12J5

Description and Rating

GENERAL-PURPOSE TRIODE

GENERAL DESCRIPTION

Principal Application: The 12J5 is a medium-mu general-purpose triode designed for use as an amplifier, an oscillator, or a detector. Except for heater ratings, the 12J5 is identical to the 6J5.

Catnode: Coated Unipotential
Heater Voltage (A-C or D-C): 12.6 Volts
Heater Current: 0.15 Ameere
Envelope: MT-8, Metal Shell
Base: 86-23, Small Wafer Octal 5-Pin

Mounting Position: Any
Direct Interelectrode Capacitances:*
Grid to Plate: 3.4 μm
Input: 3.4 μm
Output: 3.5 μm

PHYSICAL DIMENSIONS

TERMINAL CONNECTIONS

BASING DIAGRAM

Pin 1 - Shell
Pin 2 - Heater
Pin 3 - Plate
Pin 5 - Grid
Pin 7 - Heater
Pin 8 - Cathode

MAXIMUM RATINGS

DESIGN CENTER VALUES:
Plate Voltage: 300 Volts
Positive D-C Grid Voltage: 0 Volts
Plate Dissipation: 2.5 Watts
Total Cathode Current: 20 Milliamperes
D-C Heater-Cathode Voltage: 90 Volts

CHARACTERISTICS AND TYPICAL OPERATION

CLASS A1 AMPLIFIER
Plate Voltage: 90 Volts
Grid Bias Voltage: 0 Volts
Amplification Factor: 20
Plate Resistance: 6700 Ohms
Transconductance: 3000 Micromhos
Plate Current: 10 Milliamperes

* With shell connected to cathode

** The d-c resistance in the grid circuit under maximum rated conditions should not exceed 1.0 megohm.

from RMA release #850, April 6, 1950
CLASS A RESISTANCE-COUPLED AMPLIFIER

<table>
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<tr>
<th>Rp</th>
<th>Rg1</th>
<th>Rs</th>
<th>Ebb = 90 Volts</th>
<th>Ebb = 180 Volts</th>
<th>Ebb = 300 Volts</th>
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<td>0.10</td>
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<td>3000</td>
<td>14</td>
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</table>

Notes: 1. Eo is maximum RMS voltage output for five percent (5%) total harmonic distortion. 2. Gain measured at 2.0 volts RMS output. 3. For zero-bias data, generator impedance is negligible. *Value of Rg1 is non-critical.

Note: Coupling capacitors C1 should be selected to give desired frequency response. Rs should be adequately by-passed.

AVERAGE PLATE CHARACTERISTICS

![Graph showing plate characteristics]
AVERAGE CHARACTERISTICS

![Graph showing average characteristics of a tube with axes for plate current in milliamperes, plate resistance in ohms, amplification factor (u), transconductance (g_m), and plate voltage (E_p).]

Tube Divisions, Electronics Department

GENERAL ELECTRIC

Schenectady, N. Y.

ET-T713

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