

DESCRIPTION AND RATING

TWIN DIODE GL-6202 FIVE-STAR TUBE



The GL-6202 is a miniature full-wave high-vacuum rectifier intended for use in power supplies in which the d-c current requirements do not exceed 50 milliamperes. Within the limitations of its maximum ratings, the GL-6202 is a replacement for the 6X4.

The GL-6202 is specially designed to assure dependable life and reliable service under the exacting conditions encountered in mobile and aircraft applications. Features include a high degree of mechanical strength and a heater-cathode construction designed to withstand many-thousand cycles of intermittent operation. This tube may be used in applications which are subjected to altitudes as high as 60,000 feet.

TECHNICAL INFORMATION

GENERAL

Electrical

Cathode - Coated Unipotential

Heater Voltage (A-c or D-c)	6.3	Volts
Heater Current	0.6	Ampere

Mechanical

Mounting Position - Any
Envelope - T-5 1/2, Glass
Base - Miniature Button 7-pin, E7-1

MAXIMUM RATINGS

Electrical*, Design-center Values

Rectifier Service - Sinusoidal Supply Voltages, Frequency Range
25 to 1000 Cycles per Second

Peak Inverse Plate Voltage

Altitudes up to 40,000 Feet†	1250	Volts
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Altitudes from 40,000 to 60,000 Feet†	850	Volts
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A-c Plate-supply Voltage, per Plate, RMS - See Rating Chart I‡

Steady-state Peak Plate Current per Plate	200	Milliamperes
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Transient Peak Plate Current per Plate,

Maximum Duration 0.2 Second	1.45	Amperes
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D-c Output Current - See Rating Chart I‡

Heater-cathode Voltage

Heater Positive with Respect to Cathode	100	Volts
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Heater Negative with Respect to Cathode	450	Volts
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Mechanical

Peak Impact Acceleration§	700	G
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Bulb Temperature at Hottest Point (Absolute Maximum)	+165	C
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CHARACTERISTICS AND TYPICAL OPERATION

Full-wave Rectifier, Altitudes up to 40,000 Feet

	Capacitor Input Filter	Choke Input Filter	
A-c Plate-supply Voltage per plate, RMS	325	450	Volts
Filter Input Capacitor	4	---	Microfarads
Filter Input Choke	---	8	Henrys
Total Plate-supply Resistance per plate	175	---	Ohms

CHARACTERISTICS AND TYPICAL OPERATION (CONT'D)

Full-wave Rectifier, Altitudes up to 40,000 Feet

	Capacitor Input Filter	Choke Input Filter	
D-c Output Current	50	50	Milliamperes
D-c Output Voltage at Filter Input	365	375	Volts
Tube Voltage Drop			
Measured with Applied D-c at 50 Milliamperes per Plate		22	Volts

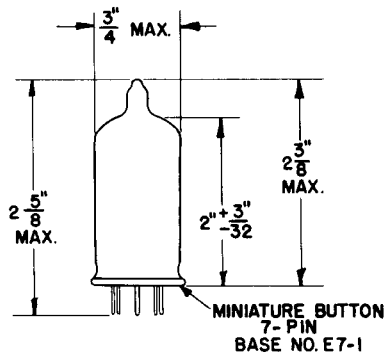
* To simplify the application of the maximum ratings to circuit design, the electrical design-center maximum ratings are also presented in chart form as Rating Charts I, II, and III. Rating Chart I presents the maximum ratings for a-c plate-supply voltage and d-c output current. Rating Chart II provides a convenient method for checking conformance with the maximum steady-state peak plate current rating. Rating Chart III offers a convenient method for checking conformance with the maximum transient peak plate current rating.

With a capacitor-input filter, the conditions of each of Rating Charts I, II, and III must be satisfied in order to obtain performance within all of the appropriate electrical maximum ratings. With a choke-input filter, operation within the indicated boundary of Rating Chart I will assure performance within all of the appropriate electrical maximum ratings.

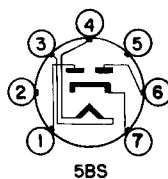
† The altitude ratings as presented refer to the limitations of the tube itself. Because the socket employed can become the limiting factor in high-altitude operation, consideration must be given to the voltage-breakdown capabilities of the tube and socket combination employed.

‡ The maximum ratings for a-c plate supply voltage and d-c output current are inter-related and are also dependent on whether a choke or capacitor-input filter is employed. This relationship is shown in Rating Chart I. With a capacitor-input filter, the operating point of d-c output current and a-c supply voltage must fall within the curve FAEDG. With a choke-input filter, the operating point must fall within the curve FABCDG.

§ Forces in any direction as applied by the Navy-type, High Impact (flyweight) Shock Machine for Electronic Devices or its equivalent.

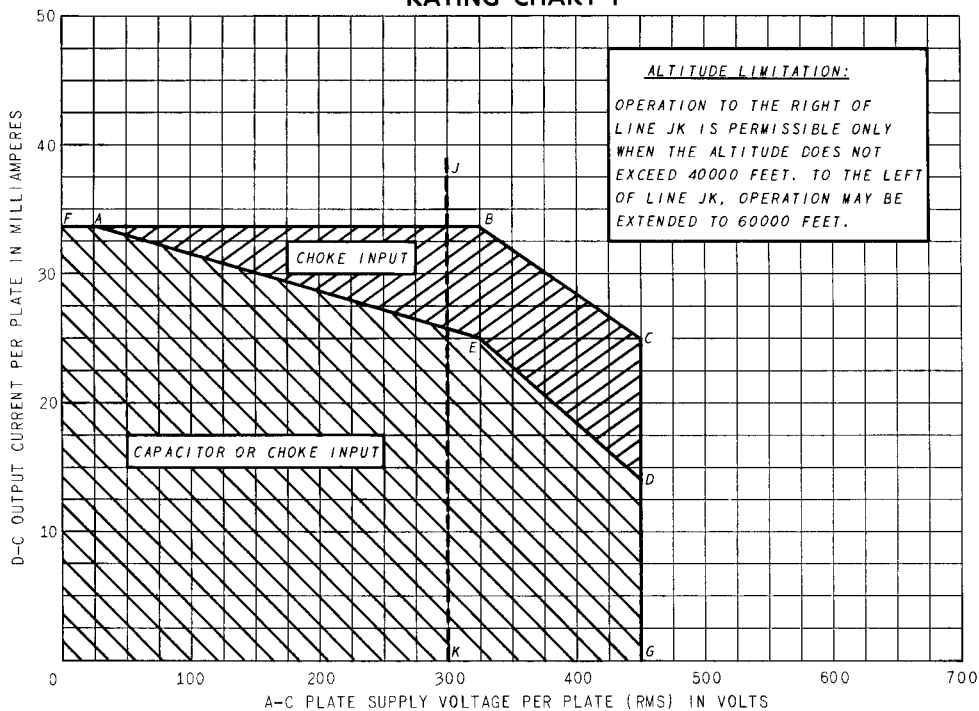


BASING DIAGRAM



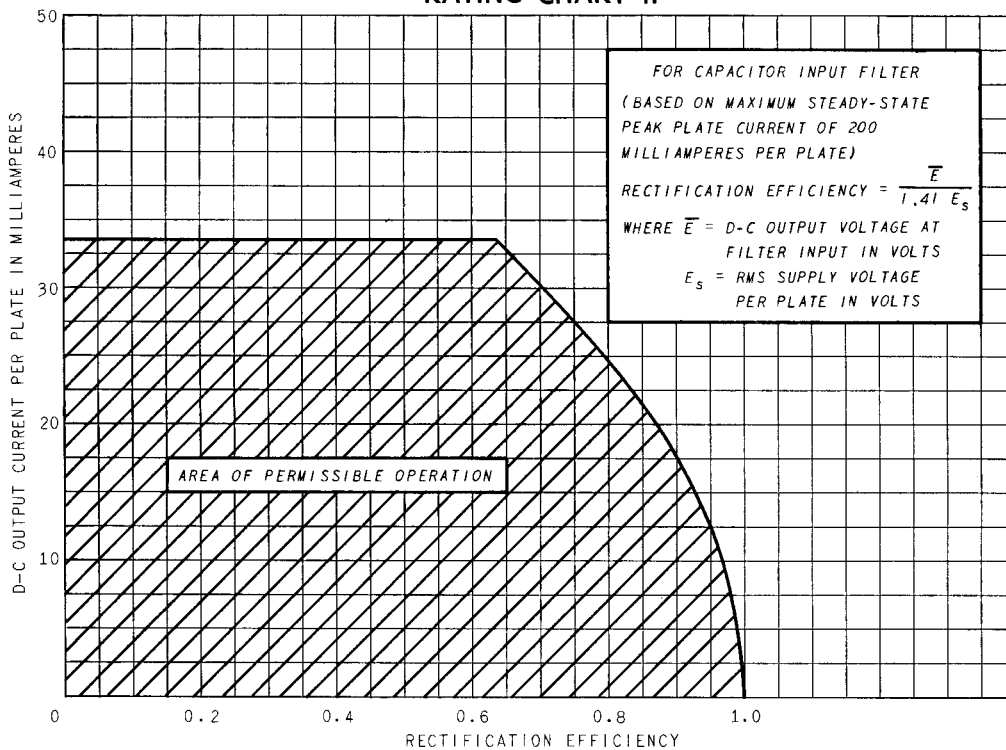
- PIN 1: PLATE NUMBER 2
- PIN 2: NO CONNECTION
- PIN 3: HEATER
- PIN 4: HEATER
- PIN 5: NO CONNECTION
- PIN 6: PLATE NUMBER 1
- PIN 7: CATHODE

RATING CHART I



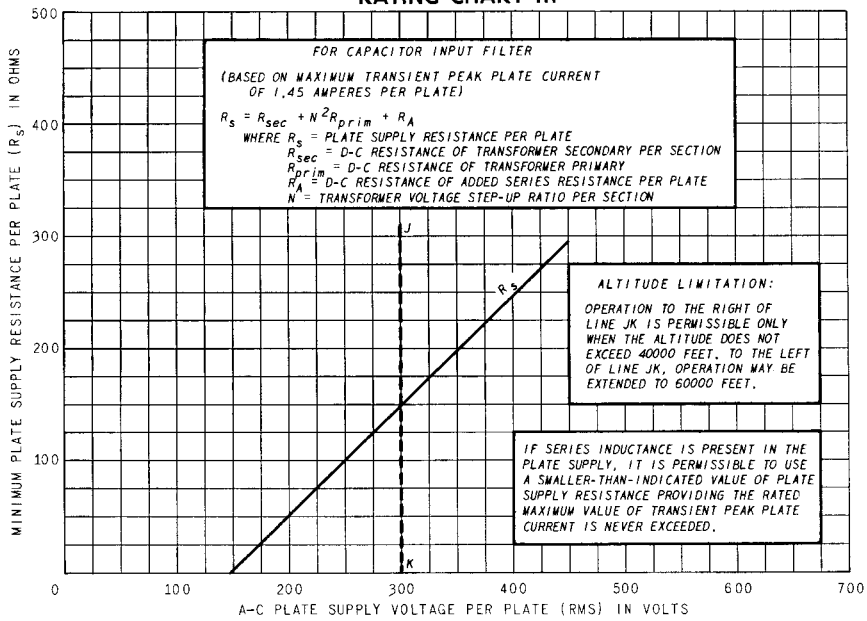
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RATING CHART II



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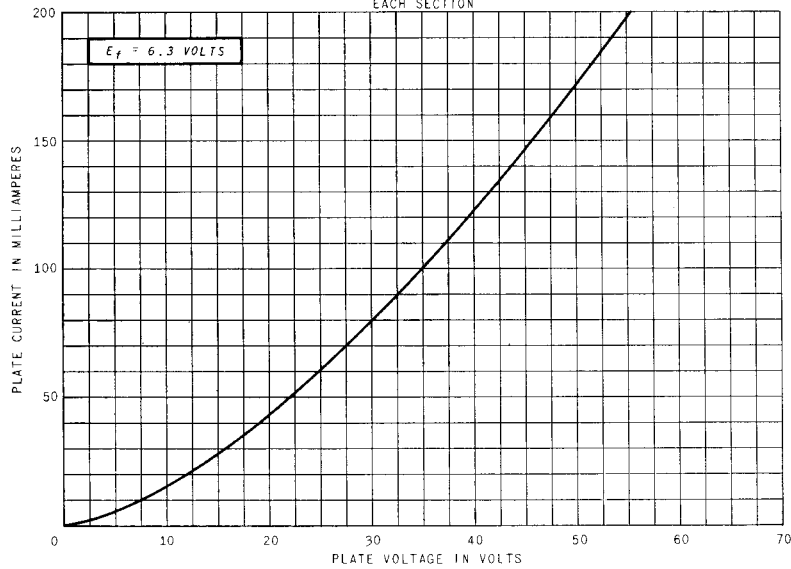
RATING CHART III



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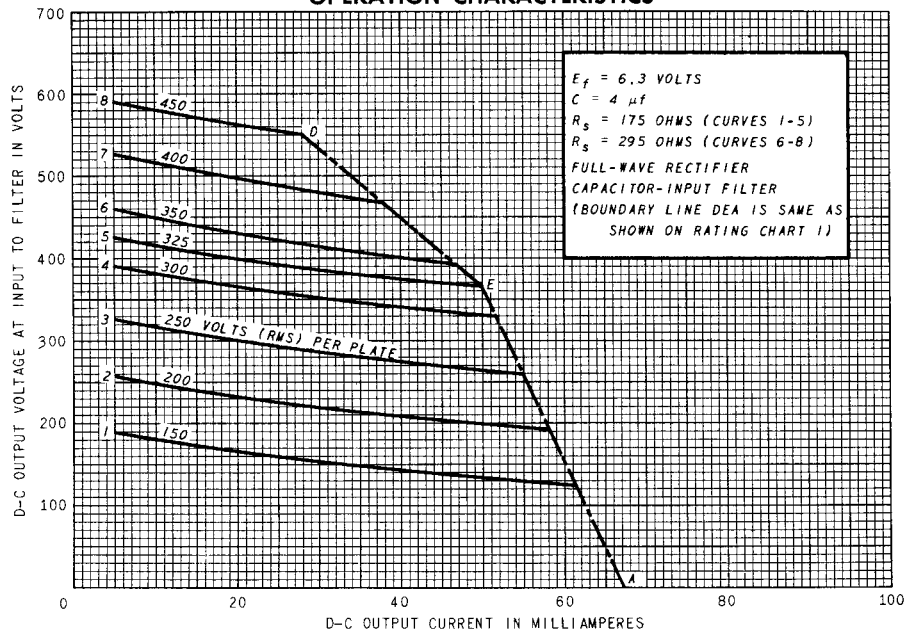
AVERAGE PLATE CHARACTERISTICS

EACH SECTION



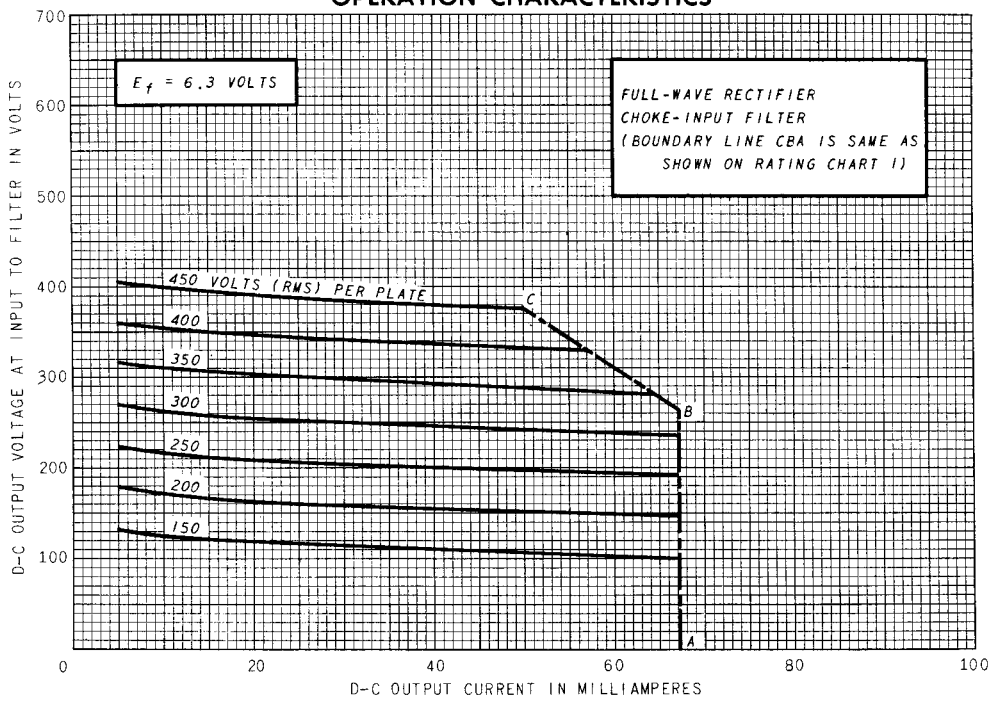
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OPERATION CHARACTERISTICS



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