

DUPLEX-DIODE PENTODE

DESCRIPTION AND RATING

The 6BW8 is a duplex-diode sharp-cutoff pentode in which separate cathodes are provided for the diode and pentode sections. The diode sections are primarily intended for use as a horizontal phase detector in television receivers. The pentode section is suitable for use as a sound intermediate-frequency amplifier, sound limiter, and automatic-gain-control keyer.

GENERAL

ELECTRICAL

Cathode—Coated Unipotential

Heater Voltage, AC or DC..... $6.3 \pm 10\%$ Volts

Heater Current.....0.45 Amperes

Direct Interelectrode Capacitances*

Pentode Grid-Number 1 to Plate, maximum.....0.020 μf

Pentode Input.....4.8 μf

Pentode Output.....2.6 μf

Grid-Number 1 to Each Diode Plate, maximum.....0.006 μf

Diode-Number 1 Plate to Diode Cathode and Heater.....1.3 μf

Diode-Number 2 Plate to Diode Cathode and Heater.....1.2 μf

MECHANICAL

Mounting Position—Any

Envelope—T-6½, Glass

Base—E9-1, Small Button 9-Pin

* Without external shield.

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

Negative DC Grid-Number 1 Voltage.....55 Volts

Plate Dissipation.....3.0 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

Grid-Number 1 Circuit Resistance

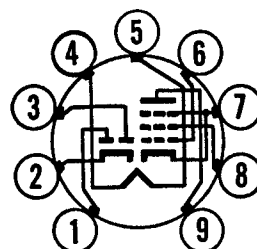
With Fixed Bias.....0.1 Megohms

With Cathode Bias.....0.5 Megohms

Diode Current for Continuous Operation, Each Diode.....5.0 Milliamperes

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 9HK

TERMINAL CONNECTIONS

Pin 1—Diode Number 2 Plate

Pin 2—Diode Cathode

Pin 3—Diode Number 1 Plate

Pin 4—Heater

Pin 5—Heater

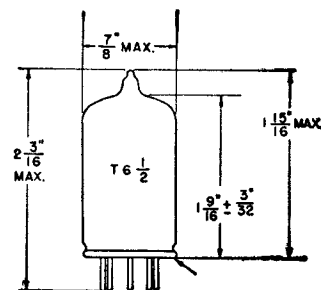
Pin 6—Pentode Grid Number 1

Pin 7—Pentode Cathode, Grid Number 3, and Internal Shield

Pin 8—Pentode Grid Number 2 (Screen)

Pin 9—Pentode Plate

PHYSICAL DIMENSIONS



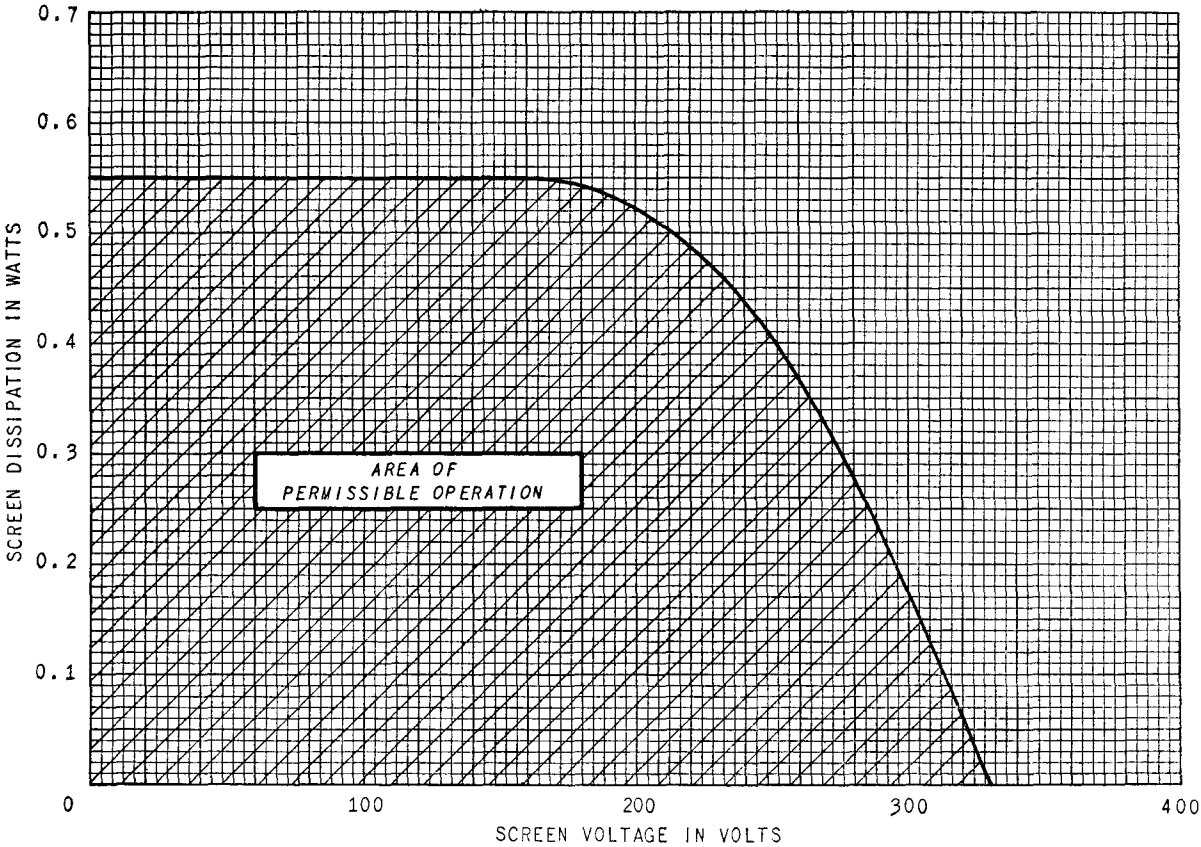
RETMA 6-2

CHARACTERISTICS AND TYPICAL OPERATION

AVERAGE CHARACTERISTICS

Plate Voltage	250 Volts
Screen Voltage	110 Volts
Cathode-Bias Resistor	68 Ohms
Plate Resistance, approximate	0.25 Megohms
Transconductance	5200 Micromhos
Plate Current	10 Milliamperes
Screen Current	3.5 Milliamperes
Grid-Number 1 Voltage, approximate Ib = 10 Microamperes	— 10 Volts
Average Diode Current, Each Diode With 5 Volts DC Applied	20 Milliamperes

SCREEN RATING CHART



AVERAGE PLATE CHARACTERISTICS

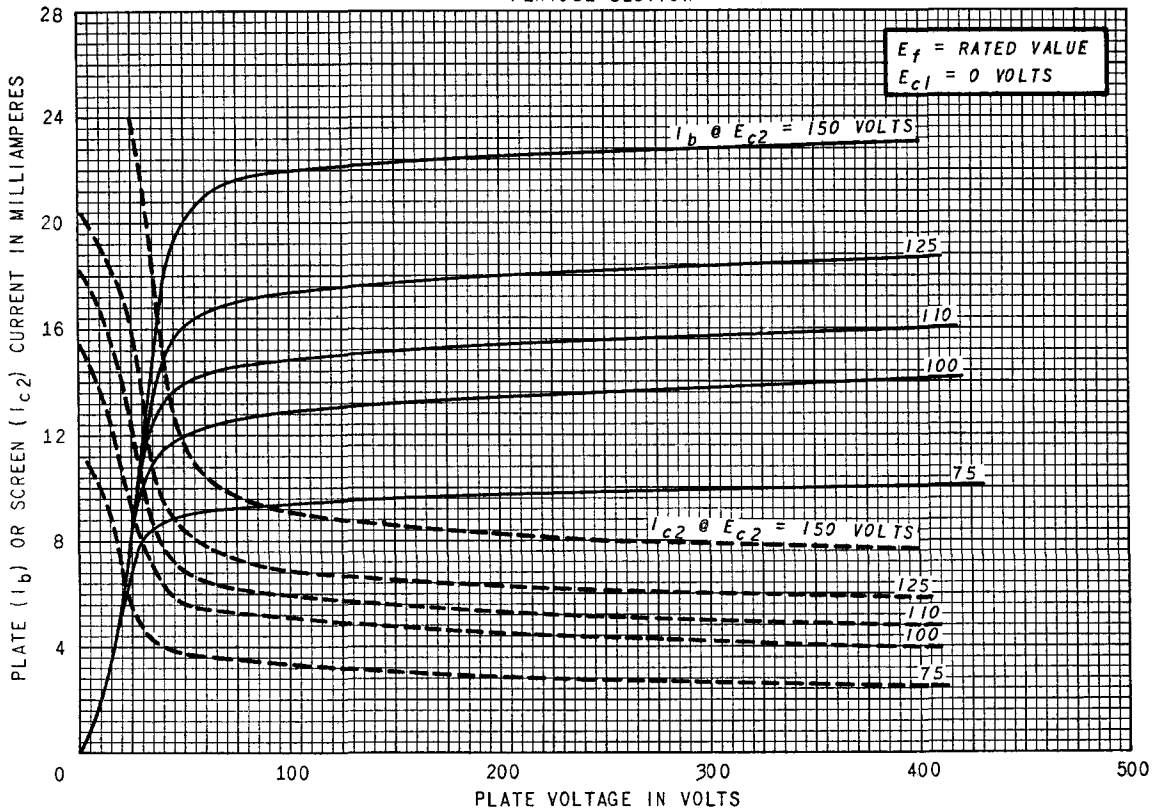
PENTODE SECTION

6BW8

ET-T1390

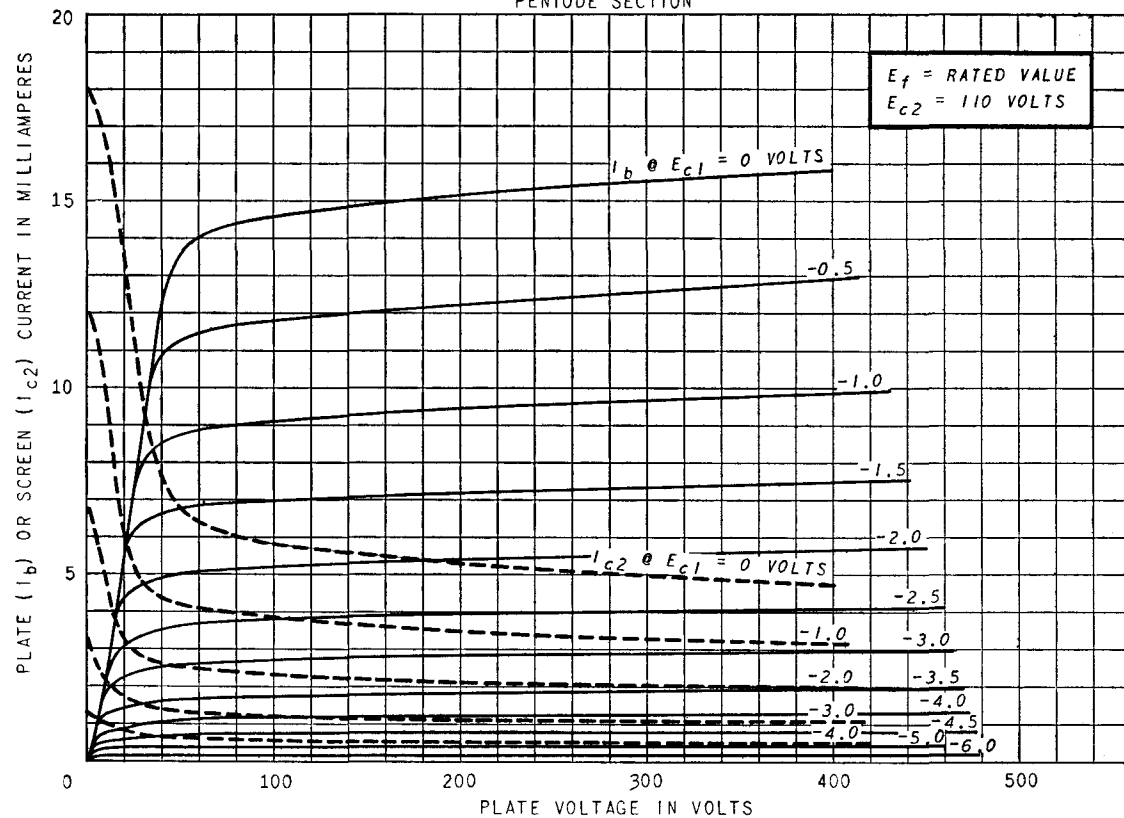
Page 3

9-56



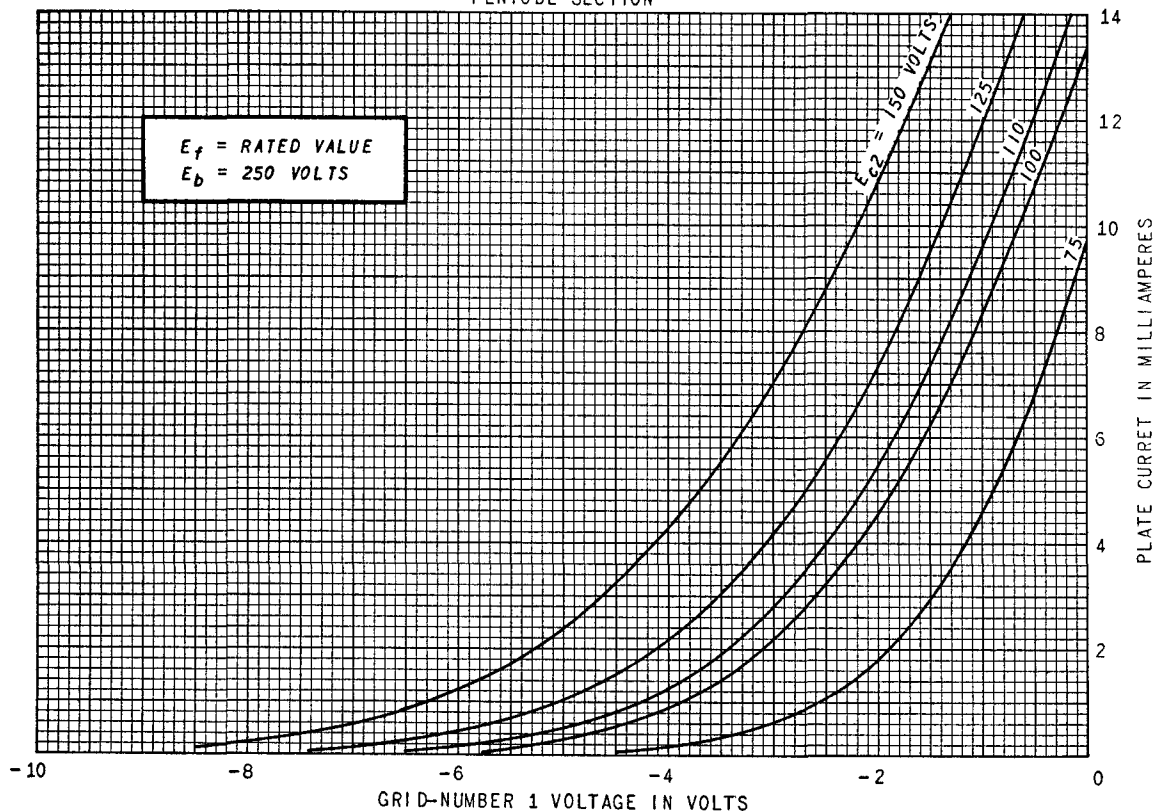
AVERAGE PLATE CHARACTERISTICS

PENTODE SECTION



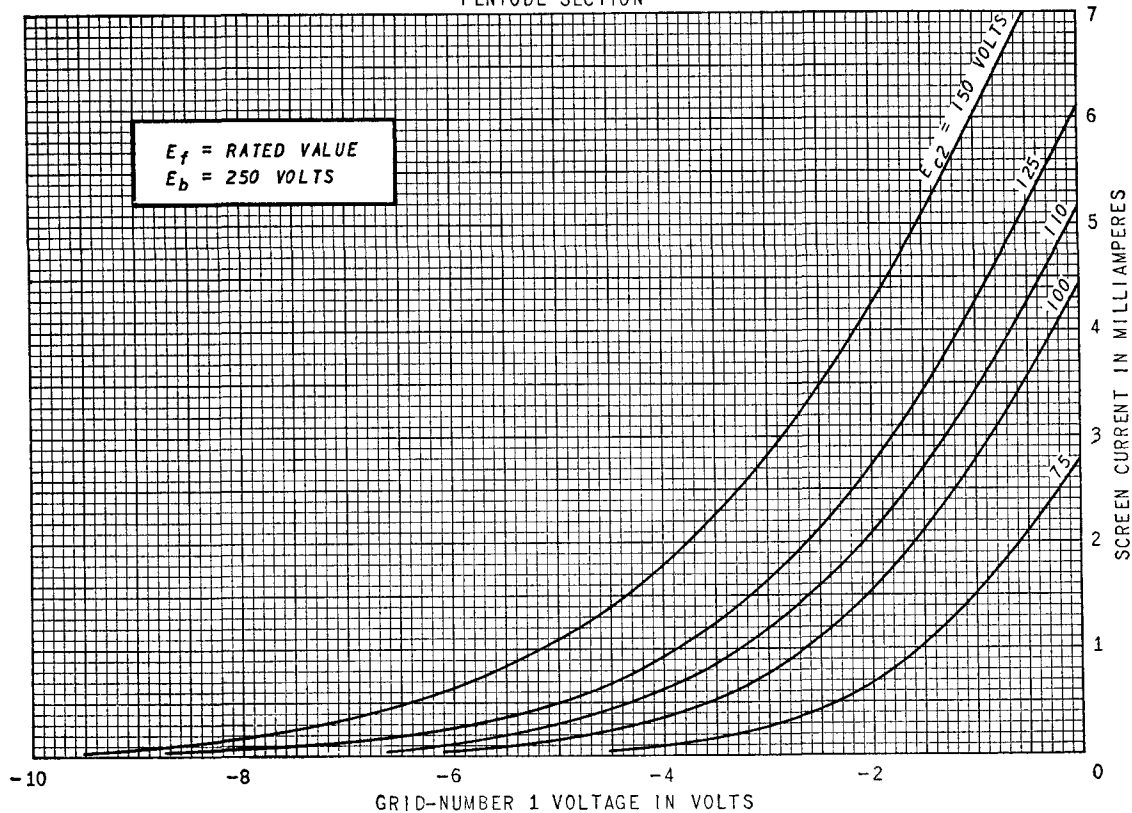
AVERAGE TRANSFER CHARACTERISTICS

PENTODE SECTION



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PENTODE SECTION



AVERAGE TRANSFER CHARACTERISTICS

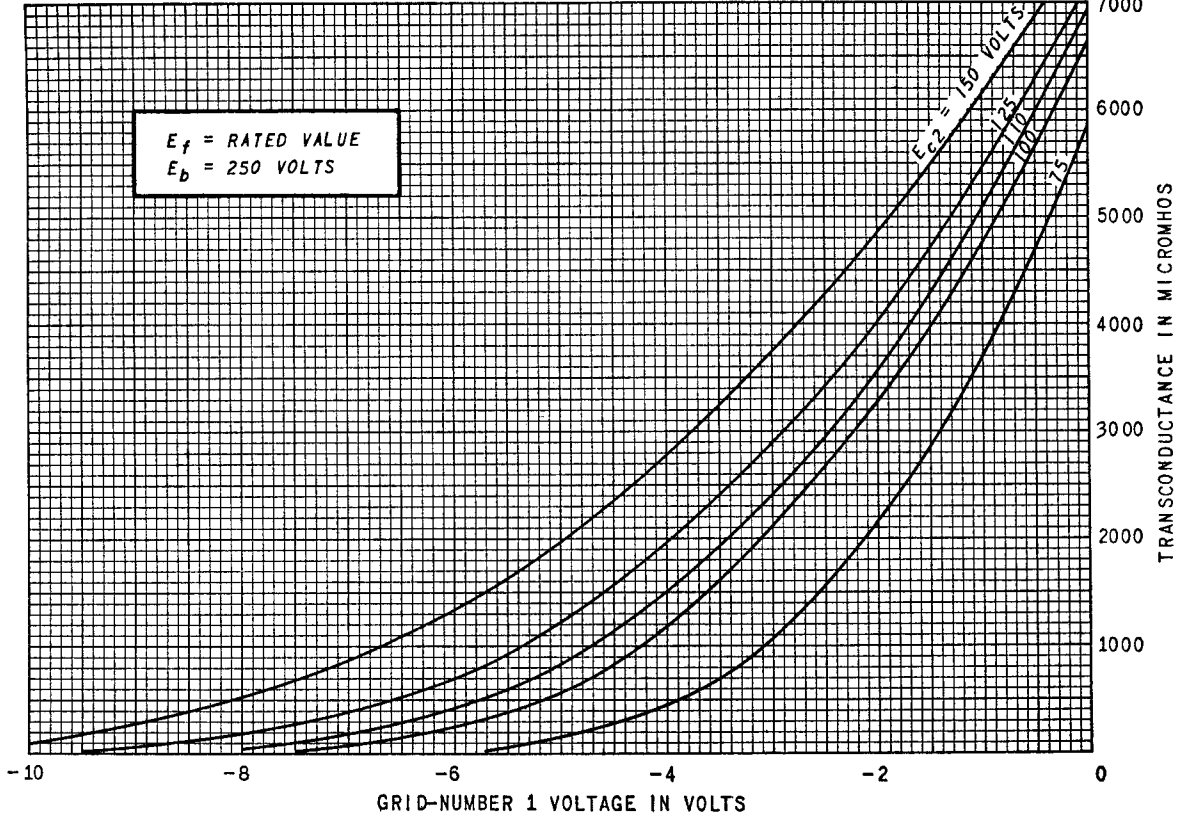
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6BW8

ET-T1390

Page 5

9-56



OPERATION CHARACTERISTICS

EACH DIODE

