SCE Model 1040 High Voltage Power Supply

This little power supply was a Build-to-Schematic-Parts List & Test Procedure, for the FAA. It is part of a display console used by domestic Air Traffic Controllers. Acceptance Testing consisted of dropping it into a system. SCE reversed engineered the transformer which carried only a TI number for which no information was available.

Topology is conventional: a self-oscillating push-pull converter drives a voltage quadruple to provide either 3.5KV or 4.5KV output (depending on usage). Operating frequency is 20 KHz. The unit is full militarized design and construction including a MIL-T-27 transformer.

SPECIFICATIONS

Electrical

Input:

- Voltage 24VDC +15%
- Current 175mA/350mA

Output:

- Voltage 3.0KV +300V (adjustable)
- 4.5KV +400V (adjustable)
- Current 250mAmps
- Regulation .5%
- Ripple 1V p-p

Test Points

- Voltage Output Voltage /1000 +5%
- Current 1:1 +2%

Protection

Outputs will withstand indefinite short circuit.

Environmental

- Operating Temperature 0ºC to 71ºC
- Humidity 0 - 100%, non-condensing
- Shock 15g
- Vibration 5g
- Altitude to 10000 ft.

Construction: Case Formed aluminum (Zero box)

- Size 7 1/8" L x 4 3/8"W x 2. 1/4H
- Weight 22 oz.

Connectors

- HV Reynolds 167-2263
- LV MS3112 series