

HEPTODE

FOR GATED AMPLIFIER SERVICE

DESCRIPTION AND RATING

The 6CS6 is a miniature dual-control heptode designed primarily for use as a combined sync separator and sync clipper in television receivers. Each of the two independent control grids exhibits a sharp-cutoff characteristic.

GENERAL

Electrical

Cathode—Coated Unipotential

| | 3CS6 | 4CS6 | 6CS6 |
|--|------|------|-----------------------|
| Heater Voltage, AC or DC | 3.15 | 4.2 | 6.3 Volts |
| Heater Current | 0.6 | 0.45 | 0.3 Amperes |
| Heater Warm-up Time* | 11 | 11 | ... Seconds |
| Direct Interelectrode Capacitances, approximate† | | | |
| Grid-Number 1 to Plate, maximum | | | 0.07 $\mu\mu\text{f}$ |
| Grid-Number 3 to Plate, maximum | | | 0.36 $\mu\mu\text{f}$ |
| Grid-Number 1 to All Except Plate | | | 5.5 $\mu\mu\text{f}$ |
| Grid-Number 3 to All Except Plate | | | 7.0 $\mu\mu\text{f}$ |
| Plate to All | | | 7.5 $\mu\mu\text{f}$ |
| Grid-Number 1 to Grid-Number 3, maximum | | | 0.22 $\mu\mu\text{f}$ |

Mechanical

Mounting Position—Any

Envelope—T-5½, Glass

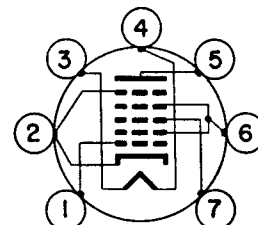
Base—E7-1, Miniature Button 7-Pin

MAXIMUM RATINGS

DESIGN-CENTER VALUES

| | | |
|---|------|--------------|
| Plate Voltage | 300 | Volts |
| Screen-Supply Voltage | 300 | Volts |
| Screen Voltage | 100 | Volts |
| Plate Dissipation | 1.0 | Watts |
| Screen Dissipation | 1.0 | Watts |
| DC Cathode Current | 14 | Milliamperes |
| Heater-Cathode Voltage | | |
| Heater Positive with Respect to Cathode | | |
| DC Component | 100 | Volts |
| Total DC and Peak | 200 | Volts |
| Heater Negative with Respect to Cathode | | |
| Total DC and Peak | 200 | Volts |
| Grid-Number 3 Circuit Resistance | 2.2 | Megohms |
| Grid-Number 1 Circuit Resistance | 0.47 | Megohms |

BASING DIAGRAM

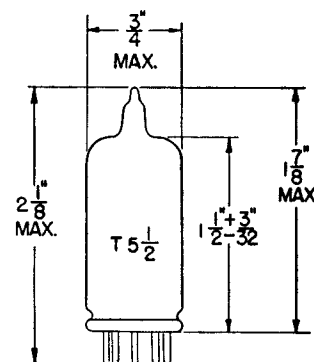


EIA 7CH

TERMINAL CONNECTIONS

- Pin 1—Grid Number 1
- Pin 2—Cathode and Grid Number 5
- Pin 3—Heater
- Pin 4—Heater
- Pin 5—Plate
- Pin 6—Grids Number 2 and 4 (Screen)
- Pin 7—Grid Number 3

PHYSICAL DIMENSIONS



EIA 5-2

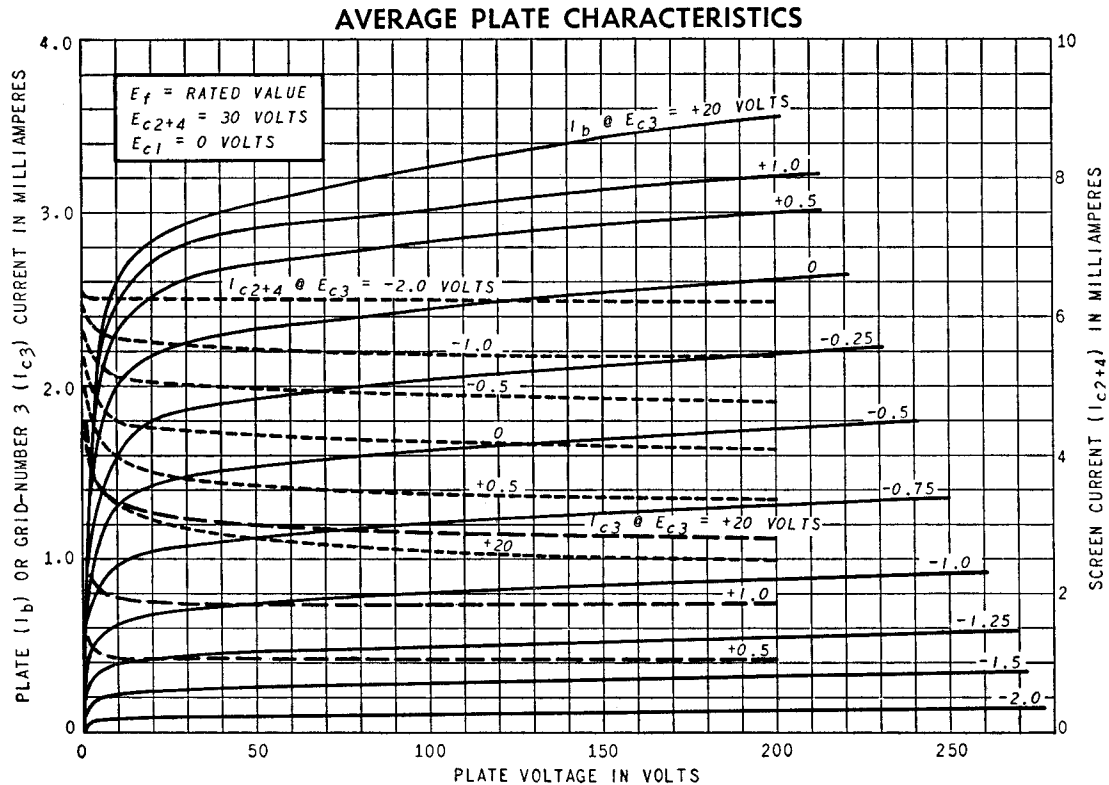
CHARACTERISTICS AND TYPICAL OPERATION

AVERAGE CHARACTERISTICS

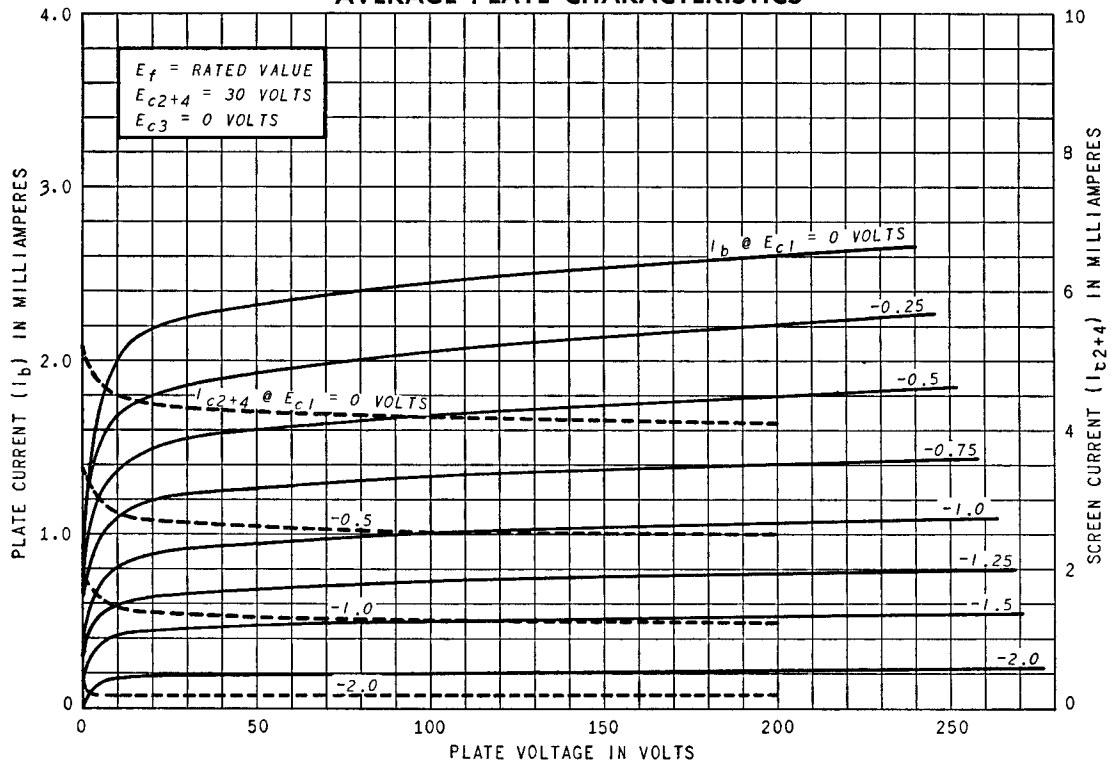
| | | | |
|--|-----|------|------------------|
| Plate Voltage | 10 | 100 | 100 Volts |
| Screen Voltage | 30 | 30 | 30 Volts |
| Grid-Number 3 Voltage | 0 | -1.0 | 0 Volts |
| Grid-Number 1 Voltage | 0 | 0 | -1.0 Volts |
| Plate Resistance, approximate | | 0.7 | 1.0 Megohms |
| Grid-Number 3 Transconductance | | 1500 | ... Micromhos |
| Grid-Number 1 Transconductance | | | 1100 Micromhos |
| Plate Current | 2.0 | 0.8 | 1.0 Milliamperes |
| Screen Current | 4.5 | 5.5 | 1.3 Milliamperes |
| Grid-Number 3 Voltage, approximate I _b = 50 Microamperes | | -2.2 | Volts |
| Grid-Number 1 Voltage, approximate I _b = 50 Microamperes | | | -2.5 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.

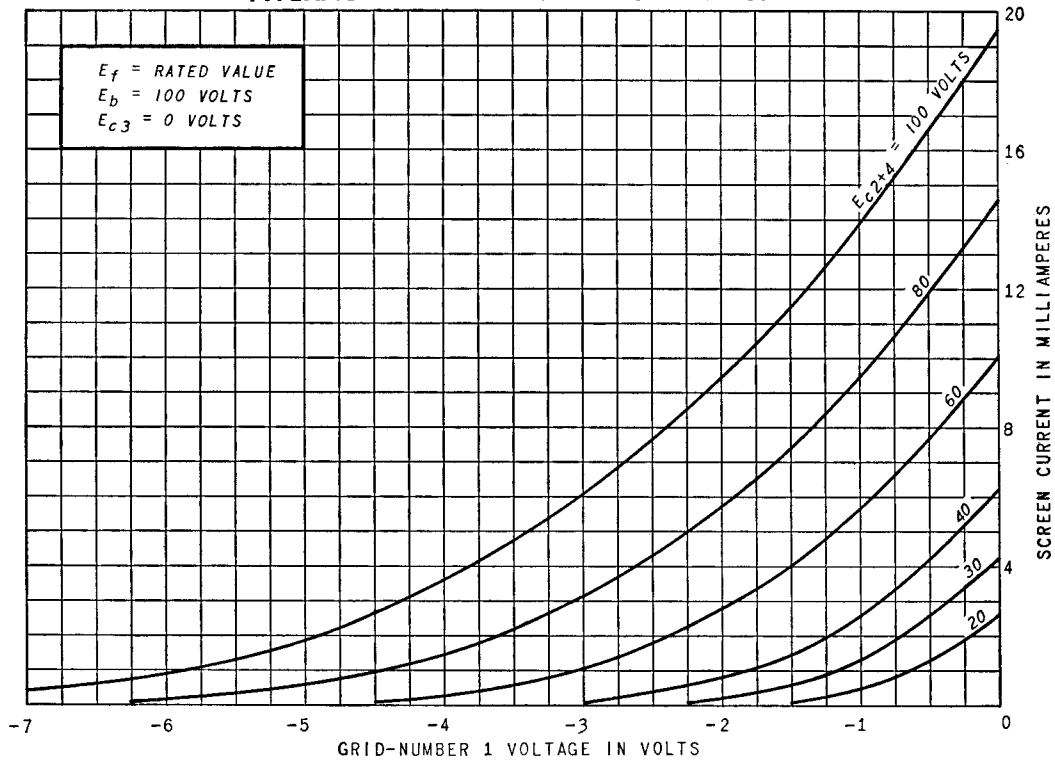
† Without external shield.



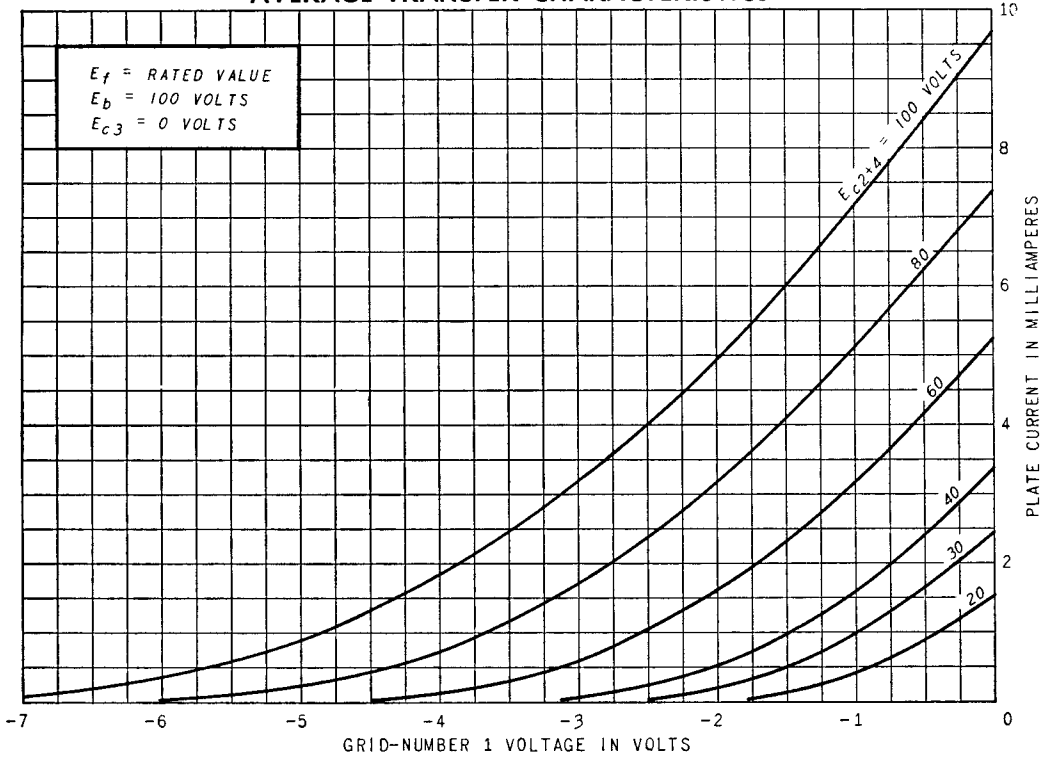
AVERAGE PLATE CHARACTERISTICS



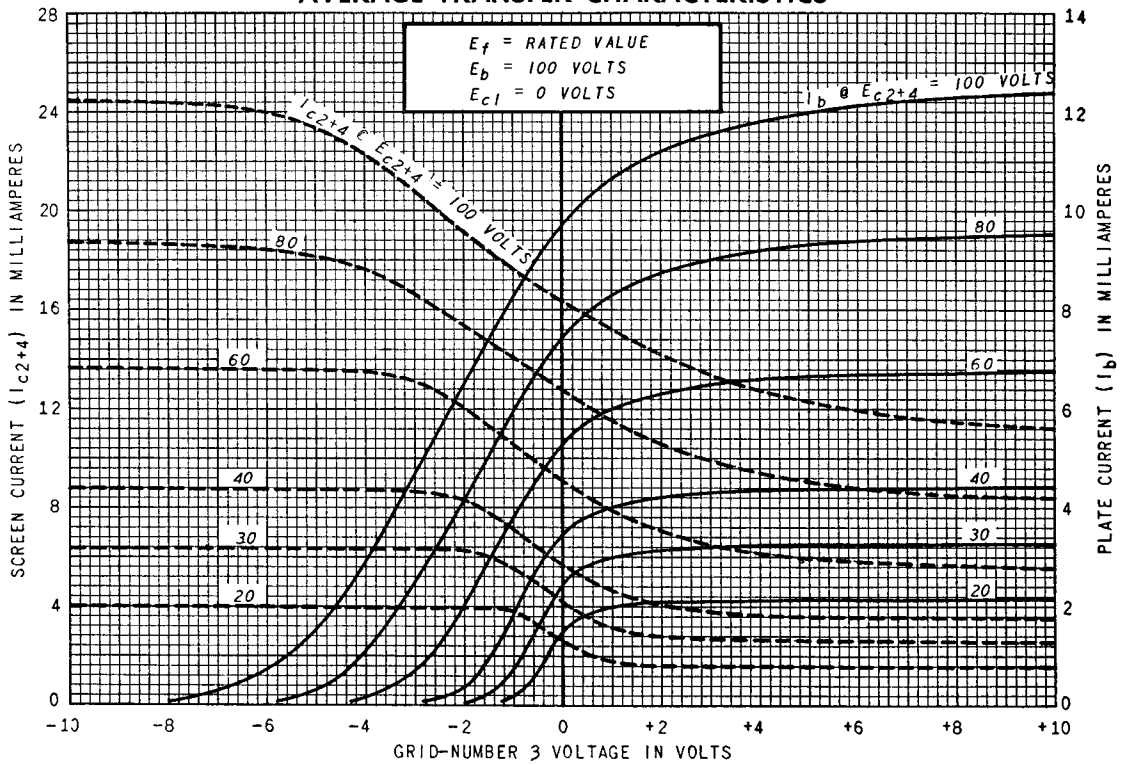
AVERAGE TRANSFER CHARACTERISTICS



AVERAGE TRANSFER CHARACTERISTICS



AVERAGE TRANSFER CHARACTERISTICS



ELECTRONIC COMPONENTS DIVISION



Schenectady 5, N. Y.