



6CL6

Description and Rating

PENTODE

The 6CL6 is a miniature power pentode designed primarily for use as the video output amplifier in television receivers. The tube exhibits high transconductance, high power sensitivity, and low interelectrode capacitances. These characteristics make the 6CL6 suitable for driving large television picture tubes at low distortion levels. The tube is also useful as a wide-band amplifier in industrial and laboratory equipment.

GENERAL

Cathode - Coated Unipotential
 Heater Voltage, A-C or D-C 6.3 Volts
 Heater Current 0.65 Ampere
 Envelope - T-6½, Glass
 Base - E9-1, Small Button 9-Pin
 Mounting Position - Any

Direct Interelectrode Capacitances*

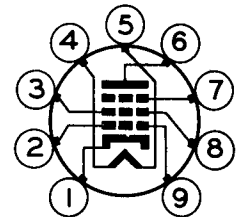
Grid-Number 1 to Plate, maximum	0.12	μμf
Input	11	μμf
Output	5.5	μμf

MAXIMUM RATINGS

DESIGN-CENTER VALUES			
Plate-Supply Voltage	300	Volts	
Plate Voltage	300	Volts	
Suppressor Voltage	0	Volts	
Screen-Supply Voltage	300	Volts	
Screen Voltage - See Screen Rating Chart			
Positive D-C Grid-Number 1 Voltage	0	Volts	
Negative D-C Grid-Number 1 Voltage	50	Volts	
Plate Dissipation	7.5	Watts	
Screen Dissipation	1.7	Watts	
Heater-Cathode Voltage			
Heater Positive with Respect to Cathode	90	Volts	
Heater Negative with Respect to Cathode	90	Volts	
Grid-Number 1 Circuit Resistance			
With Fixed Bias	0.1	Megohm	
With Cathode Bias	0.5	Megohm	
Bulb Temperature at Hottest Point	+200	Centigrade	

* Without external shield.

BASING DIAGRAM

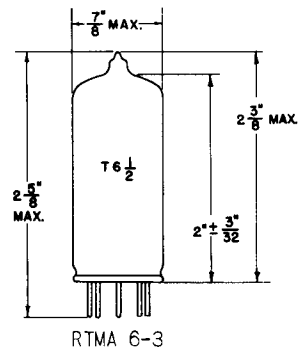


RTMA 9BV
BOTTOM VIEW

TERMINAL CONNECTIONS

- Pin 1 - Cathode
- Pin 2 - Grid Number 1
- Pin 3 - Grid Number 2 (Screen)
- Pin 4 - Heater
- Pin 5 - Heater
- Pin 6 - Plate
- Pin 7 - Internal Shield and Grid Number 3 (Suppressor)
- Pin 8 - Grid Number 2 (Screen)
- Pin 9 - Grid Number 1

PHYSICAL DIMENSIONS



CHARACTERISTICS AND TYPICAL OPERATION

CLASS A₁ AMPLIFIER

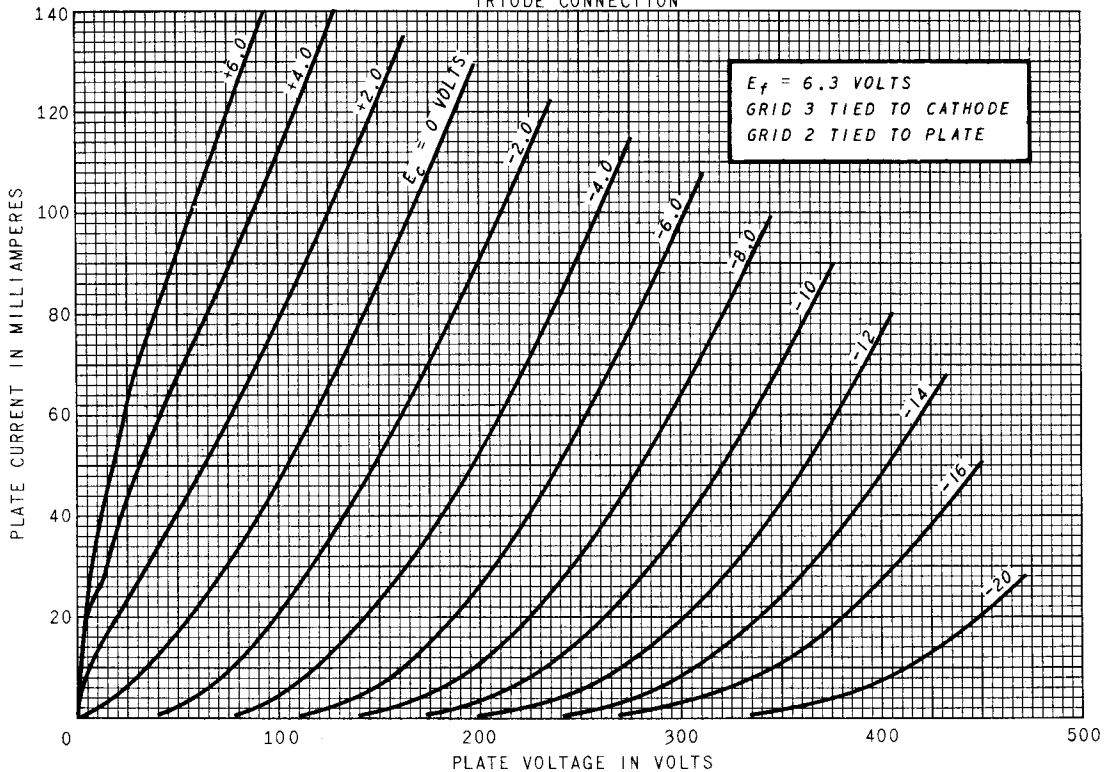
Plate Voltage	250	Volts
Suppressor - Connected to Cathode at Socket		
Screen Voltage	150	Volts
Grid-Number 1 Voltage	-3.0	Volts
Peak AF Grid-Number 1 Voltage	3.0	Volts
Plate Resistance, approximate	15000	Ohms
Transconductance	11000	Micromhos
Zero-Signal Plate Current	30	Milliamperes
Maximum-Signal Plate Current	31	Milliamperes
Zero-Signal Screen Current	7.0	Milliamperes
Maximum-Signal Screen Current	7.2	Milliamperes
Load Resistance	7500	Ohms
Total Harmonic Distortion, approximate	8	Percent
Maximum-Signal Power Output	2.8	Watts
Grid-Number 1 Voltage, approximate, I _b = 10 Microamperes	-14	Volts

VIDEO AMPLIFIER, 4 MEGACYCLE BANDWIDTH

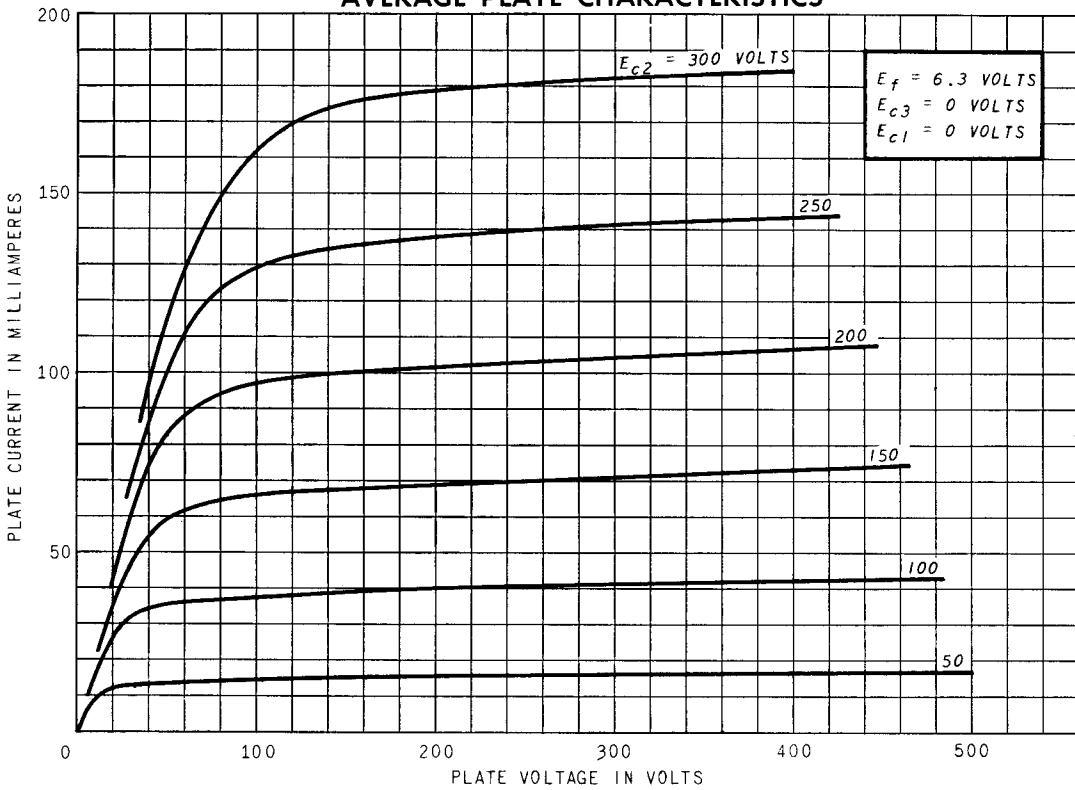
Plate-Supply Voltage	300	Volts
Suppressor - Connected to Cathode at Socket		
Screen-Supply Voltage	300	Volts
Screen Resistor	24000	Ohms
Grid-Number 1 Voltage	-2	Volts
Grid-Number 1 Resistance	0.1	Megohm
Grid-Number 1 Signal Voltage, Peak-to-Peak	3.0	Volts
Zero-Signal Plate Current	30	Milliamperes
Zero-Signal Screen Current	7.0	Milliamperes
Load Resistance	3900	Ohms
Voltage Output, Peak-to-Peak	132	Volts

AVERAGE PLATE CHARACTERISTICS

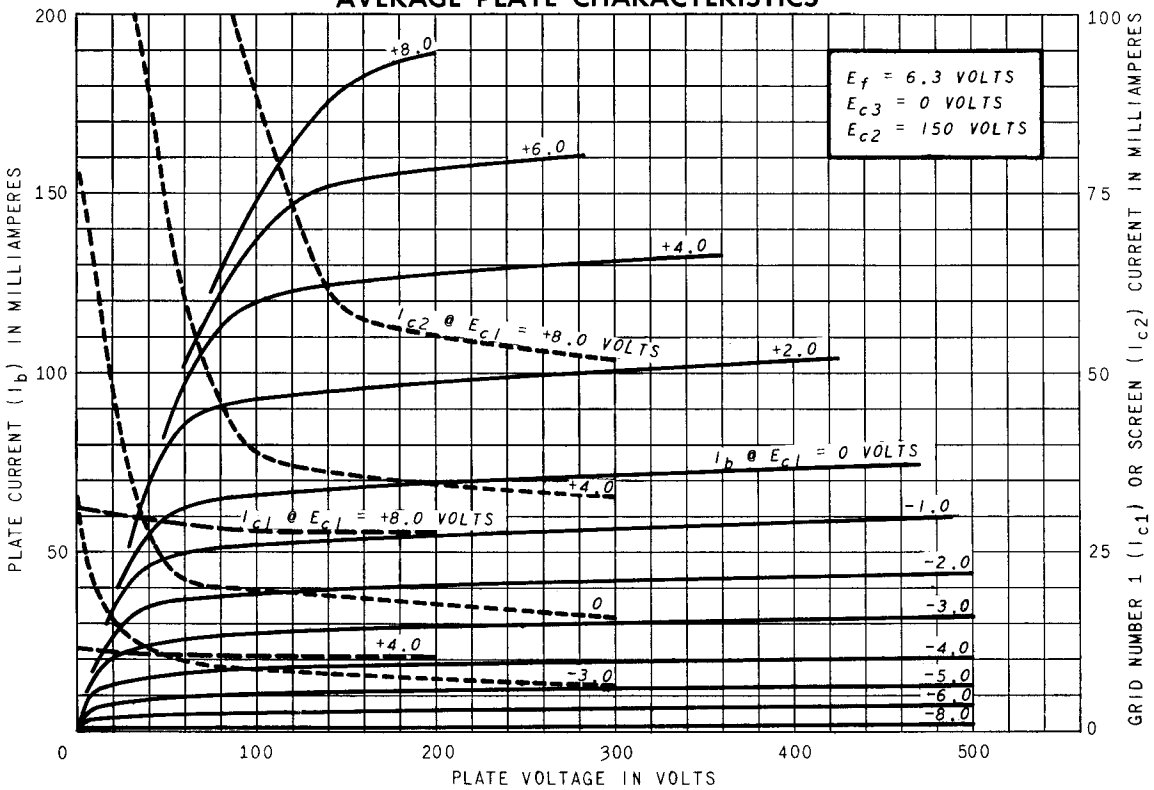
TRIODE CONNECTION



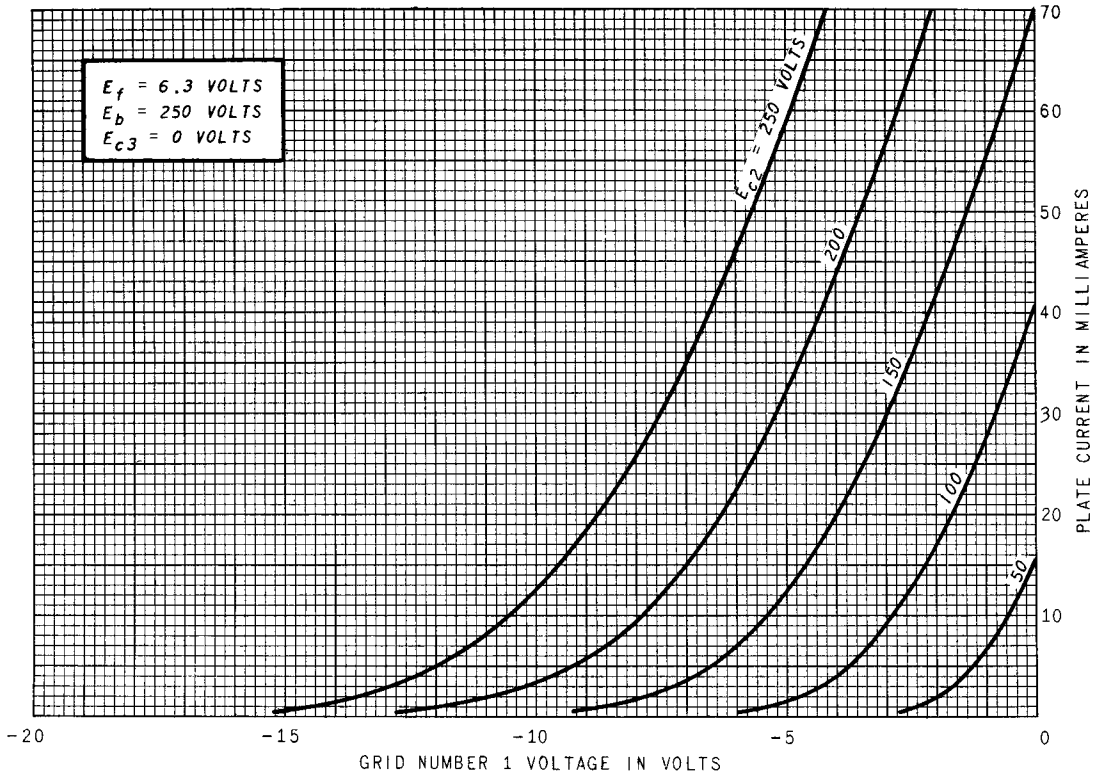
AVERAGE PLATE CHARACTERISTICS



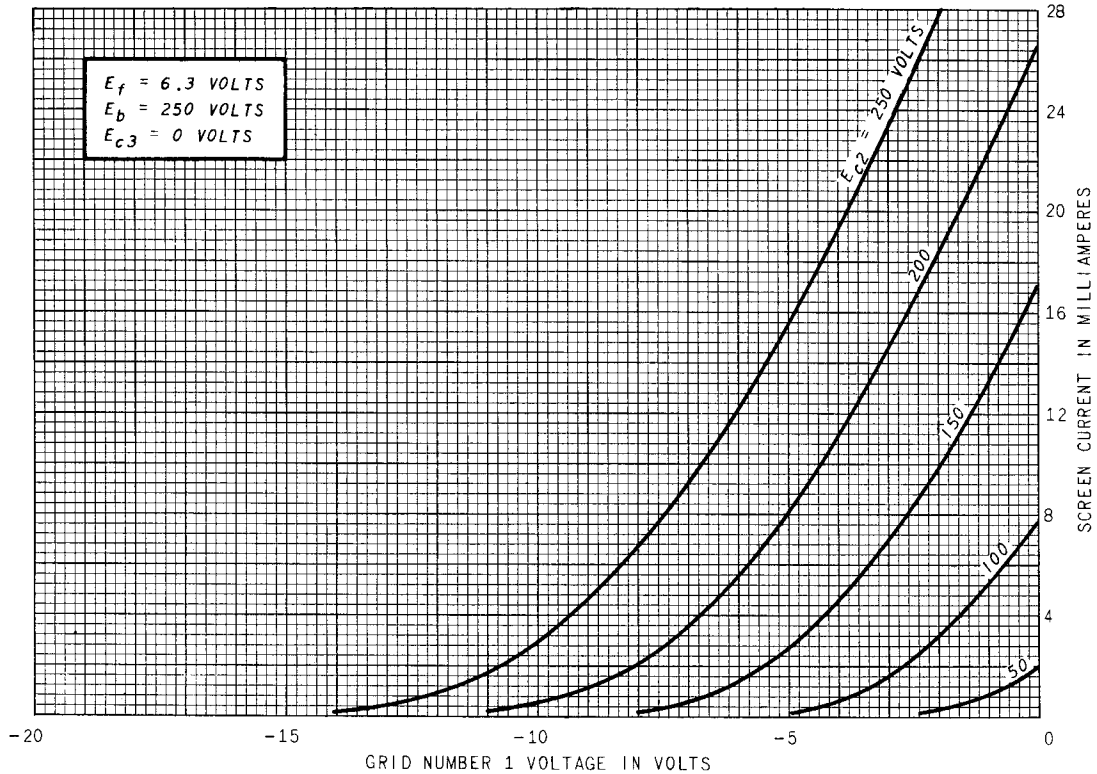
AVERAGE PLATE CHARACTERISTICS



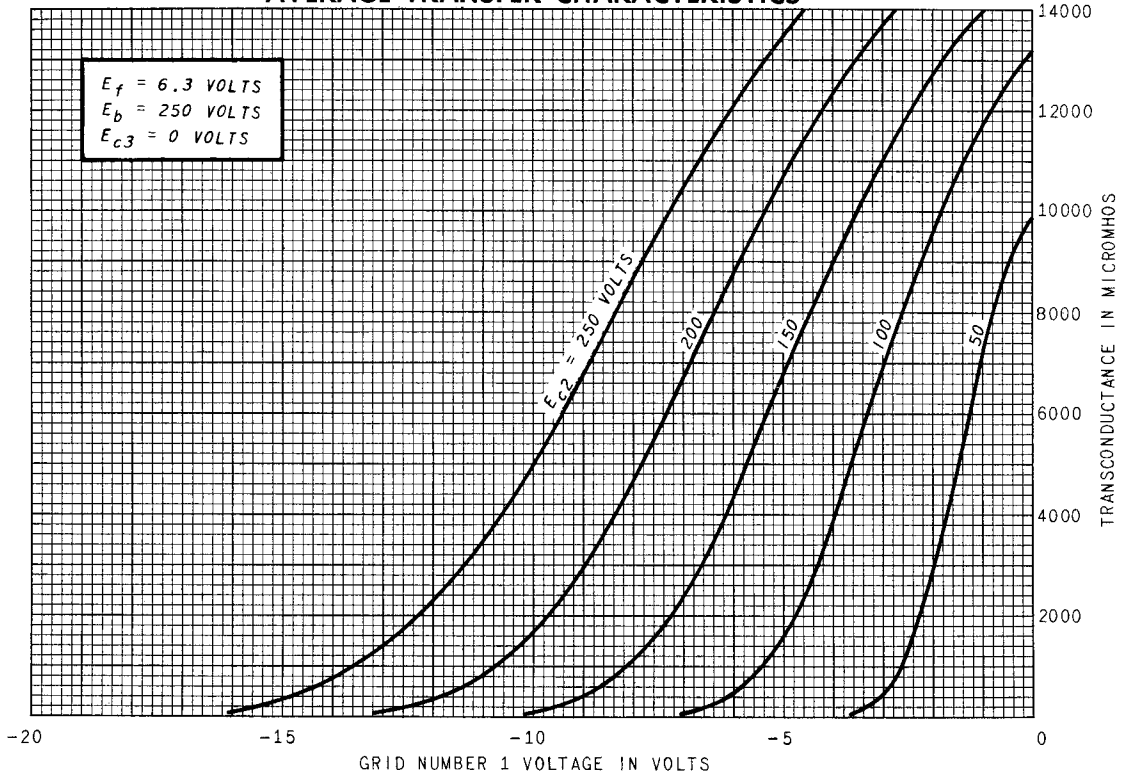
AVERAGE TRANSFER CHARACTERISTICS



AVERAGE TRANSFER CHARACTERISTICS



AVERAGE TRANSFER CHARACTERISTICS



SCREEN RATING CHART

