Air-Blast-Cooled R.F. Power Amplifier Triode

CATHODE.
Tungsten filament
Nominal (Actual voltage marked on bulb) 22 V
Nominal current 70 A
Peak emission 12 A

RATING.
Amplification factor \( \left\{ \begin{array}{l} \text{Measured at} \\ \text{Va} 12\text{kV, } I\alpha 1.5A \end{array} \right\} 26 \)
Impedance \( \Omega \)

DIRECT INTER-ELECTRODE CAPACITIES.
Grid to anode 26 pF
Grid to filament 1.3 pF
Anode to filament 20.0 pF

AIR COOLING.
For dissipation of 10 kW
Volume of air at a pressure of 3in. of water 475 cu. ft./min.
Maximum temperature of core of cooler 150° C
Maximum ambient temperature 45° C

DIMENSIONS.
Maximum overall length 506 mm.
Maximum diameter over cooler 172 mm.

MAXIMUM RATINGS.
Maximum direct anode voltage 17.5 kV
Maximum direct anode current 2.5 A
Maximum anode dissipation 10 kW
Maximum grid dissipation 1.2 kW
Maximum frequency for above ratings 22 Mc/s

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TYPICAL OPERATING CONDITIONS

RADIO FREQUENCY

Class B  Telephony Modulated Carrier applied to Grid.
(Carrier conditions per valve for use with 100% modulation).
Direct anode voltage  15  kV
Grid bias  —600  V approx.
Direct anode current  1  A
Power output  5  kW approx.

Class C  Power Amplifier Anode subject to modulation.
(Carrier conditions per valve for use with 100% modulation).
Direct anode voltage  12  kV
Grid bias  —2000  V approx.
Direct anode current  1.25  A
Power output  12  kW approx.

Class C  Power Amplifier or Oscillator, unmodulated.
Direct anode voltage  17.5  kV
Grid bias  —1,500  V approx.
Direct anode current  2  A
Power output  25  kW approx.
Air-Blast-Cooled R.F.
Power Amplifier
Triode
3J/221S

GRID
GRID SHIELD
FIL

506 mm
MAX:

256 mm
MAX:

172 mm DIA:
MAX:

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