

Simplification of William Jay Fogal's Charged Barrier Transistor tailored to feed the Motor Controller of a RAV4 EV from 2002.

... at maximum throttle (acceleration; pedal-to-the-metal): 345V, 206A.



VINYASI

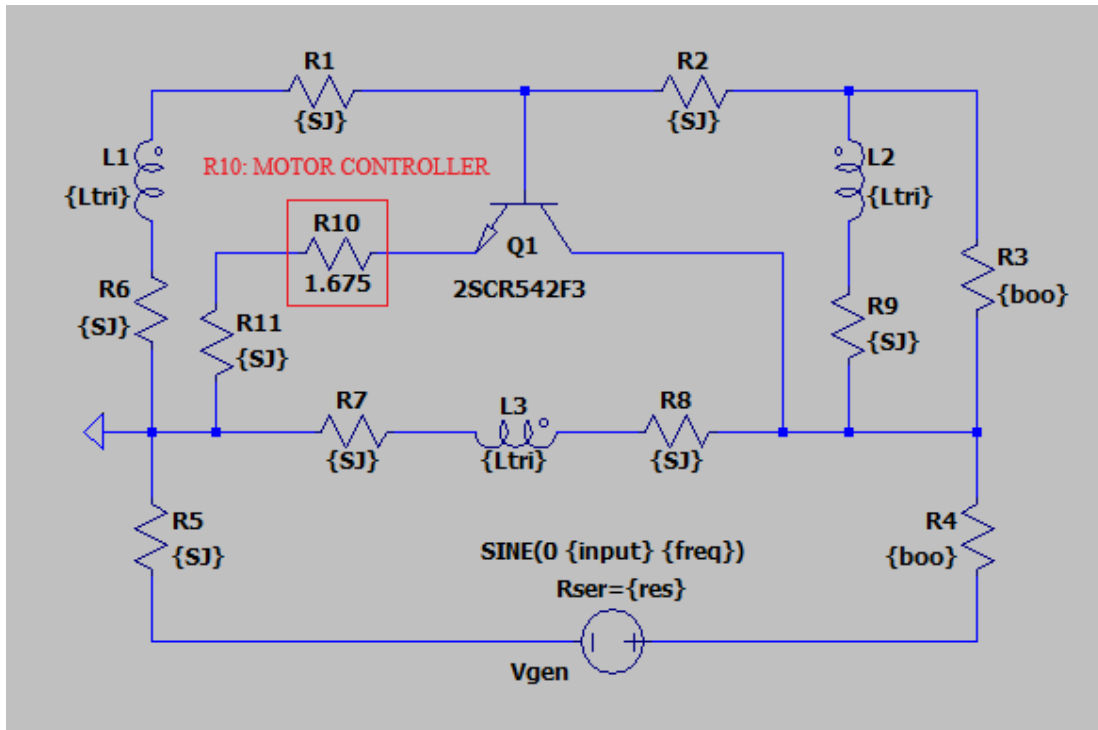
MAY 15, 2026



That's my car you're looking at placed on display at a car show in Maryland (USA) by its prior owner who was an airline pilot before retiring and buying something else from Tesla Motors!

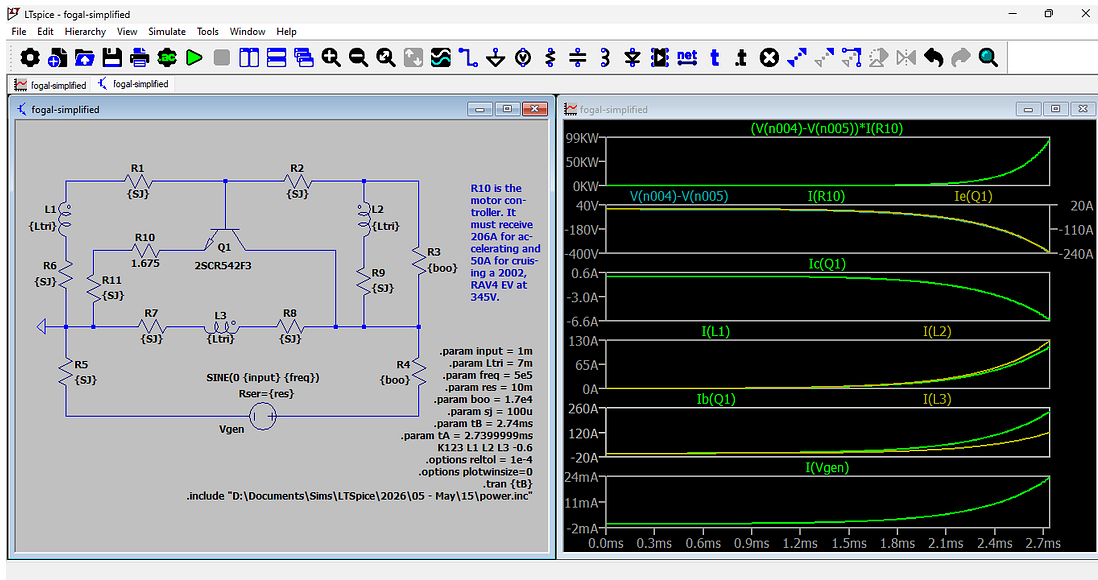
Its stats can be found in multiple places on the net: [EVNUT](#) and [TZEV](#).

Schematic:

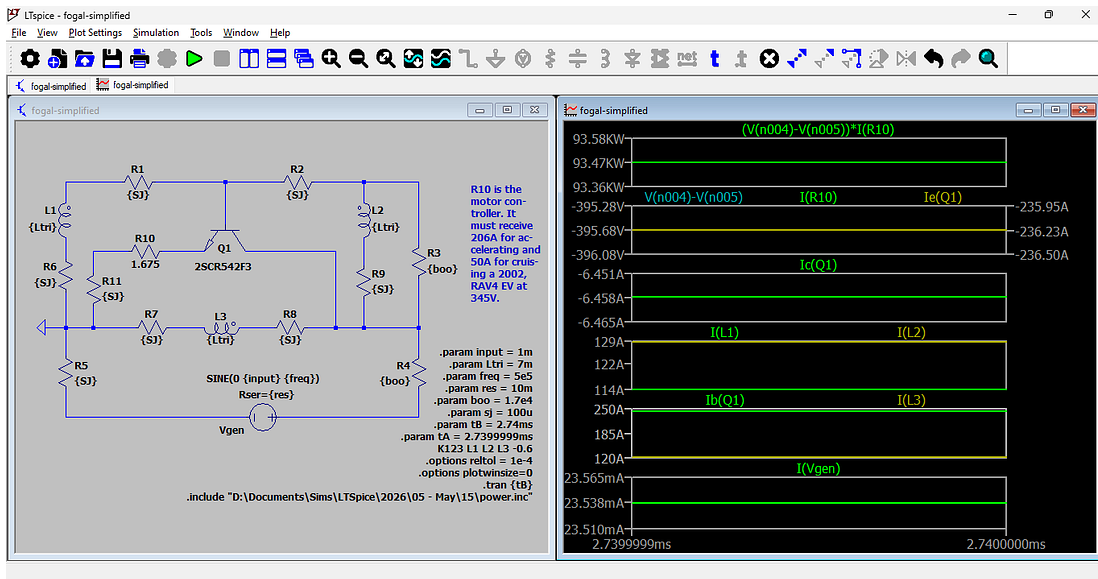


Notice the short through R3 on the right side. This requires a minimum elevated resistance of 17kΩ in order for William Jay Fogal's Charged Barrier Transistor to deliver an exponentially escalating harmonic distortion, aka: overunity/free-energy. The additional elevated resistance just beneath it helps lessen the cost which is spent at the frequency sine wave generator operating as the input for this circuit. I made both R3 and R4 the same resistance. But you could experiment with varying either or both to your liking since I didn't bother to vary their values separately.

Schematic with tracings during buildup:



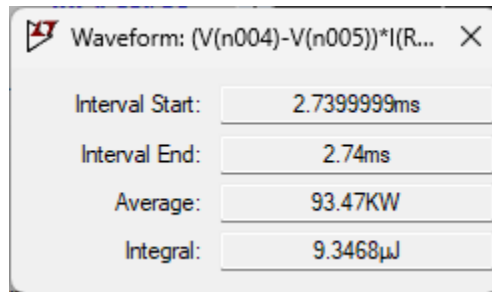
Schematic with tracings during the last 100 picoseconds before end of 2.74 milliseconds of runtime:



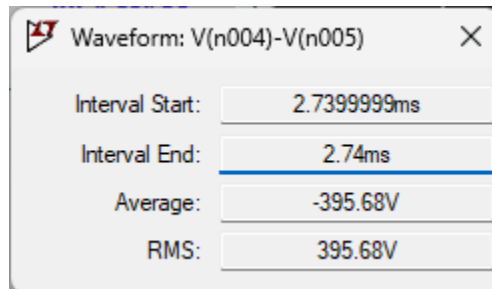
The following screenshots are of various parameters for the motor controller during the last 100 picoseconds of this simulated runtime. Notice how their RMS equals their averages. This is a good sign of maximal delivery of power (efficiency).

Oddly enough, the averages are negatively signed indicating the *generation of power* since this is where the transistor's emitter is located (which is where the generation of power is taking place in this particular variety of my multiple renderings of Bill Fogal's concept).

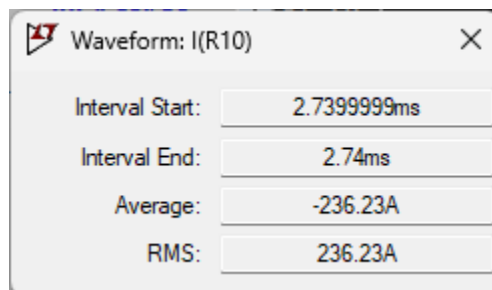
Motor controller, R10, wattage:



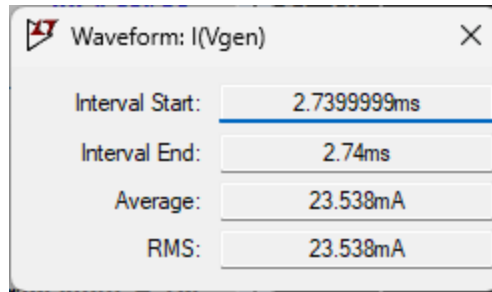
Motor controller, R10, volts:



Motor controller, R10, amps:



Frequency sine wave generator, Vgen:



The frequency sine wave generator is positively signed (at its average) indicating that it is being driven by the emitter of the transistor, namely: it is *absorbing* some of what the emitter is producing. Everything else within this circuit, except for the transistor's emitter, is also being driven to absorb a tremendous quantity of power which the emitter is generating.

Here is the netlist:

* D:\Documents\Sims\LTspice\2026\05 - May\15\fogal-simplified.asc

* Generated by LTspice 24.1.9 for Windows.

R3 N006 N003 {boo}

Vgen N012 N011 SINE(0 {input} {freq}) Rser={res}

R4 N006 N012 {boo}

R5 0 N011 {SJ}

Q1 N006 N002 N005 0 2SCR542F3

R6 0 N007 {SJ}

L2 N008 N003 {Ltri} Rser={Ltri}

```
L1 N007 N001 {Ltri} Rser={Ltri}

L3 N009 N010 {Ltri} Rser={Ltri}

R9 N006 N008 {SJ}

R8 N006 N010 {SJ}

R7 N009 0 {SJ}

R1 N001 N002 {SJ}

R2 N002 N003 {SJ}

R11 0 N004 {SJ}

R10 N004 N005 1.675

.model NPN NPN

.model PNP PNP

.lib C:\Users\vinya\AppData\Local\LTspice\lib\cmp\standard.bjt

.param input = 1m

.param Ltri = 7m

.param freq = 5e5

.param res = 10m

.param boo = 1.7e4

.param sj = 100u

.param tB = 2.74ms
```

```
.param tA = 2.7399999ms
```

```
K123 L1 L2 L3 -0.6
```

```
.options reltol = 1e-4
```

```
.options plotwinsize=0
```

```
.tran {tB}
```

```
.include "D:\Documents\Sims\LTSpice\2026\05 - May\15\power.inc"
```

```
; =====
```

```
; AUTOMATED POWER + DISTORTION ANALYSIS (RES, L, Q1, SOURCES)
```

```
; =====
```

```
; ===== RESISTORS R1-R9 =====
```

```
.meas P_R1 AVG ( V(N001,N002)*I(R1) ) FROM tA TO tB
```

```
.meas Vr_R1 RMS V(N001,N002) FROM tA TO tB
```

```
.meas Ir_R1 RMS I(R1) FROM tA TO tB
```

```
.meas S_R1 PARAM PwrApparent(Vr_R1, Ir_R1)
```

```
.meas Q_R1 PARAM PwrReactive(S_R1, P_R1)
```

```
.meas D_R1 PARAM sqrt(S_R1*S_R1 - P_R1*P_R1 - Q_R1*Q_R1)
```

```
.meas PctD_R1 PARAM 100*D_R1/S_R1
```

```
.meas P_R2 AVG ( V(N002,N003)*I(R2) ) FROM tA TO tB
```

```
.meas Vr_R2 RMS V(N002,N003) FROM tA TO tB
```

```
.meas Ir_R2 RMS I(R2) FROM tA TO tB

.meas S_R2 PARAM PwrApparent(Vr_R2, Ir_R2)

.meas Q_R2 PARAM PwrReactive(S_R2, P_R2)

.meas D_R2 PARAM sqrt(S_R2*S_R2 - P_R2*P_R2 - Q_R2*Q_R2)

.meas PctD_R2 PARAM 100*D_R2/S_R2

.meas P_R3 AVG ( V(N005,N003)*I(R3) ) FROM tA TO tB

.meas Vr_R3 RMS V(N005,N003) FROM tA TO tB

.meas Ir_R3 RMS I(R3) FROM tA TO tB

.meas S_R3 PARAM PwrApparent(Vr_R3, Ir_R3)

.meas Q_R3 PARAM PwrReactive(S_R3, P_R3)

.meas D_R3 PARAM sqrt(S_R3*S_R3 - P_R3*P_R3 - Q_R3*Q_R3)

.meas PctD_R3 PARAM 100*D_R3/S_R3

.meas P_R4 AVG ( V(N005,N011)*I(R4) ) FROM tA TO tB

.meas Vr_R4 RMS V(N005,N011) FROM tA TO tB

.meas Ir_R4 RMS I(R4) FROM tA TO tB

.meas S_R4 PARAM PwrApparent(Vr_R4, Ir_R4)

.meas Q_R4 PARAM PwrReactive(S_R4, P_R4)

.meas D_R4 PARAM sqrt(S_R4*S_R4 - P_R4*P_R4 - Q_R4*Q_R4)

.meas PctD_R4 PARAM 100*D_R4/S_R4
```

.meas P_R5 AVG (V(N010)*V(N010)/SJ) FROM tA TO tB

.meas Vr_R5 RMS V(N010) FROM tA TO tB

.meas S_R5 PARAM (Vr_R5*Vr_R5/SJ)

.meas Q_R5 PARAM PwrReactive(S_R5, P_R5)

.meas D_R5 PARAM sqrt(S_R5*S_R5 - P_R5*P_R5 - Q_R5*Q_R5)

.meas PctD_R5 PARAM 100*D_R5/S_R5

.meas P_R6 AVG (V(N006)*V(N006)/SJ) FROM tA TO tB

.meas Vr_R6 RMS V(N006) FROM tA TO tB

.meas S_R6 PARAM (Vr_R6*Vr_R6/SJ)

.meas Q_R6 PARAM PwrReactive(S_R6, P_R6)

.meas D_R6 PARAM sqrt(S_R6*S_R6 - P_R6*P_R6 - Q_R6*Q_R6)

.meas PctD_R6 PARAM 100*D_R6/S_R6

.meas P_R7 AVG (V(N008)*V(N008)/SJ) FROM tA TO tB

.meas Vr_R7 RMS V(N008) FROM tA TO tB

.meas S_R7 PARAM (Vr_R7*Vr_R7/SJ)

.meas Q_R7 PARAM PwrReactive(S_R7, P_R7)

.meas D_R7 PARAM sqrt(S_R7*S_R7 - P_R7*P_R7 - Q_R7*Q_R7)

.meas PctD_R7 PARAM 100*D_R7/S_R7

.meas P_R8 AVG (V(N005,N009)*I(R8)) FROM tA TO tB

```
.meas Vr_R8 RMS V(N005,N009) FROM tA TO tB

.meas Ir_R8 RMS I(R8) FROM tA TO tB

.meas S_R8 PARAM PwrApparent(Vr_R8, Ir_R8)

.meas Q_R8 PARAM PwrReactive(S_R8, P_R8)

.meas D_R8 PARAM sqrt(S_R8*S_R8 - P_R8*P_R8 - Q_R8*Q_R8)

.meas PctD_R8 PARAM 100*D_R8/S_R8

.meas P_R9 AVG ( V(N005,N007)*I(R9) ) FROM tA TO tB

.meas Vr_R9 RMS V(N005,N007) FROM tA TO tB

.meas Ir_R9 RMS I(R9) FROM tA TO tB

.meas S_R9 PARAM PwrApparent(Vr_R9, Ir_R9)

.meas Q_R9 PARAM PwrReactive(S_R9, P_R9)

.meas D_R9 PARAM sqrt(S_R9*S_R9 - P_R9*P_R9 - Q_R9*Q_R9)

.meas PctD_R9 PARAM 100*D_R9/S_R9

.meas P_R10 AVG ( V(N008)*V(N008)/SJ ) FROM tA TO tB

.meas Vr_R10 RMS V(N008) FROM tA TO tB

.meas S_R10 PARAM ( Vr_R10*Vr_R10/SJ )

.meas Q_R10 PARAM PwrReactive(S_R10, P_R10)

.meas D_R10 PARAM sqrt(S_R10*S_R10 - P_R10*P_R10 - Q_R10*Q_R10)

.meas PctD_R10 PARAM 100*D_R10/S_R10
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; ===== INDUCTORS L1-L3 =====

.meas P_L1 AVG (V(N006,N001)*I(L1)) FROM tA TO tB

.meas Vr_L1 RMS V(N006,N001) FROM tA TO tB

.meas Ir_L1 RMS I(L1) FROM tA TO tB

.meas S_L1 PARAM PwrApparent(Vr_L1, Ir_L1)

.meas Q_L1 PARAM PwrReactive(S_L1, P_L1)

.meas D_L1 PARAM sqrt(S_L1*S_L1 - P_L1*P_L1 - Q_L1*Q_L1)

.meas PctD_L1 PARAM 100*D_L1/S_L1

.meas P_L2 AVG (V(N007,N003)*I(L2)) FROM tA TO tB

.meas Vr_L2 RMS V(N007,N003) FROM tA TO tB

.meas Ir_L2 RMS I(L2) FROM tA TO tB

.meas S_L2 PARAM PwrApparent(Vr_L2, Ir_L2)

.meas Q_L2 PARAM PwrReactive(S_L2, P_L2)

.meas D_L2 PARAM sqrt(S_L2*S_L2 - P_L2*P_L2 - Q_L2*Q_L2)

.meas PctD_L2 PARAM 100*D_L2/S_L2

.meas P_L3 AVG (V(N008,N009)*I(L3)) FROM tA TO tB

.meas Vr_L3 RMS V(N008,N009) FROM tA TO tB

.meas Ir_L3 RMS I(L3) FROM tA TO tB

.meas S_L3 PARAM PwrApparent(Vr_L3, Ir_L3)

```

.meas Q_L3 PARAM PwrReactive(S_L3, P_L3)

.meas D_L3 PARAM sqrt(S_L3*S_L3 - P_L3*P_L3 - Q_L3*Q_L3)

.meas PctD_L3 PARAM 100*D_L3/S_L3

; ===== FOGAL / SCR Q1 =====

; Q1 N012 N007 N011 0

.meas P_Q1 AVG ( V(N004)*IE(Q1) + V(N002)*IB(Q1) + V(N005)*IC(Q1) ) FROM tA TO tB

.meas Vr_Q1 RMS ( V(N004) + V(N002) + V(N005) )

.meas Ir_Q1 RMS ( IE(Q1) + IB(Q1) + IC(Q1) )

.meas S_Q1 PARAM PwrApparent(Vr_Q1, Ir_Q1)

.meas Q_Q1 PARAM PwrReactive(S_Q1, P_Q1)

.meas D_Q1 PARAM sqrt(S_Q1*S_Q1 - P_Q1*P_Q1 - Q_Q1*Q_Q1)

.meas PctD_Q1 PARAM 100*D_Q1/S_Q1

; ===== SOURCES =====

; Vgen N031 N030

.meas P_Vgen AVG ( V(N011,N010)*I(Vgen) ) FROM tA TO tB

.meas Vr_Vgen RMS V(N011,N010) FROM tA TO tB

.meas Ir_Vgen RMS I(Vgen) FROM tA TO tB

.meas S_Vgen PARAM PwrApparent(Vr_Vgen, Ir_Vgen)

.meas Q_Vgen PARAM PwrReactive(S_Vgen, P_Vgen)

```

```

.meas D_Vgen PARAM sqrt(S_Vgen*S_Vgen - P_Vgen*P_Vgen - Q_Vgen*Q_Vgen)

.meas PctD_Vgen PARAM 100*D_Vgen/S_Vgen

; ===== GRAND TOTALS =====

.meas P_grand PARAM
P_R1+P_R2+P_R3+P_R4+P_R5+P_R6+P_R7+P_R8+P_R9+P_R10+P_L1+P_L2+P_L3+P_Vgen
+P_Q1

.meas S_grand PARAM
S_R1+S_R2+S_R3+S_R4+S_R5+S_R6+S_R7+S_R8+S_R9+S_R10+S_L1+S_L2+S_L3+S_Vgen
+S_Q1

.meas Q_grand PARAM
Q_R1+Q_R2+Q_R3+Q_R4+Q_R5+Q_R6+Q_R7+Q_R8+Q_R9+Q_L1+Q_L2+Q_L3+Q_Vgen+Q_Q
1

; Distortion grand total

.meas D_grand PARAM sqrt(S_grand*S_grand - P_grand*P_grand - Q_grand*Q_grand)

.meas Pct_real PARAM 100*P_grand/S_grand

.meas Pct_react PARAM 100*Q_grand/S_grand

.meas Pct_distortion PARAM 100*D_grand/S_grand

.meas PF_grand PARAM P_grand/S_grand

* R10 is the motor controller. It must receive 206A for accelerating and 50A
for cruising a 2002, RAV4 EV at 345V.

.backanno

.end

```

Here is the log (output) file which displays the auto-generated measurements:

LTspice 24.1.9 for Windows

Circuit: D:\Documents\Sims\LTSpice\2026\05 - May\15\fogal-simplified.net

Start Time: Fri May 15 15:02:42 2026

Options: reltol = 1e-4 plotwinsize=0

solver = Normal

Maximum thread count: 4

tnom = 27

temp = 27

method = trap

reltol = 0.0001

.OP point found by inspection.

Total elapsed time: 5.255 seconds.

Files loaded:

D:\Documents\Sims\LTSpice\2026\05 - May\15\fogal-simplified.net

C:\Users\vinya\AppData\Local\LTspice\lib\cmp\standard.bjt

D:\Documents\Sims\LTSpice\2026\05 - May\15\power.inc

p_r1: AVG(V(N001,N002)*I(R1))=1.30170321298 FROM 0.0027399999 TO 0.00274

vr_r1: RMS(V(N001,N002))=0.0114135742187 FROM 0.0027399999 TO 0.00274

ir_r1: $\text{RMS}(I(R1))=114.0486922$ FROM 0.0027399999 TO 0.00274

s_r1: $\text{PwrApparent}(Vr_R1, Ir_R1)=1.30170321298$

q_r1: $\text{PwrReactive}(S_R1, P_R1)=8.29661542599e-08$

d_r1: $\text{sqrt}(S_R1*S_R1 - P_R1*P_R1 - Q_R1*Q_R1)=8.881784197e-16$

pctd_r1: $100*D_R1/S_R1=6.8232021773e-14$

p_r2: $\text{AVG}(V(N002,N003)*I(R2))=1.656621508$ FROM 0.0027399999 TO 0.00274

vr_r2: $\text{RMS}(V(N002,N003))=0.0128784179687$ FROM 0.0027399999 TO 0.00274

ir_r2: $\text{RMS}(I(R2))=128.635482403$ FROM 0.0027399999 TO 0.00274

s_r2: $\text{PwrApparent}(Vr_R2, Ir_R2)=1.656621508$

q_r2: $\text{PwrReactive}(S_R2, P_R2)=1.095007245e-07$

d_r2: $\text{sqrt}(S_R2*S_R2 - P_R2*P_R2 - Q_R2*Q_R2)=0$

pctd_r2: $100*D_R2/S_R2=0$

p_r3: $\text{AVG}(V(N006,N003)*I(R3))=2.82457864341$ FROM 0.0027399999 TO 0.00274

vr_r3: $\text{RMS}(V(N006,N003))=219.129734158$ FROM 0.0027399999 TO 0.00274

ir_r3: $\text{RMS}(I(R3))=0.012889983435$ FROM 0.0027399999 TO 0.00274

s_r3: $\text{PwrApparent}(Vr_R3, Ir_R3)=2.82457864341$

q_r3: $\text{PwrReactive}(S_R3, P_R3)=0$

d_r3: $\text{sqrt}(S_R3*S_R3 - P_R3*P_R3 - Q_R3*Q_R3)=0$

pctd_r3: $100*D_R3/S_R3=0$

p_r4: $\text{AVG}(V(N006, N012) * I(R4)) = 9.41827255171$ FROM 0.0027399999 TO 0.00274

vr_r4: $\text{RMS}(V(N006, N012)) = 400.138263699$ FROM 0.0027399999 TO 0.00274

ir_r4: $\text{RMS}(I(R4)) = 0.023537545409$ FROM 0.0027399999 TO 0.00274

s_r4: $\text{PwrApparent}(Vr_R4, Ir_R4) = 9.41827255171$

q_r4: $\text{PwrReactive}(S_R4, P_R4) = 0$

d_r4: $\text{sqrt}(S_R4 * S_R4 - P_R4 * P_R4 - Q_R4 * Q_R4) = 0$

pctd_r4: $100 * D_R4 / S_R4 = 0$

p_r5: $\text{AVG}(V(N011) * V(N011) / S_J) = 5.5401602251e-08$ FROM 0.0027399999 TO 0.00274

vr_r5: $\text{RMS}(V(N011)) = 2.3537544955e-06$ FROM 0.0027399999 TO 0.00274

s_r5: $(Vr_R5 * Vr_R5 / S_J) = 5.5401602251e-08$

q_r5: $\text{PwrReactive}(S_R5, P_R5) = 0$

d_r5: $\text{sqrt}(S_R5 * S_R5 - P_R5 * P_R5 - Q_R5 * Q_R5) = 0$

pctd_r5: $100 * D_R5 / S_R5 = 0$

p_r6: $\text{AVG}(V(N007) * V(N007) / S_J) = 1.30071051137$ FROM 0.0027399999 TO 0.00274

vr_r6: $\text{RMS}(V(N007)) = 0.0114048696239$ FROM 0.0027399999 TO 0.00274

s_r6: $(Vr_R6 * Vr_R6 / S_J) = 1.30071051137$

q_r6: $\text{PwrReactive}(S_R6, P_R6) = 0$

d_r6: $\text{sqrt}(S_R6 * S_R6 - P_R6 * P_R6 - Q_R6 * Q_R6) = 0$

pctd_r6: $100 * D_R6 / S_R6 = 0$

p_r7: $\text{AVG}(V(N009)*V(N009)/S_J)=1.49331639396$ FROM 0.0027399999 TO 0.00274

vr_r7: $\text{RMS}(V(N009))=0.0122201325441$ FROM 0.0027399999 TO 0.00274

s_r7: $(Vr_{R7}*Vr_{R7}/S_J)=1.49331639396$

q_r7: $\text{PwrReactive}(S_{R7}, P_{R7})=0$

d_r7: $\text{sqrt}(S_{R7}*S_{R7} - P_{R7}*P_{R7} - Q_{R7}*Q_{R7})=0$

pctd_r7: $100*D_{R7}/S_{R7}=0$

p_r8: $\text{AVG}(V(N006,N010)*I(R8))=1.4954363505$ FROM 0.0027399999 TO 0.00274

vr_r8: $\text{RMS}(V(N006,N010))=0.0122374806638$ FROM 0.0027399999 TO 0.00274

ir_r8: $\text{RMS}(I(R8))=122.201324896$ FROM 0.0027399999 TO 0.00274

s_r8: $\text{PwrApparent}(Vr_{R8}, Ir_{R8})=1.49543635051$

q_r8: $\text{PwrReactive}(S_{R8}, P_{R8})=4.70433222505e-06$

d_r8: $\text{sqrt}(S_{R8}*S_{R8} - P_{R8}*P_{R8} - Q_{R8}*Q_{R8})=0$

pctd_r8: $100*D_{R8}/S_{R8}=0$

p_r9: $\text{AVG}(V(N006,N008)*I(R9))=1.65287029053$ FROM 0.0027399999 TO 0.00274

vr_r9: $\text{RMS}(V(N006,N008))=0.0128479685551$ FROM 0.0027399999 TO 0.00274

ir_r9: $\text{RMS}(I(R9))=128.64837608$ FROM 0.0027399999 TO 0.00274

s_r9: $\text{PwrApparent}(Vr_{R9}, Ir_{R9})=1.65287029054$

q_r9: $\text{PwrReactive}(S_{R9}, P_{R9})=5.17857694781e-06$

d_r9: $\text{sqrt}(S_{R9}*S_{R9} - P_{R9}*P_{R9} - Q_{R9}*Q_{R9})=5.68434188608e-14$

pctd_r9: $100 * D_{R9} / S_{R9} = 3.43907317993e-12$

p_r10: $AVG(V(N004, N005) * I(R10)) = 93469.9402214$ FROM 0.0027399999 TO 0.00274

vr_r10: $RMS(V(N004, N005)) = 395.679362744$ FROM 0.0027399999 TO 0.00274

ir_r10: $RMS(I(R10)) = 236.226472802$ FROM 0.0027399999 TO 0.00274

s_r10: $PwrApparent(Vr_R10, Ir_R10) = 93469.9402214$

q_r10: $PwrReactive(S_R10, P_R10) = 0.00239207982694$

DISTORTION OF R10 IS NEARLY ZERO!

d_r10: $\sqrt{S_R10 * S_R10 - P_R10 * P_R10 - Q_R10 * Q_R10} = 2.91038304567e-11$ (RAW QUANTITY OF DISTORTION; NEARLY ZERO)

pctd_r10: $100 * D_{R10} / S_{R10} = 3.11371018188e-14$ (PERCENTAGE OF DISTORTION OF APPARENT POWER; NEARLY ZERO PERCENT)

DISTORTION OF R10 IS NEARLY ZERO!

p_r11: $AVG(V(N008) * V(N008) / S_J) = 1601005384.31$ FROM 0.0027399999 TO 0.00274

vr_r11: $RMS(V(N008)) = 400.125653303$ FROM 0.0027399999 TO 0.00274

s_r11: $(Vr_{R11} * Vr_{R11} / S_J) = 1601005384.31$

q_r11: $PwrReactive(S_{R11}, P_{R11}) = 0$

d_r11: $\sqrt{S_{R11} * S_{R11} - P_{R11} * P_{R11} - Q_{R11} * Q_{R11}} = 0$

pctd_r11: $100 * D_{R11} / S_{R11} = 0$

p_I1: $\text{AVG}(V(N007,N001)*I(L1)) = -70627.8660189$ FROM 0.0027399999 TO 0.00274

vr_I1: $\text{RMS}(V(N007,N001)) = 619.278175456$ FROM 0.0027399999 TO 0.00274

ir_I1: $\text{RMS}(I(L1)) = 114.0486922$ FROM 0.0027399999 TO 0.00274

s_I1: $\text{PwrApparent}(Vr_L1, Ir_L1) = 70627.8660189$

q_I1: $\text{PwrReactive}(S_L1, P_L1) = 0$

d_I1: $\text{sqrt}(S_L1*S_L1 - P_L1*P_L1 - Q_L1*Q_L1) = 0$

pctd_I1: $100*D_L1/S_L1 = 0$

p_I2: $\text{AVG}(V(N008,N003)*I(L2)) = -28192.3373205$ FROM 0.0027399999 TO 0.00274

vr_I2: $\text{RMS}(V(N008,N003)) = 219.142582127$ FROM 0.0027399999 TO 0.00274

ir_I2: $\text{RMS}(I(L2)) = 128.64837608$ FROM 0.0027399999 TO 0.00274

s_I2: $\text{PwrApparent}(Vr_L2, Ir_L2) = 28192.3373205$

q_I2: $\text{PwrReactive}(S_L2, P_L2) = 0.000845727933383$

d_I2: $\text{sqrt}(S_L2*S_L2 - P_L2*P_L2 - Q_L2*Q_L2) = 1.02897579372e-11$

pctd_I2: $100*D_L2/S_L2 = 3.64984209015e-14$

p_I3: $\text{AVG}(V(N009,N010)*I(L3)) = -48900.44375$ FROM 0.0027399999 TO 0.00274

vr_I3: $\text{RMS}(V(N009,N010)) = 400.162958885$ FROM 0.0027399999 TO 0.00274

ir_I3: $\text{RMS}(I(L3)) = 122.201324896$ FROM 0.0027399999 TO 0.00274

s_I3: $\text{PwrApparent}(Vr_L3, Ir_L3) = 48900.44375$

q_I3: $\text{PwrReactive}(S_L3, P_L3) = 0.000690533966002$

$$d_{l3}: \sqrt{S_{L3} * S_{L3} - P_{L3} * P_{L3} - Q_{L3} * Q_{L3}} = 0$$

$$pctd_{l3}: 100 * D_{L3} / S_{L3} = 0$$

$$p_{q1}: \text{AVG}(V(N006) * IC(Q1) + V(N002) * IB(Q1) + V(N005) * IE(Q1)) = 54223.9829828$$

FROM 0.0027399999 TO 0.00274

$$vr_{q1}: \text{RMS}(V(N006) + V(N002) + V(N005)) = 387.874059044 \text{ FROM } 0 \text{ TO } 0.00274$$

$$ir_{q1}: \text{RMS}(IC(Q1) + IB(Q1) + IE(Q1)) = 1.83267427425e-06 \text{ FROM } 0 \text{ TO } 0.00274$$

$$s_{q1}: \text{PwrApparent}(Vr_{Q1}, Ir_{Q1}) = 0.000710846809658$$

$$q_{q1}: \text{PwrReactive}(S_{Q1}, P_{Q1}) = 0$$

$$d_{q1}: \sqrt{S_{Q1} * S_{Q1} - P_{Q1} * P_{Q1} - Q_{Q1} * Q_{Q1}} = 0$$

$$pctd_{q1}: 100 * D_{Q1} / S_{Q1} = 0$$

$$p_{vgen}: \text{AVG}(V(N012, N011) * I(Vgen)) = 5.5364662865e-06 \text{ FROM } 0.0027399999 \text{ TO } 0.00274$$

$$vr_{vgen}: \text{RMS}(V(N012, N011)) = 0.000235218524323 \text{ FROM } 0.0027399999 \text{ TO } 0.00274$$

$$ir_{vgen}: \text{RMS}(I(Vgen)) = 0.023537545409 \text{ FROM } 0.0027399999 \text{ TO } 0.00274$$

$$s_{vgen}: \text{PwrApparent}(Vr_{Vgen}, Ir_{Vgen}) = 5.53646669729e-06$$

$$q_{vgen}: \text{PwrReactive}(S_{Vgen}, P_{Vgen}) = 2.13275369785e-09$$

$$d_{vgen}: \sqrt{S_{Vgen} * S_{Vgen} - P_{Vgen} * P_{Vgen} - Q_{Vgen} * Q_{Vgen}} = 0$$

$$pctd_{vgen}: 100 * D_{Vgen} / S_{Vgen} = 0$$

p_grand:

$$P_{R1} + P_{R2} + P_{R3} + P_{R4} + P_{R5} + P_{R6} + P_{R7} + P_{R8} + P_{R9} + P_{R10} + P_{R11} + P_{L1} + P_{L2} + P_{L3} + P_{Vgen} + P_{Q1} = 1601005378.73$$

s_grand:

$$S_{R1}+S_{R2}+S_{R3}+S_{R4}+S_{R5}+S_{R6}+S_{R7}+S_{R8}+S_{R9}+S_{R10}+S_{R11}+S_{L1}+S_{L2}+S_{L3}+S_{Vgen}+S_{Q1}=1601246596.04$$

q_grand:

$$Q_{R1}+Q_{R2}+Q_{R3}+Q_{R4}+Q_{R5}+Q_{R6}+Q_{R7}+Q_{R8}+Q_{R9}+Q_{R10}+Q_{R11}+Q_{L1}+Q_{L2}+Q_{L3}+Q_{Vgen}+Q_{Q1}=0.00393841923513$$

$$d_{grand}: \sqrt{S_{grand} * S_{grand} - P_{grand} * P_{grand} - Q_{grand} * Q_{grand}} = 27792779.879$$

$$pct_real: 100 * P_{grand} / S_{grand} = 99.984935655$$

$$pct_react: 100 * Q_{grand} / S_{grand} = 2.45959569554e-10$$

$$pct_distortion: 100 * D_{grand} / S_{grand} = 1.73569642225$$

$$pf_grand: P_{grand} / S_{grand} = 0.99984935655$$

Post script: "pf_grand" is the "power factor". It is nearly positive one which is awesome! (0.99984935655).

[Download the files for this circuit simulation.](#)

Search for [William Jay Fogal Charged Barrier Transistor](#) on the internet.

This post follows on the heels of Achilles:

What is important is to stay focused and not be distracted by non-relevancies -- especially when dialoguing with AI which has a habit of courting distraction and dragging me along with it.

VINYASI · 1:57 AM



AI's insistence that distortion is the cause of mistaken overunity and apparent free energy within the context of William Jay Fogal's Charged Barrier Transistor is a needless distraction. It is not t...

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