BUFFERED
Iout MONITOR
0 TO +5.2 mV

R5
100

U1

R4
1.5M

R6
15K

R3
15K

C1
.01uF

BUFFERED
Eout MONITOR

0 TO -6 VDC

I out MONITOR
0 TO +52 mV

R_CORRECT
16MegOhmS

R2
100

U2

R1
100k

C4
.001uF

R13
110k

SIGNAL
GROUND

8

9

Eout MONITOR
0 TO -6 VDC

6A 12 -N4 - F

U V HVPS

T1 S1
P1
P2
S2

MULTIPLIER

R isolation
15K

R sense
70 ohms

F/B

4.7uF

232K

300M

I feedback (f/b)

3

1.1M

100M

I test point (t/p)

8

10

CHASSIS GND (OPTIONAL)

HV GND RET

HV Eout

(1 f/b +1 t/p) * R sense = E error

E error = I correction

R isolation = I correction

E out Monitor = R correction

I correction

$$\frac{6KV}{300M + 232K} = 1\ f/b = 0.000020 = 20uA$$

$$\frac{6KV}{100M = 100K} = 1\ t/p = 0.000060 = 60uA$$

R sense = 70 ohms   R isolation = 15K

(20uA + 60uA) * 70 ohms = E error = 5.6mV

$$\frac{5.6mV}{15K} = 1\ correction = 0.373uA = 373nA$$

$$\frac{6V}{0.368uA} = R\ correction = 16M$$

UltraVolt, Inc.
1800 Ocean Ave. Frnt
Ronkonkoma, NY 11779
1-631-471-4444

Title
UV-HVPS-CONN-15

Size
A

Number
UV- HVPS-CONN-15

Rev.
C1

Date 6/5/00

Filename UV-HVPS-CONN-15P2_revC1.dwg

Drawn By M.Z.

Sheet 2 Of 3