

Maximum Circuit Values (CCS or ICAS conditions):

Grid-No.1-Circuit Resistance.....300000 max† ohms

Key-down conditions per tube without amplitude modulation. Amplitude modulation essentially negative may be used if the positive peak of the audio-frequency envelope does not exceed 115 per cent of the carrier conditions.

* Obtained preferably from separate source, or from the plate-supply voltage with a voltage divider, or through a series resistor of value shown. Grid-No.2 voltage must not exceed 600 volts under key-up conditions.

‡ Obtained from fixed supply, by grid-No.1 resistor, by cathode resistor, or by combination methods.

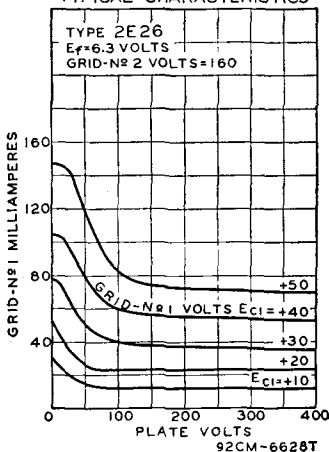
† For operation at less than maximum ratings, this value may be as high as 100000 ohms.

OPERATING CONSIDERATIONS

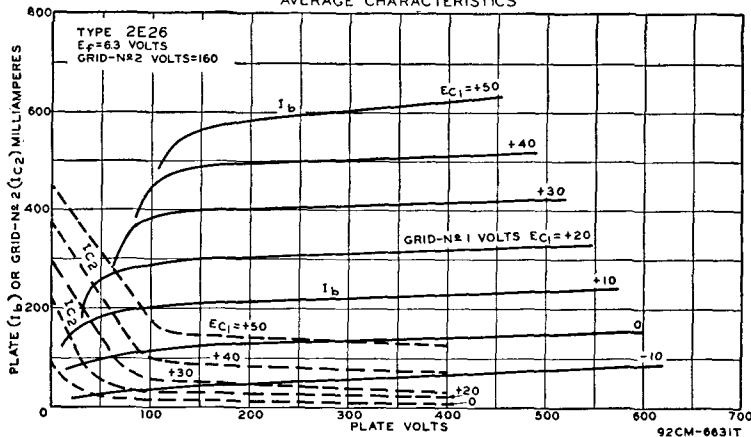
Type 2E26 requires Octal socket and may be mounted in any position. Effective rf grounding and simplified shielding are facilitated by the base sleeve with separate base-pin connection and the single base-pin connection for cathode, grid No.3, and internal shield. OUTLINE 15, Outlines Section.

For operation at 150 Mc, plate voltage and plate input should be reduced to 83 per cent of maximum ratings; at 160 Mc, to 75 per cent; at 175 Mc, to 68 per cent. Plate shows no color when the tube is operated at maximum CCS or ICAS ratings.

TYPICAL CHARACTERISTICS



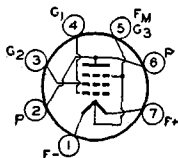
AVERAGE CHARACTERISTICS



POWER PENTODE

3A4

Seven-pin miniature type having coated filament used as rf power amplifier in light-weight, compact, portable, low-power, battery-operated equipment. May be used at full input up to 10 Mc. Class C maximum CCS plate dissipation, 2 watts.



RCA Transmitting Tubes

FILAMENT ARRANGEMENT	Series	Parallel	
FILAMENT VOLTAGE (DC).....	2.8	1.4	volts
FILAMENT CURRENT.....	0.1	0.2	ampere
TRANSCONDUCTANCE*	2250		μmhos
PLATE RESISTANCE (Approx.)*.....	80000		ohms
DIRECT INTERELECTRODE CAPACITANCES:			
Grid No.1 to plate.....	0.34 max		μf
Grid No.1 to filament mid-tap, grid No.3, and grid No.2.....	4.8		μf
Plate to filament mid-tap, grid No.3, and grid No.2.....	4.2		μf

* Plate volts, 150; grid-No.2 volts, 90; grid-No.1 volts, -8.4.

RF POWER AMPLIFIER—Class C

Maximum CCS Ratings, Design-Center Values:

DC PLATE VOLTAGE.....	150 max	volts
DC GRID-NO.2 (SCREEN-GRID) VOLTAGE.....	135 max	volts
DC GRID-NO.1 (CONTROL-GRID) VOLTAGE.....	-30 max	volts
DC PLATE CURRENT.....	20 max	ma
DC GRID-NO.1 CURRENT.....	0.25 max	ma
TOTAL DC CATHODE CURRENT■.....	25 max	ma
PLATE INPUT.....	3 max	watts
GRID-NO.2 INPUT.....	0.9 max	watt
PLATE DISSIPATION.....	2 max	watts

Typical Operation at 10 Mc (with Parallel Filament Arrangement):

DC Plate Voltage.....	150	volts
DC Grid-No.2 Voltage.....	135	volts
Grid-No.1 Resistor.....	0.2	megohm
DC Plate Current.....	18.3	ma
DC Grid-No.2 Current.....	6.5	ma
DC Grid-No.1 Current.....	0.13	ma
Power Output (Approx.).....	1.2	watts

■ For each 1.4-volt filament section.

OPERATING CONSIDERATIONS

Type 3A4 requires miniature seven-contact socket and may be mounted in any position. OUTLINE 6, *Outlines* Section.

The filament power supply may be obtained from dry-cell batteries, from storage batteries, or from a power line. With dry-cell battery supply, the filament may be connected either directly across a battery rated at a terminal potential of 1.5 volts, or in series with the filaments of similar tubes across a power supply consisting of dry cells in series. In any case, the voltage across each 1.4-volt section of filament should not exceed 1.6 volts.

With power-line or storage-battery supply, the filament may be operated in series with the filaments of other tubes of the same filament-current rating. For such operation, design adjustments should be made so that, with tubes of rated characteristics operating with all electrode voltages applied and on a normal line voltage of 117 volts or on a normal storage-battery voltage of 2.0 volts per cell (without a charger) or 2.2 volts per cell (with a charger), the voltage drop across each 1.4-volt section of filament will be maintained within a range of 1.25 to 1.4 volts with a center of 1.3 volts.

For series operation of the sections, a shunting resistor must be connected across the section between pins 1 and 5 to bypass any cathode current in this section which is in excess of the rated maximum per section. When other tubes in a series-filament arrangement contribute to the filament current of the 3A4, an additional shunting resistor may be required across the entire filament (pins 1 and 7).

For series-filament arrangement, filament voltage is applied between pins 1 and 7. For parallel-filament arrangement, filament voltage is applied between pin 5 and pins 1 and 7 connected together. In series-filament arrangement, the grid-No.1 voltage is referred to pin 1. In parallel-filament arrangement, the grid-No.1 voltage is referred to pin 5.

Plate of the 3A4 shows no color when the tube is operated at maximum CCS ratings.