



Excellence in Electronics

TYPE

**3UP1
3UP7**

The 3UP— is a 3" electrostatic focus and deflection cathode ray tube primarily designed for oscilloscope applications. The small size and rectangular face makes it well adapted for use in small portable equipment.

MECHANICAL DATA

BASE: Small Shell Duodecal 12-Pin No. B12-43

BASE ALIGNMENT: D3-D4 Trace Aligns With Long Axis of Tube Face ± 5 Degrees

Positive Voltage on D3 With Respect To D4 Deflects Beam Approx. Toward Pin #2
Positive Voltage on D1 With Respect To D2 Deflects Beam Approx. Toward Pin #5

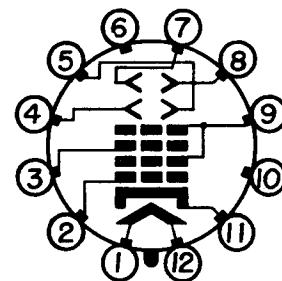
TERMINAL CONNECTIONS:

- Pin 1 Heater
- Pin 2 Grid #1
- Pin 3 Anode #1
- Pin 4 Deflecting Electrode D3
- Pin 5 Deflecting Electrode D4
- Pin 7 Deflecting Electrode D1
- Pin 8 Deflecting Electrode D2
- Pin 9 Anode #2 Grid #2
- Pin 11 Cathode
- Pin 12 Heater

MOUNTING POSITION: Any

GENERAL DATA

| | <u>3UP1</u> | <u>3UP7</u> |
|-------------------|---------------|-------------|
| Phosphor | Green | Blue |
| Fluorescence | | Yellow |
| Phosphorescence | | Long |
| Persistence | | |
| Focusing Method | Electrostatic | |
| Deflection Method | Electrostatic | |



BOTTOM VIEW

12F

ELECTRICAL DATA

DIRECT INTERELECTRODE CAPACITANCES: ($\mu\text{tds.}$) (approx.)

| | |
|--------------------------------------|------|
| Grid #1 to all other electrodes | 10.5 |
| Cathode to all other electrodes | 2.0 |
| D1 to D2 | 1.5 |
| D3 to D4 | 1.0 |
| D1 to all other electrodes except D2 | 4.5 |
| D2 to all other electrodes except D1 | 5.5 |
| D3 to all other electrodes except D4 | 5.0 |
| D4 to all other electrodes except D3 | 4.5 |

DESIGN CENTER MAXIMUM RATINGS:

| | |
|--|-----------------|
| Heater Current | 0.6 ± 10% amps. |
| Peak Heater-Cathode Voltage, Max. (Note 1) | |
| Heater Negative with respect to cathode | 140 volts |
| Heater Positive with respect to cathode | 140 volts |
| Anode #2 Voltage | 2500 volts DC |
| Anode #1 Voltage | 1000 volts DC |
| Grid #1 Voltage | |
| Negative-Bias Value | 200 volts DC |
| Positive-Bias Value | 0 |
| Positive-Peak Value | 2 |
| Peak Voltage Between Anode #2 and Any Deflecting Electrode | 500 volts DC |

CHARACTERISTICS AND TYPICAL OPERATION:

| | |
|---------------------------|--------------------------|
| Heater Voltage | 6.3 volts |
| Anode #2 Voltage | 2000 volts DC |
| Anode #1 Voltage (Note 2) | 470 ± 150 volts DC |
| Anode #1 Current | -15 to +10 ma |
| Deflection Factors | |
| D1-D2 | 240 to 310 volts DC/inch |
| D3-D4 | 232 to 296 volts DC/inch |

MAXIMUM CIRCUIT VALUES:

| | |
|---|----------|
| Grid #1 Circuit Resistance | 1.5 meg. |
| Resistance in any deflecting electrode current (Note 3) | 5.0 meg. |



CATHODE RAY TUBE

- Note 1 Cathode should be returned to one side or to the midtap of the heater transformer winding.
- Note 2 Visual extinction of Focused Spot.
- Note 3 It is recommended that the deflecting -electrode -circuit resistances be approximately equal.

