

# NEW NATIONAL UNION ELECTRON TUBE DATA

## N.U. - 5851

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### RUGGEDIZED R. F. POWER OUTPUT BEAM PENTODE.

#### APPLICATION:

The NU-5851 is a T-3 subminiature beam pentode designed for rugged applications such as encountered in the military service. It is designed for use in Class A, Class C and is tested as a frequency doubler at an output frequency of 400 mc. It has an oxide coated filamentary cathode which is center-tapped permitting operation at either 1.25 volts at 110 ma or 2.5 volts at 55 ma. The tube leads may either be soldered into a circuit or cut for use in a Cinch socket #8329.

#### RATINGS:

|                             |                     |
|-----------------------------|---------------------|
| Filament Voltage $\pm 10\%$ | 1.25/2.5 volts d.c. |
| Maximum Plate Voltage       | 180 volts           |
| Maximum Screen Voltage      | 135 volts           |
| Maximum Grid Voltage        | -80 volts           |
| Maximum Plate Dissipation   | 1.5 watts           |
| Maximum Screen Dissipation  | 0.3 watts           |
| Maximum Cathode Current     | 12 ma               |
| Maximum Altitude            | 60,000 feet         |
| Maximum Impact              | 500 g               |
| Maximum Ambient Temperature | 200° C              |

#### INTERELECTRODE CAPACITIES:

|               | UNSHIELDED         | SHIELDED            |
|---------------|--------------------|---------------------|
| Grid to Plate | 0.06 $\mu\text{f}$ | 0.055 $\mu\text{f}$ |
| Input         | 2.5 $\mu\text{f}$  | 2.5 $\mu\text{f}$   |
| Output        | 2.15 $\mu\text{f}$ | 3.0 $\mu\text{f}$   |

#### TYPICAL OPERATING CONDITIONS: (Class A Amplifier)

|                  |                       |
|------------------|-----------------------|
| Filament Voltage | 1.25/2.5 volts        |
| Filament Current | 110/55 ma             |
| Plate Voltage    | 125 volts             |
| Screen Voltage   | 125 volts             |
| Grid Voltage     | -7.5 volts            |
| Plate Current    | 5.5 ma                |
| Screen Current   | 0.9 ma                |
| Transconductance | 1600 $\mu\text{mhos}$ |
| Plate Resistance | 175,000 ohms          |

650 milliwatts output at 10% total harmonic distortion is obtained when  $E_b = 180$  V,  $E_{c2} = 135$  V and  $E_{c1} = -7$  V.

#### DOUBLER OPERATION AT 400 MC OUTPUT FREQUENCY:

|                  |                |
|------------------|----------------|
| Filament Voltage | 1.25/2.5 volts |
| Filament Current | 110/55 ma      |
| Plate Voltage    | 125 volts      |
| Screen Voltage   | 125 volts      |
| Grid Resistance  | 350,000 ohms   |
| Plate Current    | 8.0 ma         |
| Screen Current   | 2.0 ma         |
| Power Output     | 120 mw         |

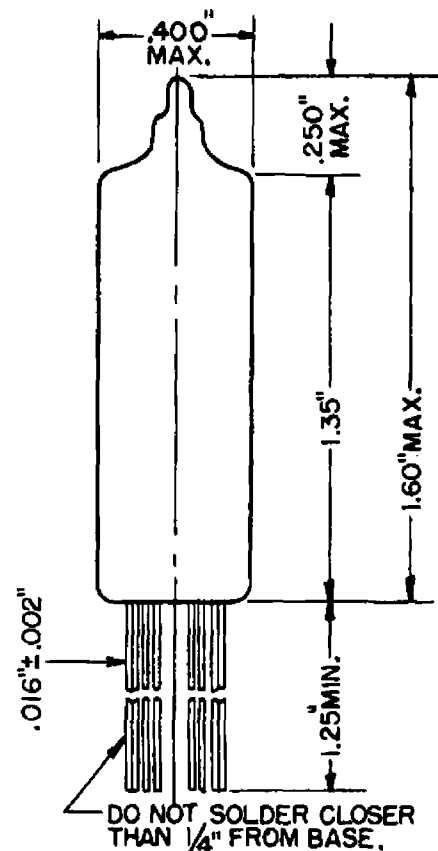
#### PHYSICAL SPECIFICATIONS

|                        |                      |
|------------------------|----------------------|
| Style.....             | Sub Miniature        |
| Bulb.....              | T-3                  |
| Base.....              | Submin. Button 8-Pin |
| Mounting Position..... | Any                  |

#### BASE PIN CONNECTIONS

|                       |
|-----------------------|
| Pin 1 - Fil -         |
| Pin 2 - NC            |
| Pin 3 - P             |
| Pin 4 - NC            |
| Pin 5 - Fil CT and G3 |
| Pin 6 - G2            |
| Pin 7 - Fil +         |
| Pin 8 - G1            |

RMA Basing - 6CL-0-0



LEADS MAY BE CUT TO .200" FOR  
USE IN CINCH SOCKET #8329

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Research Division