16P13
WATER COOLED TRIODE
Directly heated
TENTATIVE

GENERAL
The 16P13 is a directly heated Water Cooled Triode with integral cooling and union connectors. It is intended for use as an R.F. Oscillator in eddy current heating apparatus, etc. This valve is the water cooled version of the ESA1500 and is identical to the 16P12 except that it has unions attached to the ends of the water cooling tube. The thoriated tungsten filament is suitable for direct switching.

RATING
Filament Voltage \( V_f \) 8-0 ± 5% V
Filament Current \( I_f \) 26 A
Maximum Anode Voltage (D.C.) \( V_a(\text{max}) \) 8 kV
Maximum Peak Cathode Current \( I_k(\text{pk})\text{max} \) 6 A
Maximum Anode Dissipation \( P_a(\text{max}) \) 3-0 kW
Maximum Operating Frequency (Limited by water connections) \( f(\text{max}) \) 10 Mc/s
Maximum Operating Frequency (Limited by valve) \( f(\text{max}) \) 40 Mc/s

INTER-ELECTRODE CAPACITANCES (pF)
Anode/Grid \( c_{a-g} \) 11-5
Anode/Filament \( c_{a-f} \) 0-8
Grid/Filament \( c_{g-f} \) 14-5

DIMENSIONS
Maximum Overall Length 211 mm

UNION CONNECTORS—to suit \( \frac{1}{8} \)" o.d. Tube to BS2051.

MOUNTING POSITION—Vertical with base up.
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CHARACTERISTICS

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Symbol</th>
<th>Value</th>
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</thead>
<tbody>
<tr>
<td>Anode Voltage</td>
<td>$V_a$</td>
<td>5 kV</td>
</tr>
<tr>
<td>Anode Current</td>
<td>$I_a$</td>
<td>400 mA</td>
</tr>
<tr>
<td>Mutual Conductance</td>
<td>$g_m$</td>
<td>7.5 mA/V</td>
</tr>
<tr>
<td>Amplification Factor</td>
<td>$\mu$</td>
<td>24</td>
</tr>
</tbody>
</table>

ANODE—External.

BASE—Special.
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Grid pins O.3125" (0.635 mm) Dia.

O.375" (9.525 mm) Dia.
16 SWG

25 mm (approx)

1.75"
To end of nipple.

15 mm min.
18 mm max.

8.2 ± 0.25"
(208 mm ± 3 mm)

O.5" (12.7 mm)
O.5" (12.7 mm)

O.25" (6.35 mm)

2.5" (63.5 mm)

3.75" (95.5 mm)

2" (50.8 mm)