

### DESCRIPTION AND RATING

The 6BZ6 is a miniature semi-remote-cutoff pentode designed primarily for use as an intermediate-frequency amplifier in television receivers. Its semi-remote-cutoff characteristic makes the tube particularly useful in stages to which it is desired to apply automatic-gain-control. The tube also features a high transconductance and relatively low interelectrode capacitances.

Except for heater ratings, the 3BZ6 is identical to the 6BZ6. In addition the 3BZ6 has a controlled heater warm-up characteristic which makes it especially suited for use in television receivers that employ 600-milliampere, series-connected heaters.

### GENERAL

#### ELECTRICAL

Cathode—Coated Unipotential	<b>3BZ6</b>	<b>6BZ6</b>
Heater Voltage, AC or DC	3.15	6.3 $\pm$ 10% Volts
Heater Current	0.6 $\pm$ 6%	0.3 Amperes
Heater Warm-up Time*	11	Seconds
	<b>With</b>	<b>Without</b>
	<b>Shield†</b>	<b>Shield</b>
Direct Interelectrode Capacitances		
Grid-Number 1 to Plate, maximum	0.015	0.025 $\mu$ f
Input	7.0	7.0 $\mu$ f
Output	3.0	2.0 $\mu$ f

#### MECHANICAL

Mounting Position—Any  
Envelope—T-5½, Glass  
Base—E7-1, Miniature Button 7-Pin

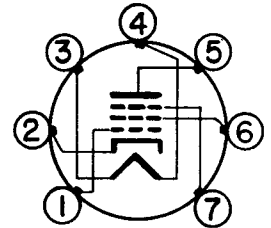
### MAXIMUM RATINGS

#### DESIGN-MAXIMUM VALUES

Plate Voltage	330	Volts
Screen-Supply Voltage	330	Volts
Screen Voltage—See Screen Rating Chart		
Positive DC Grid-Number 1 Voltage	0	Volts
Plate Dissipation	2.3	Watts
Screen Dissipation	0.55	Watts
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

Design-Maximum Ratings are the limiting values expressed with respect to bogie tubes at which satisfactory tube life can be expected to occur for the types of service for which the tube is rated. Therefore, the equipment designer must establish the circuit design so that initially and throughout equipment life no design-maximum value is exceeded with a bogie tube under the worst probable operating conditions with respect to supply-voltage variation, equipment component variation, equipment control adjustment, load variation, and environmental conditions.

### BASING DIAGRAM

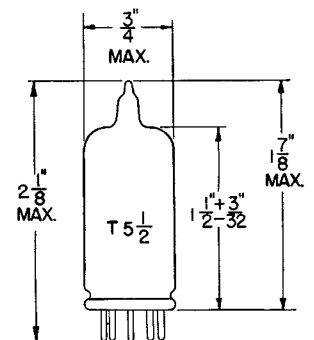


RETMA 7CM

### TERMINAL CONNECTIONS

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

### PHYSICAL DIMENSIONS



RETMA 5-2

## CHARACTERISTICS AND TYPICAL OPERATION

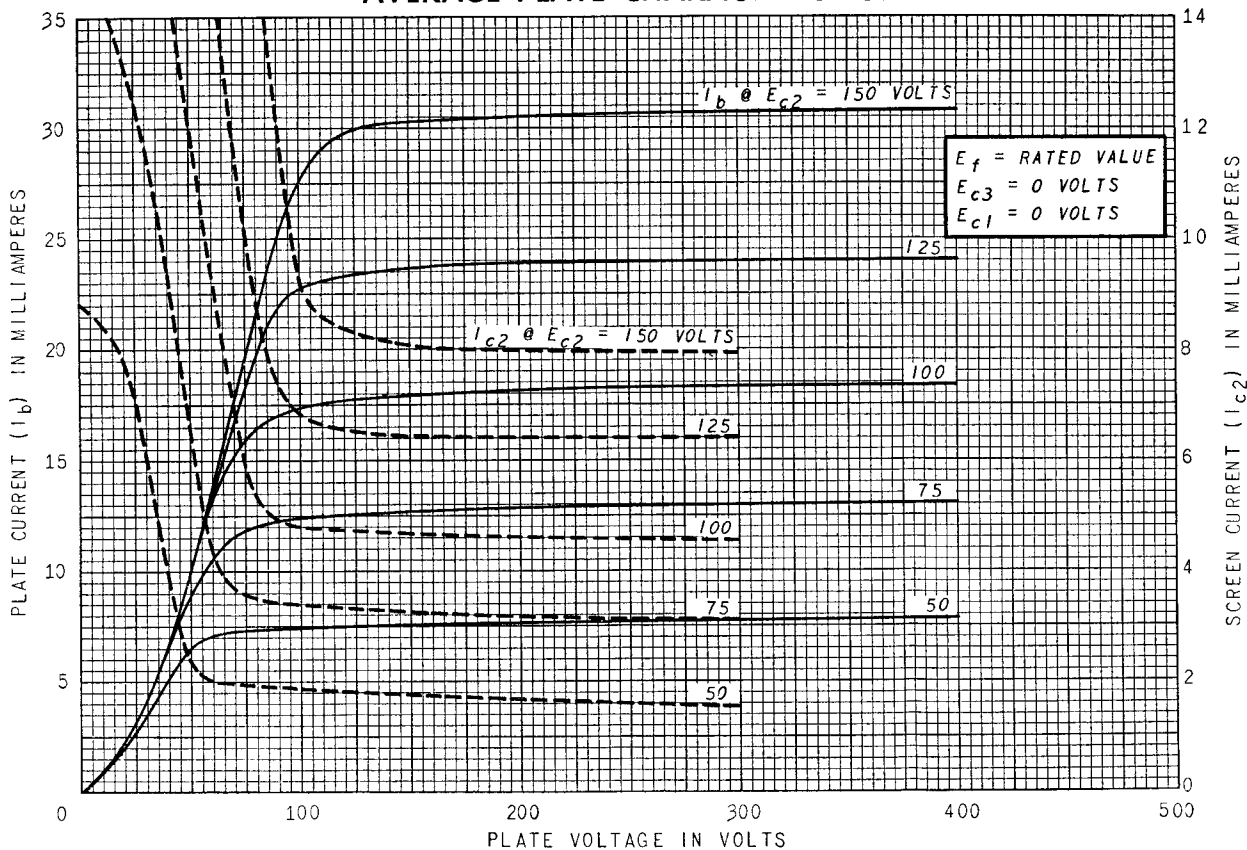
### CLASS A<sub>1</sub> AMPLIFIER

Plate Voltage .....	125	125	Volts
Suppressor, Connected to Cathode at Socket			
Screen Voltage .....	125	125	Volts
Grid-Number 1 Voltage .....	-4.5	...	Volts
Cathode-Bias Resistor .....	...	56	Ohms
Plate Resistance, approximate .....	...	0.26	Megohms
Transconductance .....	700	8000	Micromhos
Plate Current .....	...	14	Milliamperes
Screen Current .....	...	3.6	Milliamperes
Grid-Number 1 Voltage, approximate			
$G_m = 50$ Micromhos .....	...	-19	Volts

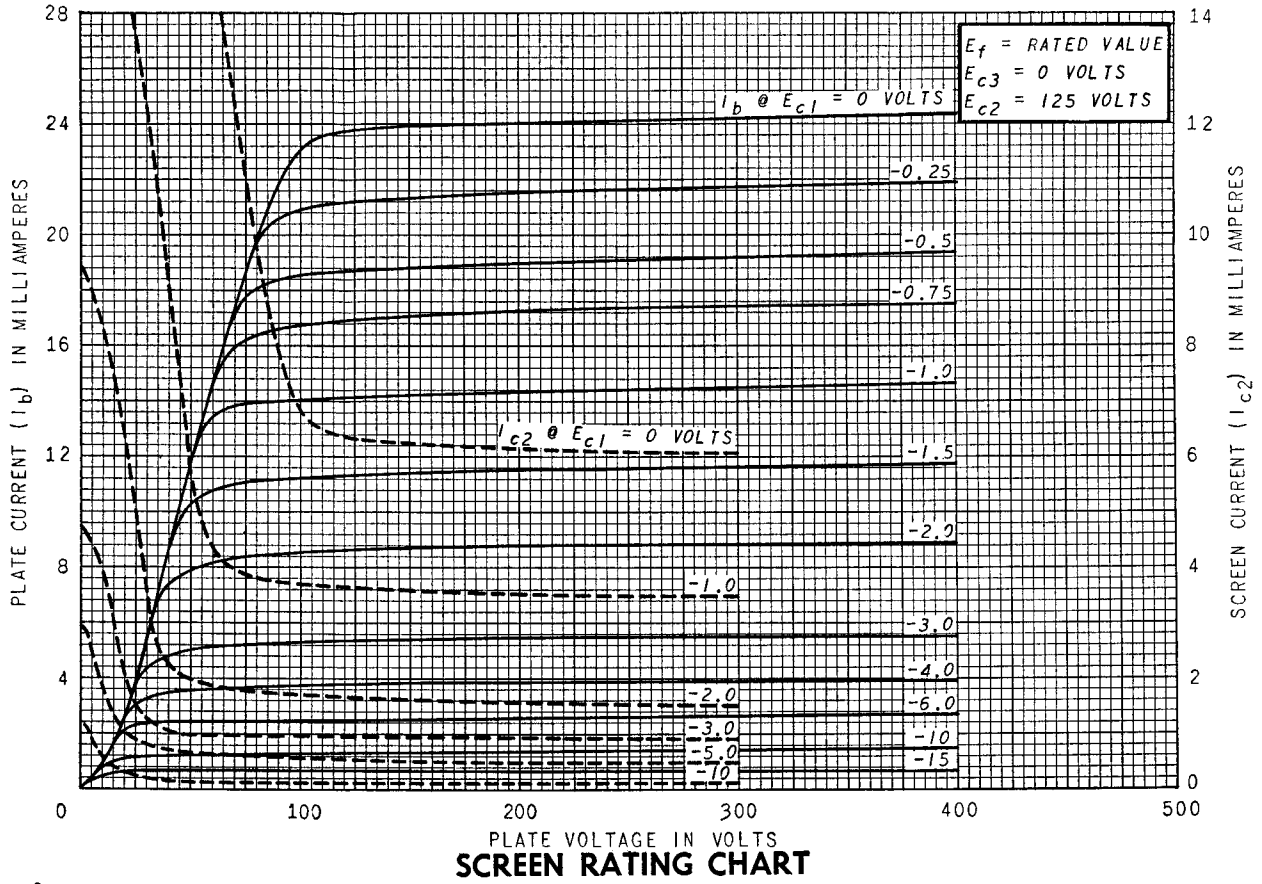
\* The time required for the voltage across the heater to reach 80 percent of its rated value after applying 4 times rated heater voltage to a circuit consisting of the tube heater in series with a resistance equal to 3 times the rated heater voltage divided by the rated heater current.

† With external shield (RETMA 316) connected to pin 2.

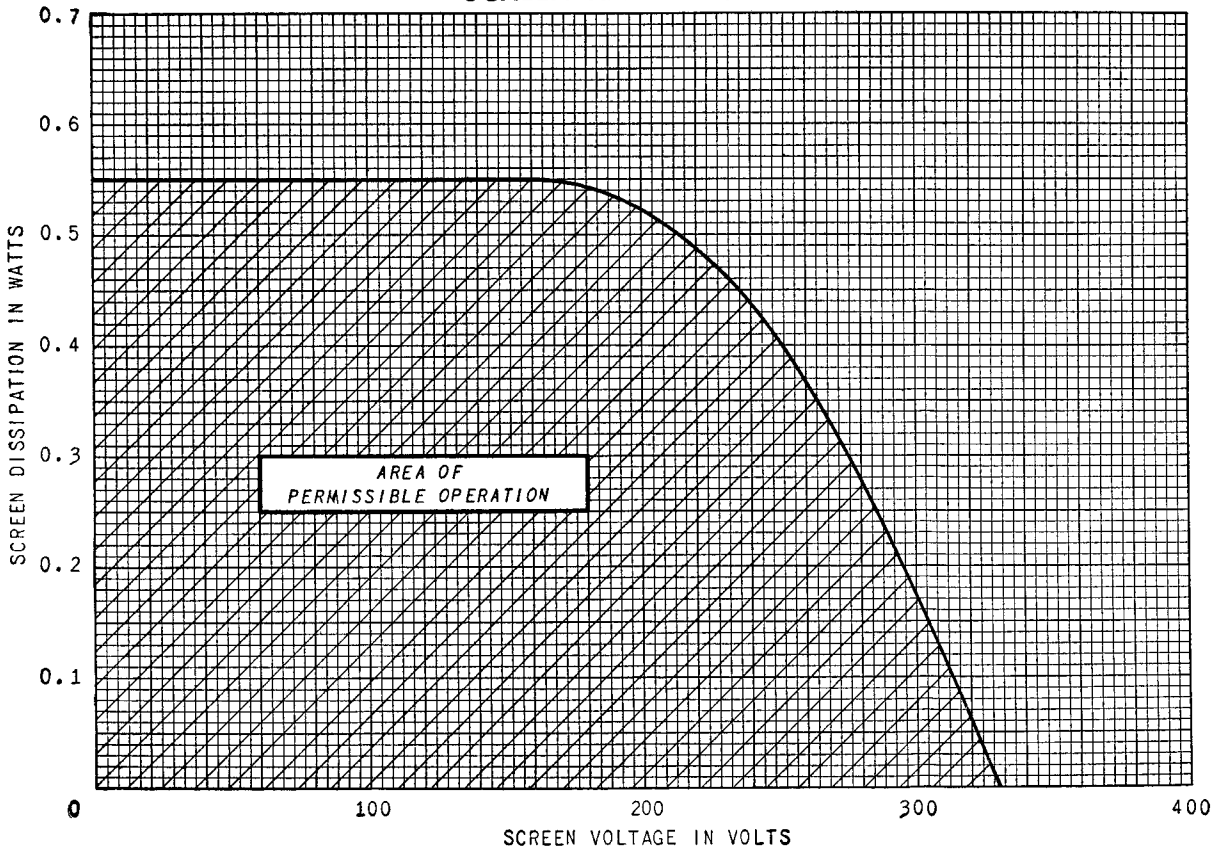
### AVERAGE PLATE CHARACTERISTICS



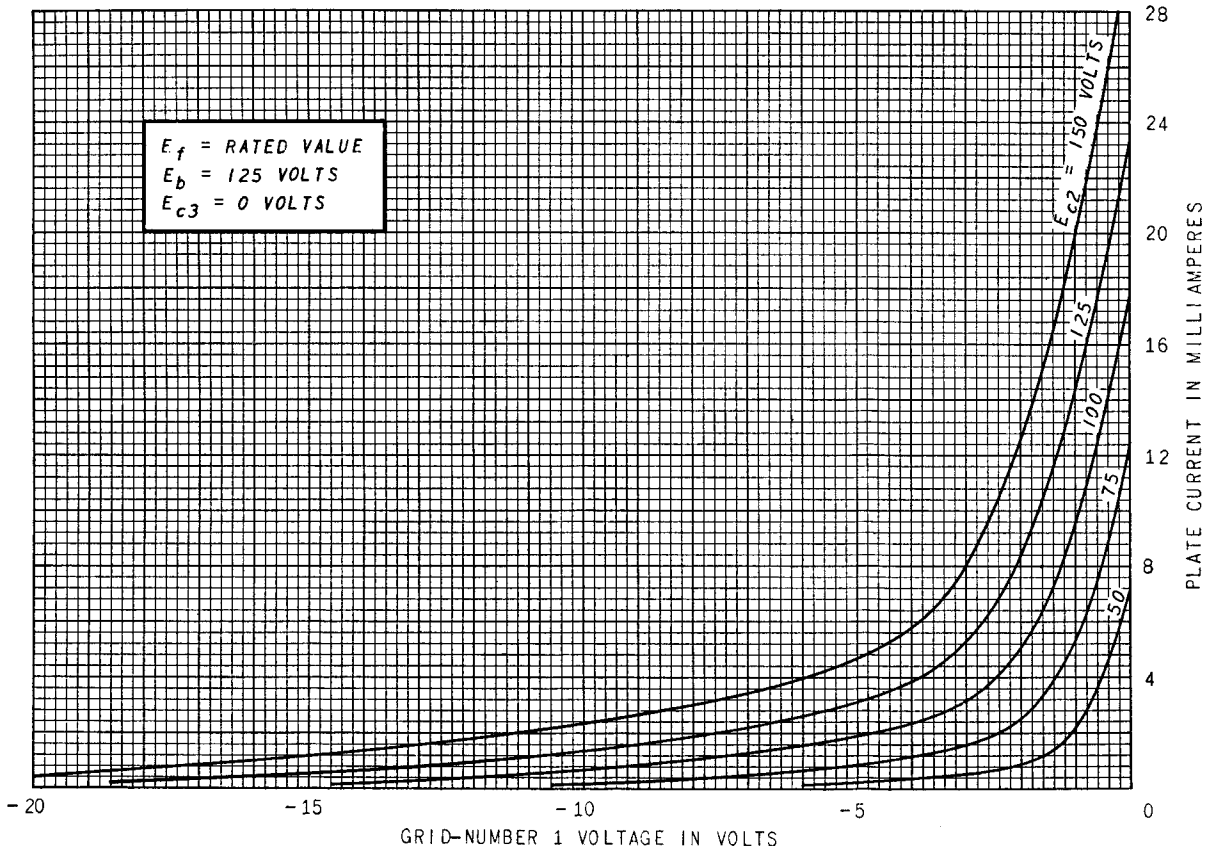
**AVERAGE PLATE CHARACTERISTICS**



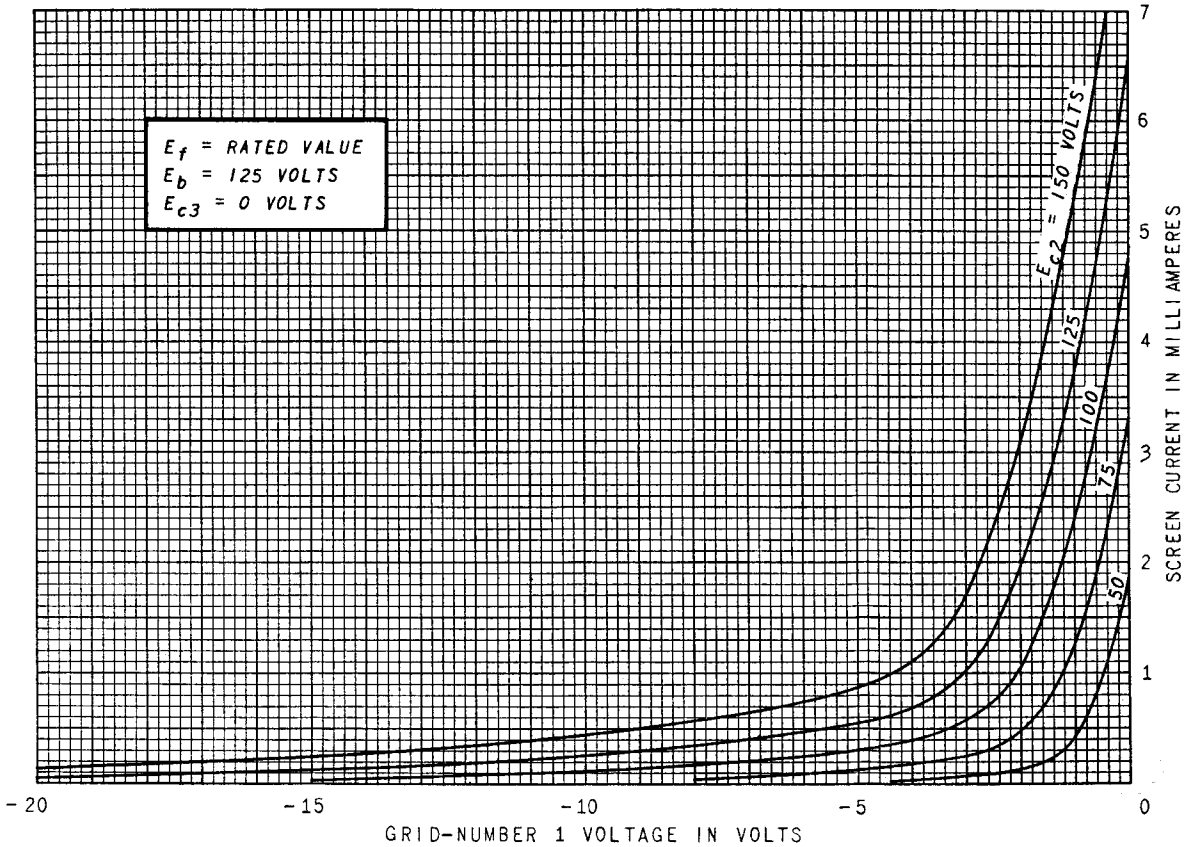
**SCREEN RATING CHART**



### AVERAGE TRANSFER CHARACTERISTICS



### AVERAGE TRANSFER CHARACTERISTICS



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