The 6BS8 is a miniature, medium-mu twin triode designed for use as a VHF cascode amplifier. In this application, section two (pins 1, 2, and 3) is intended for the input section.

Except for heater ratings, the 4BS8 is identical to the 6BS8. In addition, the 4BS8 incorporates a controlled heater-warm-up characteristic which makes it especially suited for use in television receivers that employ series-connected heaters.

**GENERAL**

**ELECTRICAL**
Cathode—Coated Unipotential
Heater Voltage, AC or DC ................. 4.2 6.3 Volts
Heater Current ................................ 0.6 0.4 Amperes
Heater Warm-up Time* .................. 11 .... Seconds
Direct Inter-electrode Capacitances†  Section 1  Section 2
Grid to Plate .......................... 1.15 1.15 μμf
Input ................................... 2.6 ... μμf
Output .................................. 1.35 ... μμf
Heater to Cathode .................... 2.6 2.7 μμf
Plate Section 2, to Plate and Grid,
  Section 1, maximum ................ 0.024 μμf
  Plate to Plate, maximum ............ 0.01 μμf
  Plate to Cathode, maximum ........ 0.15 0.15 μμf
  Grounded-Grid Input .................. 4.95 μμf
  Grounded-Grid Output ................ 2.27 μμf

**MECHANICAL**
Mounting Position—Any
Envelope—T-6½, Glass
Base—E9-1, Small Button 9-Pin

**MAXIMUM RATINGS**

**DESIGN-CENTER VALUES EACH SECTION**
Plate Voltage ................................ 150 Volts
Plate Dissipation .......................... 2.0 Watts
DC Cathode Current .................... 20 Milliamperes
Heater-Cathode Voltage
  Heater Positive with Respect to Cathode
    Total DC and Peak ................... 200 Volts
  Heater Negative with Respect to Cathode
    Total DC and Peak ................... 200 Volts
Grid Circuit Resistance ................ 0.5 Megohms

GENERAL ELECTRIC

Supersedes ET-T1355A, dated 8-56

Supersedes pages 1 and 2, dated 8-56
CHARACTERISTICS AND TYPICAL OPERATION

CLASS A₁ AMPLIFIER, EACH SECTION
Plate Voltage ........................................... 150 Volts
Cathode-Bias Resistor ................................. 220 Ohms
Amplification Factor ................................. 36
Plate Resistance, approximate ...................... 5000 Ohms
Transconductance ................................... 7200 Micromhos
Plate Current ....................................... 10 Milliamperes
Grid Voltage, approximate†
    Iₘ = 10 Microamperes .............................. -7 Volts

CASCODE AMPLIFIER
Plate-Supply Voltage .................................. 250 Volts
Grid Voltage ......................................... -1.0 Volts
Transconductance ................................... 10000 Micromhos
Plate Current ....................................... 16 Milliamperes
Grid Voltage, approximate
    Gₘ = 50 Micromhos ............................... -6 Volts

* The time required for the voltage across the heater to reach 80 percent of its rated value after applying 4 times rated heater voltage to a circuit consisting of the tube heater in series with a resistance equal to 3 times the rated heater voltage divided by the rated heater current.
† With external shield (EIA-315) connected to pin 9.
‡ Section two only.

AVERAGE PLATE CHARACTERISTICS

CASCODE CONNECTION

Eₑ = RATED VALUE
Eₑₑ₂ = 250 VOLTS
Eₖ = 0 VOLTS
AVERAGE TRANSFER CHARACTERISTICS

CASCODE CONNECTION

$E_f = \text{RATED VALUE}$
$E_b = 250 \text{ VOLTS}$

PLATE CURRENT IN MILLIAMPERES

GRID-NUMBER 1 VOLTAGE IN VOLTS

AVERAGE TRANSFER CHARACTERISTICS

CASCODE CONNECTION

$E_f = \text{RATED VALUE}$
$E_b = 250 \text{ VOLTS}$

C - BYPASS CAPACITOR

TRANSDUCTANCE IN MICROMOS
AVERAGE TRANSFER CHARACTERISTICS

E_1 = RATED VALUE

GRID VOLTAGE IN VOLTS

PLATE CURRENT IN MILLIAMPERES

E_1 = 200 VOLTS

100

50

0