THE 12DU7 IS A DUO - DIODE, TETRODE IN THE 9 PIN MINIATURE CONSTRUCTION. IT IS DESIGNED FOR USE AS A COMBINED DETECTOR, AVC RECTIFIER AND AUDIO POWER AMPLIFIER DRIVER IN APPLICATIONS WHERE THE HEATER, PLATE, AND SCREEN VOLTAGES ARE OBTAINED DIRECTLY FROM AN AUTOMOTIVE STORAGE BATTERY.

DIRECT INTERELECTRODE CAPACITANCES
WITHOUT EXTERNAL SHIELD

TETRODE SECTION:
GRID #1 TO PLATE
INPUT: G1 TO (H+T+G2)
OUTPUT: P TO (H+T+G2)
GRID #1 TO DIODE PLATE #1 (MAX.)
GRID #1 TO DIODE PLATE #2 (MAX.)

0.6
11
3.6
0.22
0.12

pf
pf
pf
pf
pf

RATINGS
INTERPRETED ACCORDING TO DESIGN MAXIMUM SYSTEM

MAXIMUM HEATER-CATHODE VOLTAGE:
HEATER NEGATIVE WITH RESPECT TO CATHODE 16 VOLTS
HEATER POSITIVE WITH RESPECT TO CATHODE 16 VOLTS
MAXIMUM PLATE VOLTAGE 16 VOLTS
MAXIMUM GRID #2 VOLTAGE 16 VOLTS
MAXIMUM GRID #1 RESISTANCE 10 MEGOHMS
MAXIMUM AVERAGE DIODE CURRENT (EACH DIODE) 1.0 MA.

THIS TUBE IS INTENDED TO BE USED IN AUTOMOTIVE SERVICE FROM A NOMINAL 12 VOLT BATTERY SOURCE. THE HEATER IS THEREFORE DESIGNED TO OPERATE OVER THE 10.0 TO 15.9 VOLTAGE RANGE ENCOUNTERED IN THIS SERVICE. THE MAXIMUM RATINGS OF THE TUBE PROVIDE FOR AN ADEQUATE SAFETY FACTOR SUCH THAT THE TUBE WILL WITHSTAND THE WIDE VARIATION IN SUPPLY VOLTAGES.

— INDICATES A CHANGE
CONTINUED ON FOLLOWING PAGE
TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>PLATE VOLTAGE</td>
<td>12.6 VOLS</td>
</tr>
<tr>
<td>GRID #2 VOLTAGE</td>
<td>12.6 VOLS</td>
</tr>
<tr>
<td>GRID #1 RESISTOR(^c)</td>
<td>2.2 MEGOHMS</td>
</tr>
<tr>
<td>AF GRID VOLTAGE (RMS)</td>
<td>1.6 VOLS</td>
</tr>
<tr>
<td>PLATE CURRENT</td>
<td>12 MA.</td>
</tr>
<tr>
<td>GRID #2 CURRENT</td>
<td>1.5 MA.</td>
</tr>
<tr>
<td>TRANSCONDUCTANCE</td>
<td>6200 (\mu)MOS</td>
</tr>
<tr>
<td>PLATE RESISTANCE (APPROX.)</td>
<td>6000 OHMS</td>
</tr>
<tr>
<td>LOAD RESISTANCE</td>
<td>2700 OHMS</td>
</tr>
<tr>
<td>MAXIMUM SIGNAL POWER OUTPUT</td>
<td>25 MW.</td>
</tr>
<tr>
<td>TOTAL HARMONIC DISTORTION</td>
<td>10 PERCENT</td>
</tr>
<tr>
<td>AVERAGE DIODE CURRENT WITH 10V. DC APPLIED, (EA. DIODE)</td>
<td>1.3 MA.</td>
</tr>
</tbody>
</table>

\(^b\) Design-maximum ratings are limiting values of operating and environmental conditions applicable to a doydet electron device of a specific type as defined by its published data, and should not be exceeded under the worst probable conditions. The device manufacturer chooses these values to provide acceptable serviceability of the device, taking responsibility for the effects of changes in operating conditions due to variations in device characteristics. The equipment manufacturer should design so that initially and throughout life no design-maximum value for the intended service is exceeded with a doydet device under the worst probable operating conditions with respect to supply-voltage variation, equipment component variation, equipment control adjustment, load variation, signal variation, and environmental conditions.

\(^c\) Average contact potential bias developed across specified grid resistor.