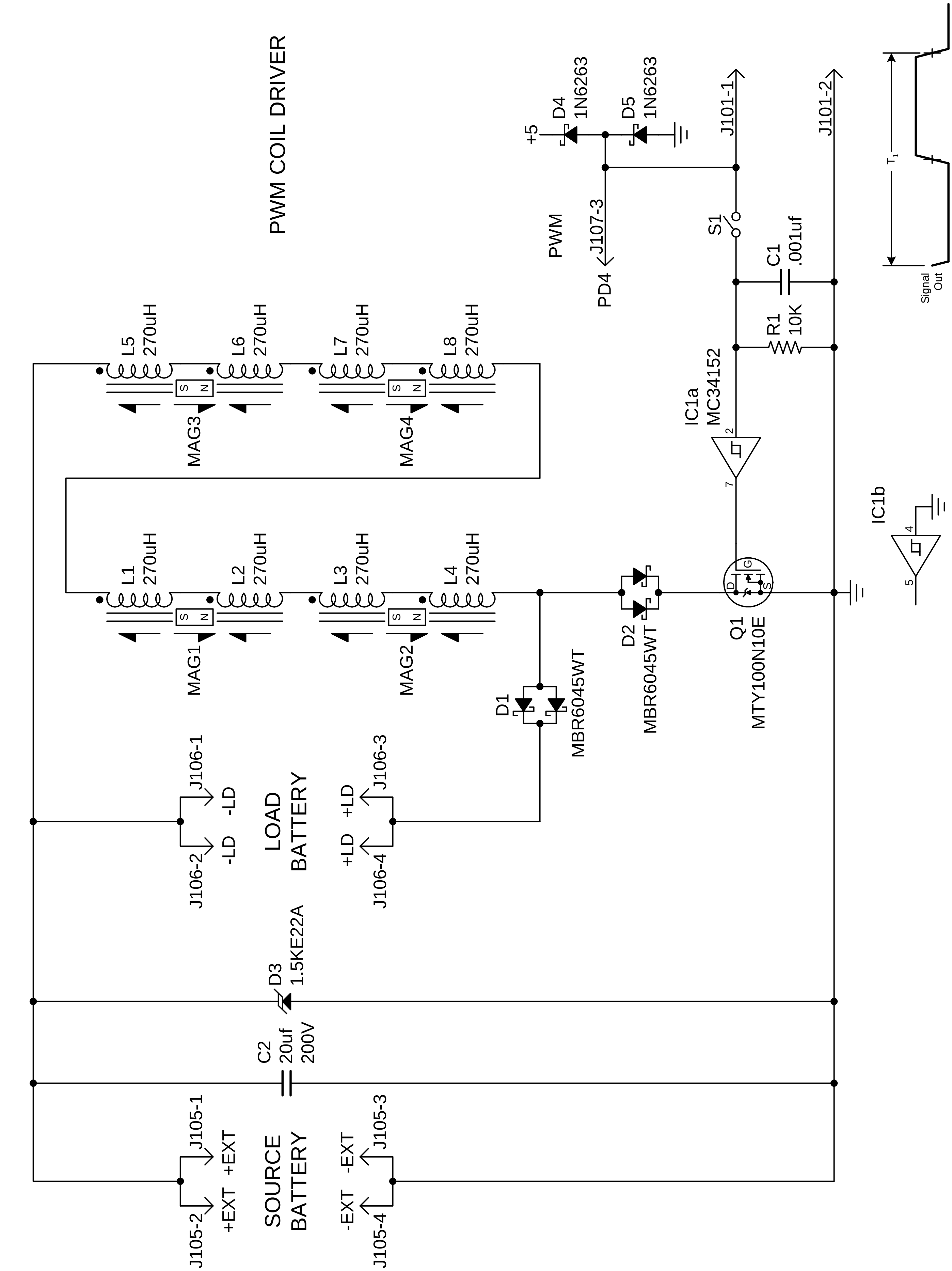
The Device



SmartPAK 1208 Shock Charge Controller

Functional Block Diagram of the SmartPAK 1208




PWM COIL DRIVER
L1 270uH
L2 270uH
L3 270uH
L4 270uH
L5 270uH
L6 270uH
L7 270uH
L8 270uH
S N
MAG1
MAG2
MAG3
MAG4
D1 MBR6045WT
D2 MBR6045WT
Q1 MTY100N10E
IC1a MC34152
IC1b
R1 10K
C1 .001uf
S1
D4 1N6263
D5 1N6263
+5
PWM
J107-3
PD4
J101-1
J101-2
T1
Signal Out
J106-1
J106-2
J106-3
J106-4
-LD
+LD
LOAD BATTERY
D3 1.5KE22A
C2 20uf 200V
J105-1
J105-2
J105-3
J105-4
+EXT
-EXT
SOURCE BATTERY

MathCAD Simulations

$R := 0.06 \cdot ohm$ $\quad L := 0.282 \cdot mH$ $\quad V := 11volt$ $\quad t := 0 \cdot sec, 0.1 \cdot 10^{-6} \cdot sec .. 0.001sec$

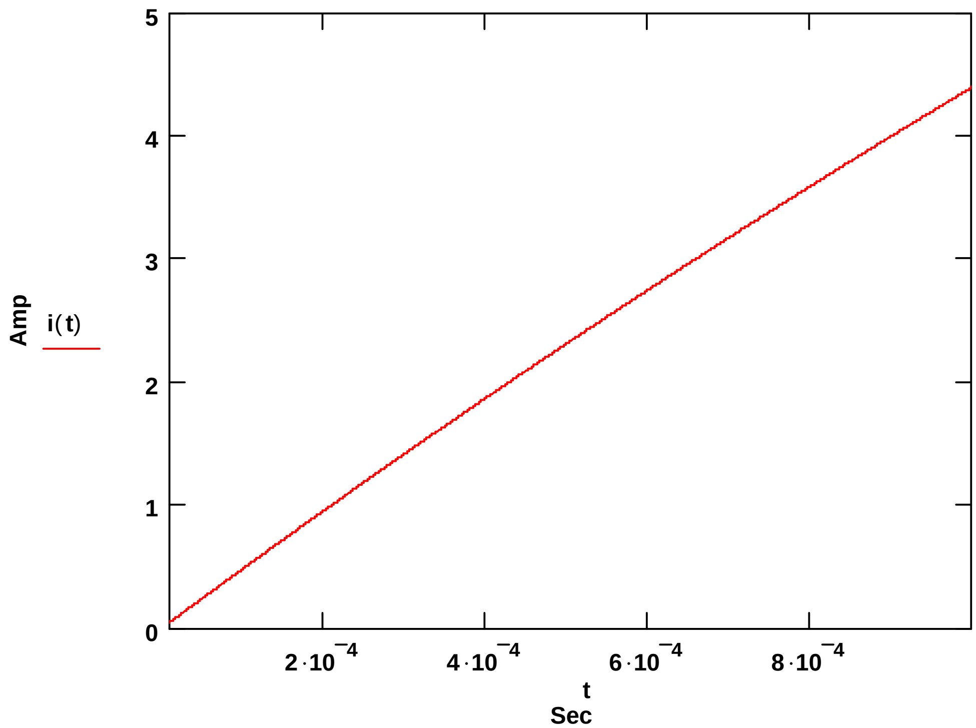
$R := R \cdot 8$ $\quad L := L \cdot 8$

$$i(t) := V \cdot \frac{\left(1 - \exp\left(-R \cdot \frac{t}{L}\right)\right)}{R}$$

Duty Cycle: 50%

$t\_min := 10 \cdot 10^{-6} \cdot sec$ $\quad f := \frac{1}{2 \cdot t\_min}$ $\quad f = 50000s^{-1}$

$t\_max := 1000 \cdot 10^{-6} \cdot sec$ $\quad f := \frac{1}{2 \cdot t\_max}$ $\quad f = 500s^{-1}$



Duty Cycle: 50% $R := 0.06 \cdot ohm$ $R := R \cdot 8$ $L := 0.282 \cdot mH$ $L := L \cdot 8$

$f := 2 \cdot KHz$ $t := \dfrac{1}{2 \cdot f}$ $t = 2.5 \times 10^{-4} s$ $V := 11 \cdot volt$

$$i(t) := V \cdot \frac{\left(1 - \exp\left(-R \cdot \frac{t}{L}\right)\right)}{R} \qquad i(t) = 1.187A$$

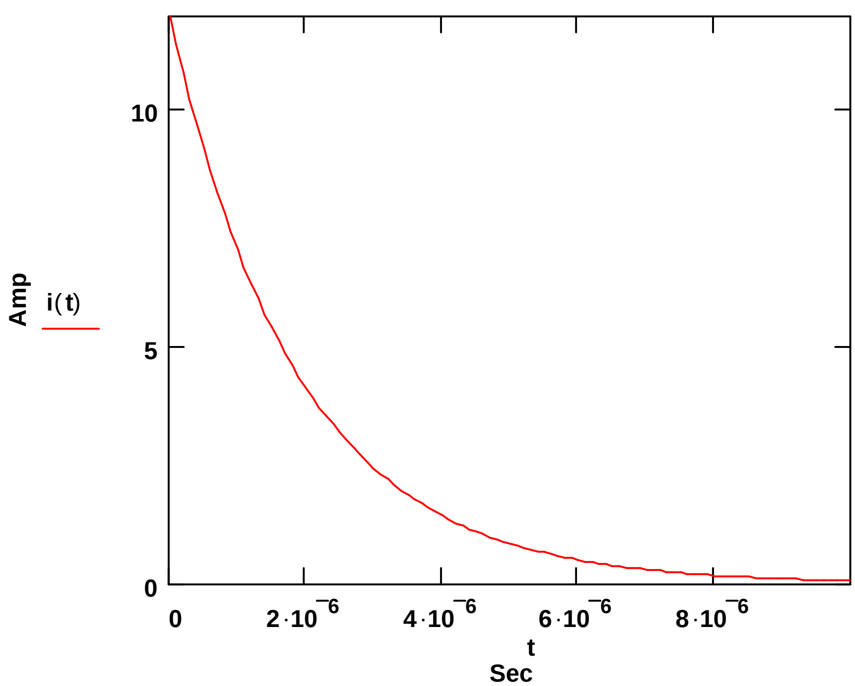
$$E(t) := \left[V \cdot \frac{\left(1 - \exp\left(-R \cdot \frac{t}{L}\right)\right)}{R}\right]^2 \cdot \frac{L}{2} \qquad E(t) = 1.59 \times 10^{-3} kgm^2 s^{-2}$$

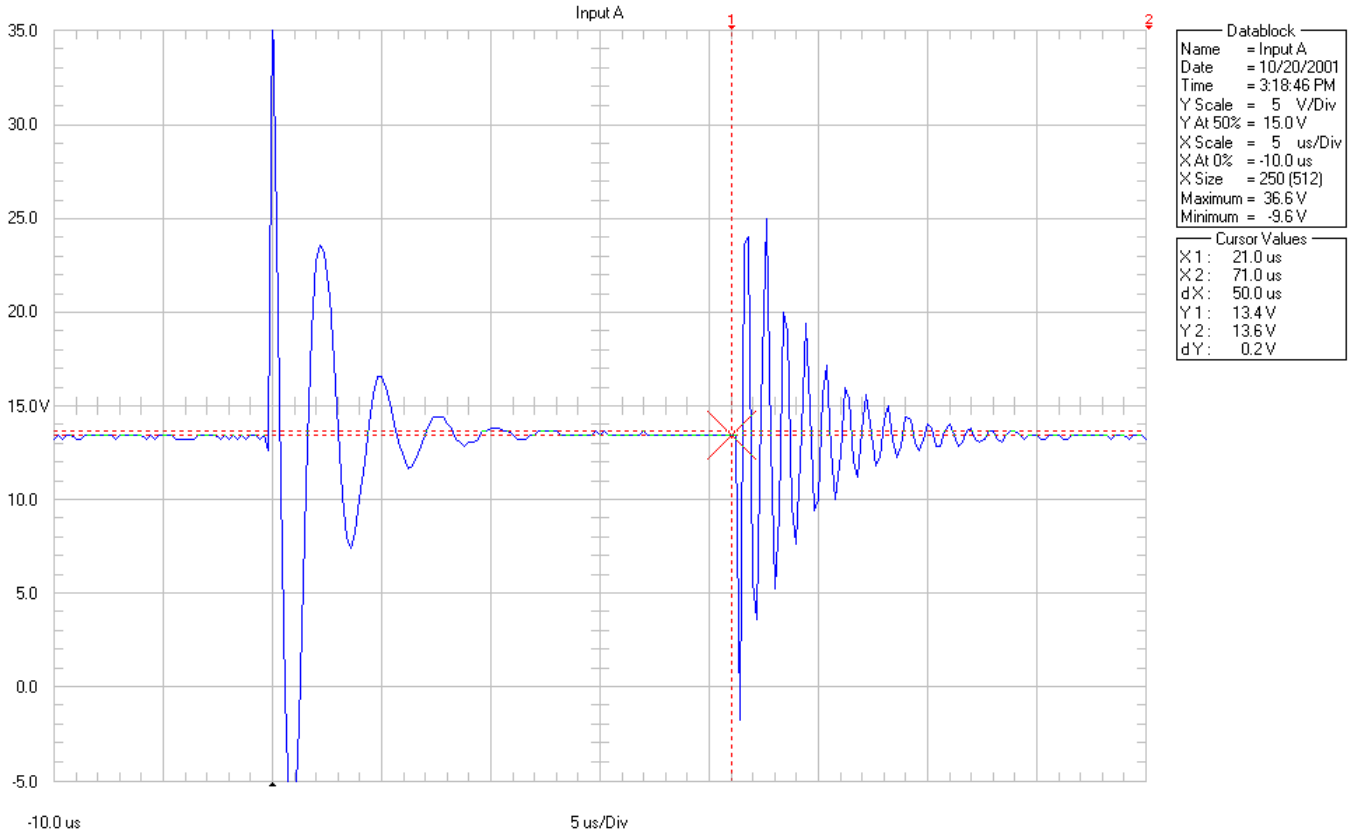
$$P(t) := i(t)^2 \cdot R \qquad P(t) = 0.676 kgm^2 s^{-3}$$

$I := 12 \cdot A$

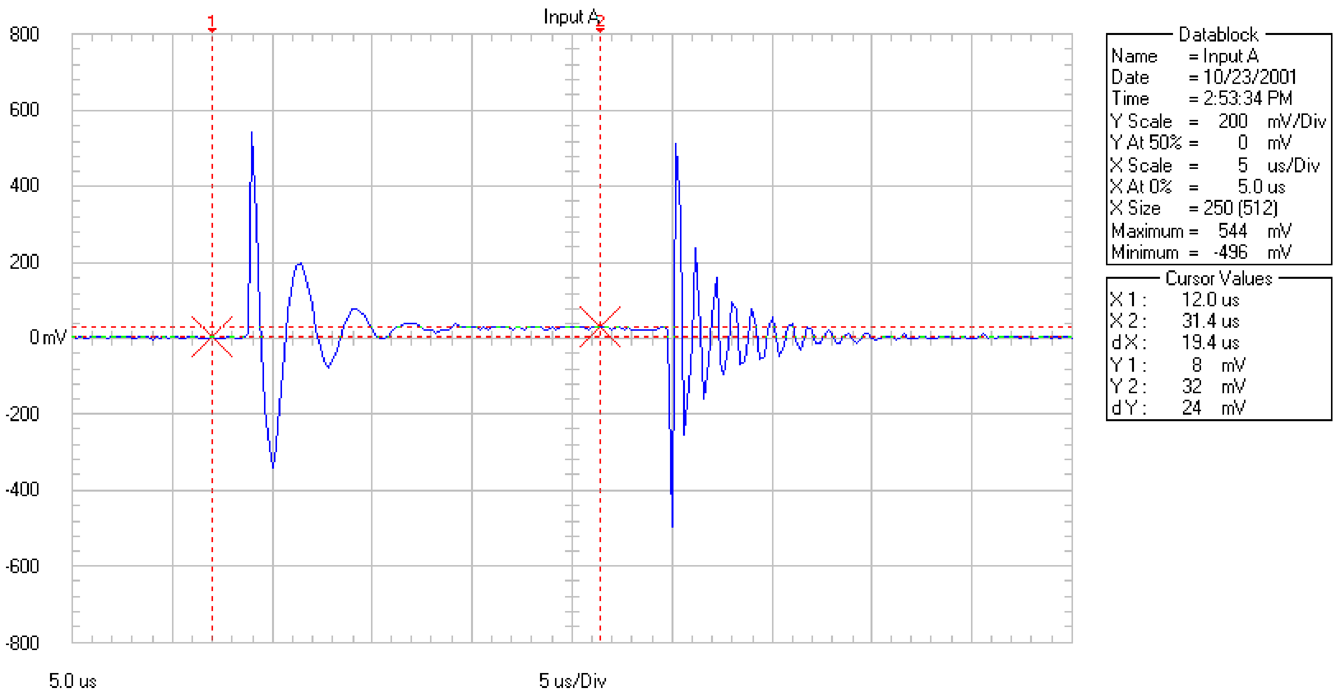
$L := \dfrac{L}{2500}$ $t := 0 \cdot sec, 0.1 \cdot 10^{-6} \cdot sec .. 0.0001 sec$

$$i(t) := I \cdot \exp\left(-R \cdot \frac{t}{L}\right)$$





Scope Trace of Voltage Across Load Battery



Scope Trace of Current Through Load Battery
(Voltage Across 10mΩ Resistor)

The Results

1. Without the magnets, I observed approximately 80% of rated energy capacity transferred from BAT1 to BAT2.
2. When I placed magnets on the ferrite bobbins of each coil set, I observed approximately 95% of rated energy capacity transferred from BAT1 to BAT2. This indicates an "increase" in energy of 15%!

What's Next?

1. Continue research and development effort by working towards unity gain (COP = 1, i.e. "Self-Runner"), and ultimately overunity (COP > 1, i.e. "1 Watt Challenge").
   a. Improve coil switching design.
   b. Test core material.
   c. Test magnets.

References

1. Leon Dragone, "Energetics of Ferromagnetism", 1989.
2. Howard Johnson, "Permanent Magnet Motor", US Patent 4,151,432, April 24, 1979.
3. Hayt & Kemmerly, "Engineering Circuit Analysis", McGraw Hill, 1993.
4. McLyman, "Transformer and Inductor Design Handbook", Marcel Dekker, 1988.
5. William H. Clark, "Pulsed Current Battery Charging Method and Apparatus", US Patent 3,963,976, June 15, 1976.
6. Technical Marketing Staff of Gates Energy Products, Inc., "Rechargeable Batteries, Applications Handbook", Butterworth-Heinemann, 1992.