THE TUNG-SOL 17BF11 IS A 12-PIN T-9 COMPACTRON CONTAINING TWO DISSIMILAR PENTODES. SECTION 1 IS A POWER PENTODE FOR AUDIO APPLICATION. SECTION 2 IS A DUAL CONTROL PENTODE INTENDED FOR USE AS FM DETECTOR IN TV CIRCUITS. ELECTRICALLY, SECTION 2 IS SIMILAR TO TYPE 6DT6. EXCEPT FOR HEATER CHARACTERISTICS, THE 17BF11 IS IDENTICAL TO THE 6BF11.

DIRECT INTERELECTRODE CAPACITANCES
WITHOUT EXTERNAL SHIELD

PENTODE 1 - GRID 1 TO PLATE
INPUT: (G1 TO H + K + 1.S. + G2)
OUTPUT: (P TO H + K + 1.S. + G2)
0.24 pf
0.24 pf

PENTODE 2 - GRID 1 TO PLATE
GRID 1 TO ALL (G1 TO H + K + 1.S. + G2 + G3 + P)
GRID 3 TO PLATE
GRID 3 TO ALL (G3 TO H + K + 1.S. + G1 + G2 + P)
GRID 1 TO GRID 3
0.036 pf
6.5 pf
3.2 pf
8.0 pf
0.11 pf

COUPLING - PLATE TO PLATE
0.13 pf

HEATER CHARACTERISTICS AND RATINGS
DESIGN MAXIMUM SYSTEM - SEE EIA STANDARD RS-239

AVERAGE CHARACTERISTICS
16.8 VOLTS
0.45 AMPS.,
HEATER WARM-UP TIME
11 SEC.
LIMITS OF SUPPLIED CURRENT
0.45 ± 0.03 AMPS.,
MAXIMUM HEATER-CATHODE VOLTAGE-BOTH SECTIONS
HEATER NEGATIVE WITH RESPECT TO CATHODE
TOTAL DC AND PEAK
200 VOLTS
HEATER POSITIVE WITH RESPECT TO CATHODE
DC
100 VOLTS
TOTAL DC AND PEAK
200 VOLTS

CONTINUED ON FOLLOWING PAGE
### Maximum Ratings

**Section 1**
- **Plate Voltage**: 165 Volts
- **Grid 2 Voltage**: 150 Volts
- **Grid 2 Supply Voltage**: 330 Volts
- **Positive DC Grid 3 Voltage**: 28 Volts
- **Plate Dissipation**: 6.5 Watts
- **Grid 2 Dissipation**: 1.8 Watts
- **Cathode Current**: 65 MA
- **Grid 1 Circuit Resistance**: 0.25 MEGOHMS
- **Fixed Bias**: 0.5 MEGOHMS

**Section 2**
- **Plate Voltage**: 330 Volts
- **Grid 2 Voltage**: 330 Volts
- **Grid 3 Voltage**: 28 Volts
- **Grid 1 Voltage**: 1.7 Watts
- **Cathode Resistor**: 1.1 Watts
- **Plate Current**: 560 OHMS
- **Grid 2 Current**: 6 MA
- **Transconductance Grid 1 to Plate**: 145 μH/MA
- **Grid 3 to Plate**: 150 μH/MA
- **Plate Resistance Approx.**: 0.03 MEGOHMS
- **Grid 1 Voltage for $I_b = 10 \mu A$**: -4.5 Volts
- **Grid 3 Voltage for $I_b = 10 \mu A$**: -4.5 Volts

### Average Characteristics

**Section 1**
- **Plate Voltage**: 145 Volts
- **Grid 2 Voltage**: 110 Volts
- **Grid 3 Voltage**: 0 Volts
- **Grid 1 Voltage**: 0 Volts
- **Cathode Resistor**: 560 OHMS
- **Plate Current**: 36 MA
- **Grid 2 Current**: 2.0 MA
- **Transconductance Grid 1 to Plate**: 8,600 μH/MA
- **Grid 3 to Plate**: 1,000 μH/MA
- **Plate Resistance Approx.**: 0.03 MEGOHMS
- **Grid 1 Voltage for $I_b = 10 \mu A$**: -4.5 Volts
- **Grid 3 Voltage for $I_b = 10 \mu A$**: -4.5 Volts

### Typical Operation - Class A1 Power Amplifier

**Section 1**
- **Plate Voltage**: 145 Volts
- **Grid 2 Voltage**: 110 Volts
- **Grid 1 Voltage**: -6.0 Volts
- **Peak Audio Grid 1 Voltage**: 6.0 Volts
- **Load Resistance**: 3,000 OHMS
- **Maximum Signal Plate Current**: 40 MA
- **Maximum Signal Grid 2 Current**: 9.0 MA
- **Total Harmonic Distortion**: 10 %
- **Power Output**: 2.4 Watts