TUNG-SOL

TWIN-DIODE

COATED FILAMENT

FILAMENT
5 VOLTS 3 AMP.
AC OR DC

VERTICAL MOUNTING POSITION
HORIZONTAL OPERATION PERMITTED IF PINS 2 & 4 ARE IN A VERTICAL PLANE.

GLASS BULB

BOTTOM VIEW
SHORT MEDIUM SHELL 5 PIN OCTAL
OR SHORT MEDIUM SHELL 8 PIN OCTAL
WITH EXTERNAL BARRIERS 57
PINS 3, 5, 6, 7 NO CONNECTION

THE 5AS4A IS A FULL-WAVE VACUUM RECTIFIER INTENDED FOR USE IN POWER SUPPLIES OF TELEVISION RECEIVERS AND RADIO EQUIPMENT HAVING HIGH DC REQUIREMENTS. IT IS ESPECIALLY DESIGNED TO PERMIT OPERATION AT HIGHER PEAK AND AVERAGE CURRENT RATING. EXCEPT FOR THE USE OF A T-12 BULB, IT IS IDENTICAL TO THE 5AS4.

RATINGS
INTERPRETED ACCORDING TO DESIGN CENTER SYSTEM
FULL-WAVE RECTIFIER

FILAMENT VOLTAGE 5 VOLTS
MAXIMUM PEAK INVERSE PLATE VOLTAGE 1550 VOLTS
MAXIMUM STEADY STATE PEAK CURRENT PER PLATE 1.0 AMP.
MAXIMUM AC PLATE SUPPLY VOLTAGE (RMS) PER PLATE 550 VOLTS
MAXIMUM DC OUTPUT CURRENT PER PLATE (SEE RATING CHART 1)
MAXIMUM TRANSIENT PEAK PLATE CURRENT PER PLATE 4.6 AMP.

TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS
FULL-WAVE RECTIFIER
CAPACITOR-INPUT FILTER

| FILAMENT VOLTAGE | 5 VOLTS |
| FILAMENT CURRENT | 3 AMP. |
| AC PLATE TO PLATE SUPPLY VOLTAGE (RMS) | 600 VOLTS |
| FILTER INPUT CAPACITOR | 40 µF |
| TOTAL EFFECTIVE PLATE SUPPLY IMPEDANCE (PER PLATE) | 21 OHMS |
| DC OUTPUT CURRENT | 300 MA. |
| DC OUTPUT VOLTAGE AT FILTER INPUT | 290 VOLTS |
| TUBE VOLTAGE DROP | 54 VOLTS |

*Measured without load.*

CONTINUED ON FOLLOWING PAGE
TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS - CONT'D.

FULL-WAVE RECTIFIER
CHOKE-INPUT FILTER

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FILAMENT VOLTAGE</td>
<td>5 VOLTS</td>
</tr>
<tr>
<td>FILAMENT CURRENT</td>
<td>5 AMP.</td>
</tr>
<tr>
<td>AC PLATE TO PLATE SUPPLY VOLTAGE (RMS)(^A)</td>
<td>1.100 VOLTS</td>
</tr>
<tr>
<td>FILTER INPUT CHOKE</td>
<td>10 HENRIES</td>
</tr>
<tr>
<td>DC OUTPUT CURRENT</td>
<td>275 MA.</td>
</tr>
<tr>
<td>DC OUTPUT VOLTAGE AT FILTER INPUT</td>
<td>470 VOLTS</td>
</tr>
</tbody>
</table>

\(^A\) MEASURED WITHOUT LOAD

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**5AS4A**

RATING CHART 1

- MAX. OPERATING VALUES WITH CHoke INPUT TO FILTER
- MAX. OPERATING VALUES WITH CAPACITOR INPUT TO FILTER
RECTIFICATION EFFICIENCY = DC OUTPUT VOLTAGE AT FILTER INPUT / AC PLATE SUPPLY VOLTAGE PER PLATE (WITHOUT LOAD)

5A34A RATING CHART II
Capacitor Input Based on Steady State Peak Plate Current per Plate of 1.0 Amp.

AREA OF PERMISSIBLE OPERATION

5A34A RATING CHART III

E_f = 50 Volts AC
MAX. HOT SWITCHING CURRENT = 4.6 AMP.
PLATE SUPPLY RESISTANCE PER PLATE = R_{sec} + N^2 R_{pri} + R_a
WHERE
R_{sec} = DC RESISTANCE OF TRANSFORMER SECONDARY PER SECTION.
R_{pri} = DC RESISTANCE OF TRANSFORMER PRIMARY.
R_a = DC RESISTANCE OF ADDED SERIES RESISTANCE PER PLATE.
N = TRANSFORMER VOLTAGE STEP-UP RATIO PER SECTION.