

OBJECTIVE FOR DEVELOPMENTAL TYPE

Z-2731*

DIODE

The Z-2731 is a single, heater-cathode diode of ceramic and metal planar construction. The tube is intended for application as a power rectifier.

GENERAL

Electrical

Cathode - Coated Unipotential

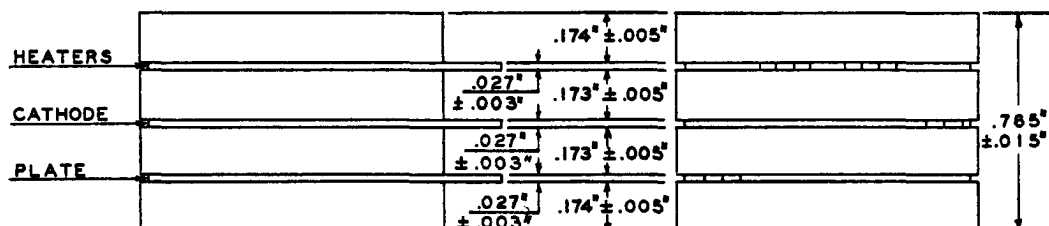
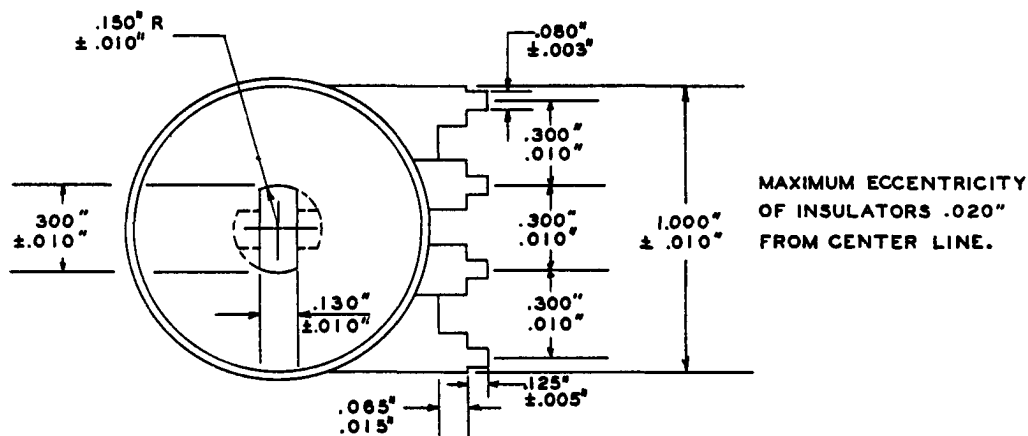
Heater Characteristics and Ratings

Heater Voltage, AC or DC	6.3±0.6	Volts
→ Heater Current	1.0	Amperes

Mechanical

Operating Position - Any

→ Outline Drawing



MAXIMUM RATINGS

Rectifier Service - Absolute-Maximum Values+

Peak Inverse Plate Voltage	1000	Volts
AC Plate-Supply Voltage per Plate - See Rating Chart I		
→ Steady-State Peak Plate Current per Plate	1.1	Amperes
→ Transient Peak Plate Current per Plate, Maximum Duration 0.2 Second	5.5	Amperes
DC Output Current - See Rating Chart I		
Heater-Cathode Voltage		
Heater Positive with Respect to Cathode	300	Volts
Heater Negative with Respect to Cathode	300	Volts
Envelope Temperature at Hottest Point	Ø	C

Absolute-Maximum ratings are limiting values of operating and environmental conditions applicable to any electron tube of a specified type as defined by its published data and should not be exceeded under the worst probable conditions.

The tube manufacturer chooses these values to provide acceptable serviceability of the tube, making no allowance for equipment variations, environmental variations, and the effects of changes in operating conditions due to variations in the characteristics of the tube under consideration and of

all other electron devices in the equipment.

The equipment manufacturer should design so that initially and throughout life no absolute-maximum value for the intended service is exceeded with any tube under the worst probable operating conditions with respect to supply-voltage variation, equipment component variation, equipment control adjustment, load variation, signal variation, environmental conditions, and variations in the characteristics of the tube under consideration and of all other electron devices in the equipment.

CHARACTERISTICS AND TYPICAL OPERATION

→ Half-Wave Rectifier with Capacitor-Input Filter

AC Plate-Supply Voltage, RMS	250	Volts
Filter Input Capacitor	50	Microfarads
Total Plate-Supply Resistance	18	Ohms
DC Output Current	125	Milliamperes
DC Output Voltage at Filter Input	260	Volts

→ Tube Voltage Drop

Ib = 300 Milliamperes	37	Volts
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* Publication of these data does not obligate the General Electric Company to manufacture a tube with these characteristics.

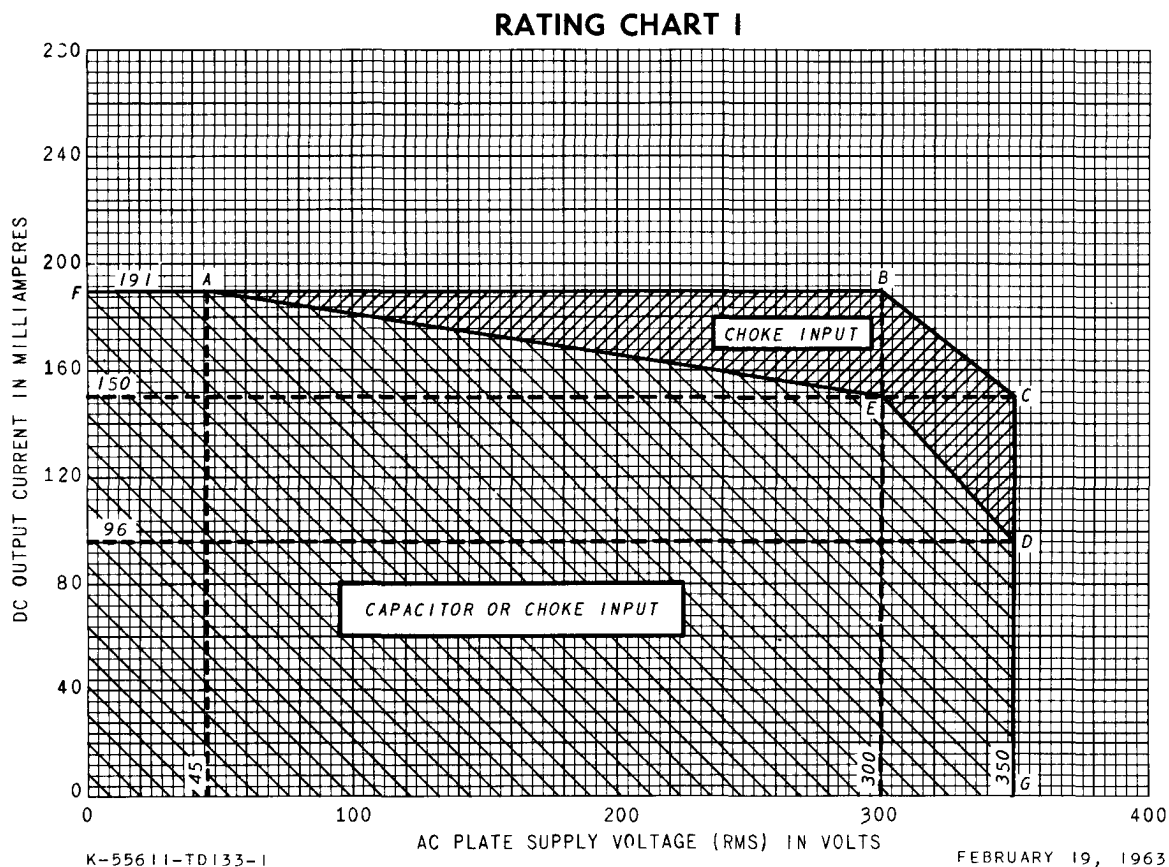
+ To simplify the application of the maximum ratings to circuit design, the Absolute-Maximum ratings are presented in chart form as Rating Charts I, II, and III. Rating Chart I presents the maximum ratings for a-c plate-supply voltage and d-c output current. Rating Chart II provides a convenient method 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. Rating Chart I applies to both capacitor-input and choke-input filters, while Rating Charts II and III apply to capacitor-input filters only.

Operating points should be so selected that the boundary limits of a-c plate-supply voltage and d-c output current on Rating Chart I, and maximum d-c output current per plate and rectification efficiency on Rating Chart II, are not exceeded with any tube under the worst probable operating conditions with respect to supply-voltage variation, equipment component variation, equipment control adjustment, and environmental conditions. On Rating Chart I the boundary FAEDG defines the limits for capacitor-input filter operation, and the boundary FABCDG defines the limits for choke-input filter operation.

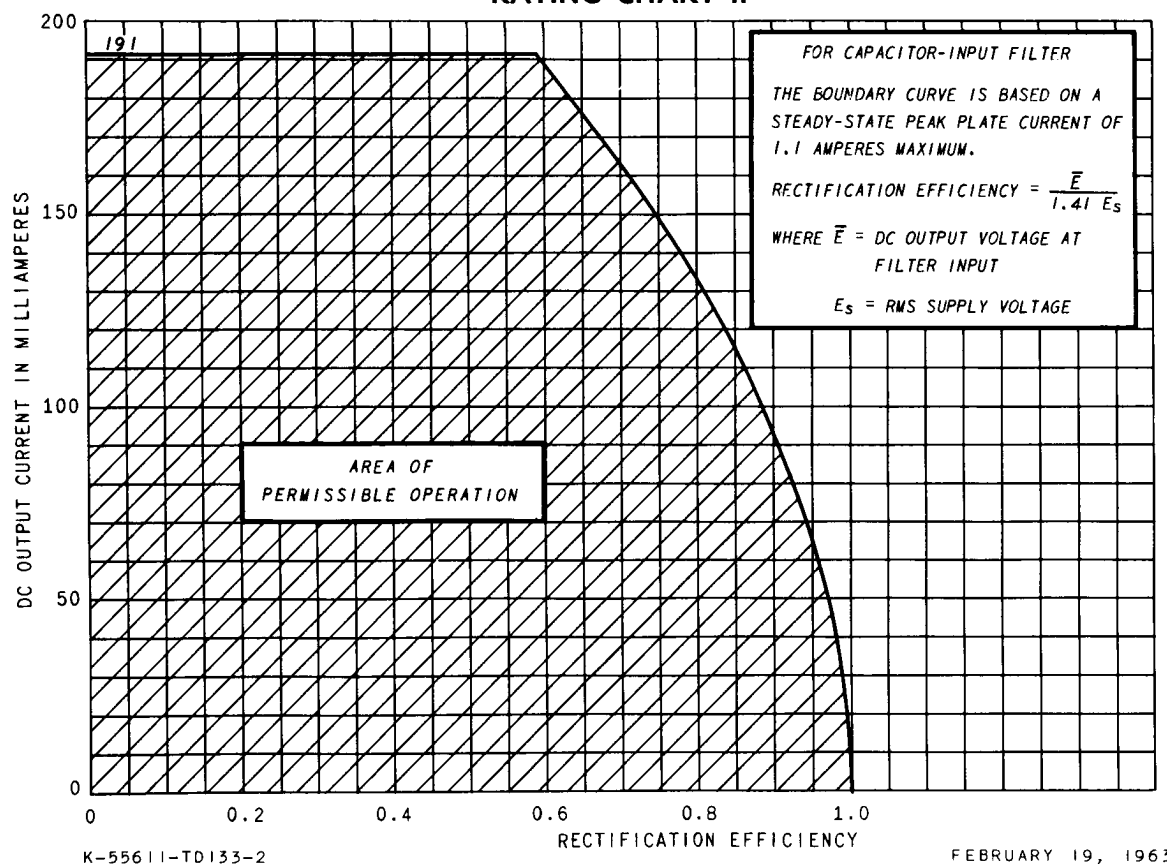
Rating Chart III shows the minimum value of plate-supply resistance (R_s) required to remain within the transient peak-plate-current rating. The value of R_s should be such that it lies to the left of the line on Rating Chart III at the highest probable value of line voltage.

Ø To be determined.

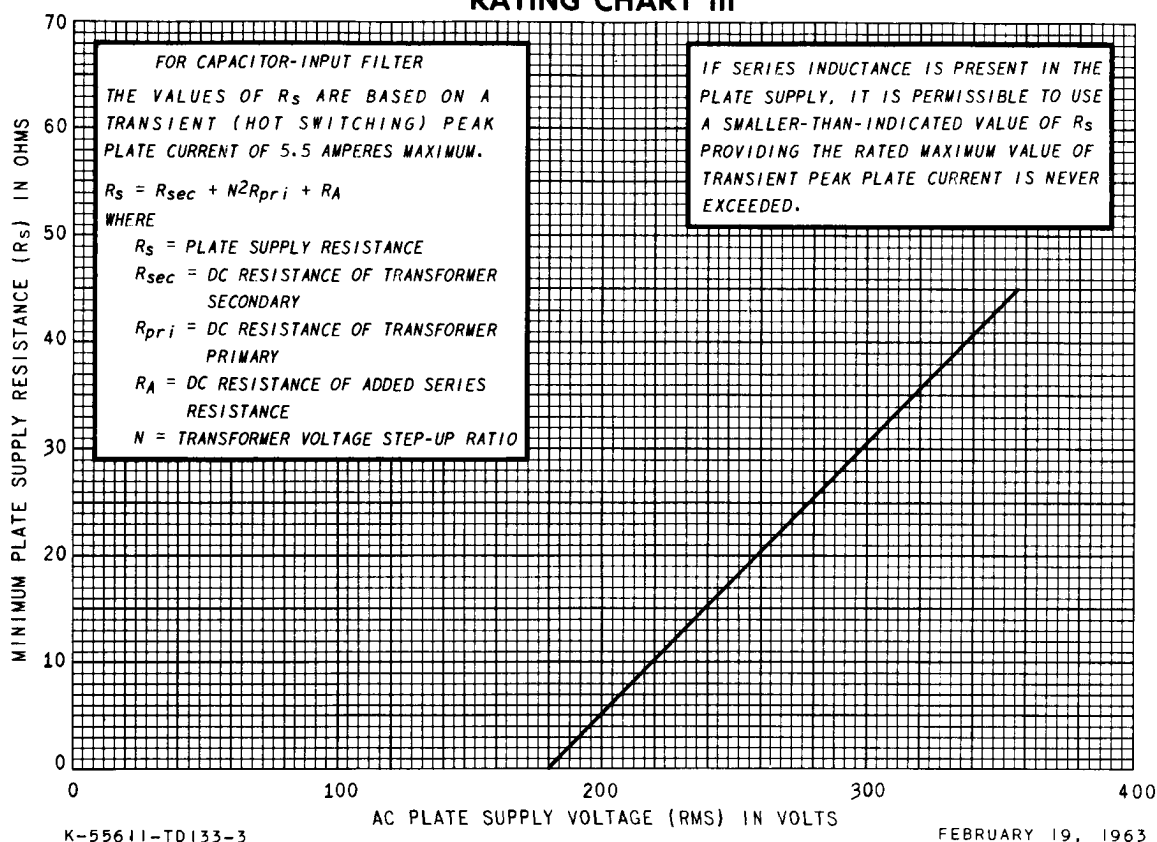
2/19/63 (B)
Supersedes 12/7/61 (B)



RATING CHART II

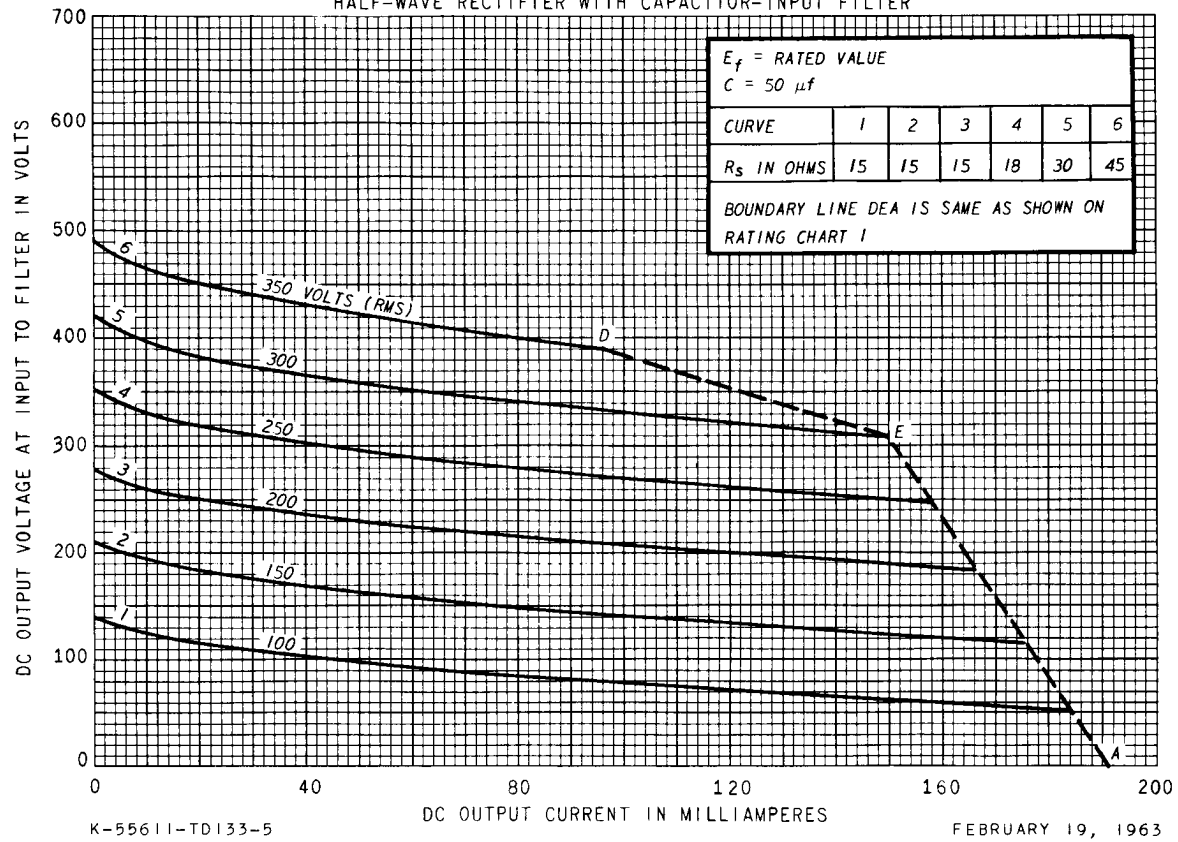


RATING CHART III

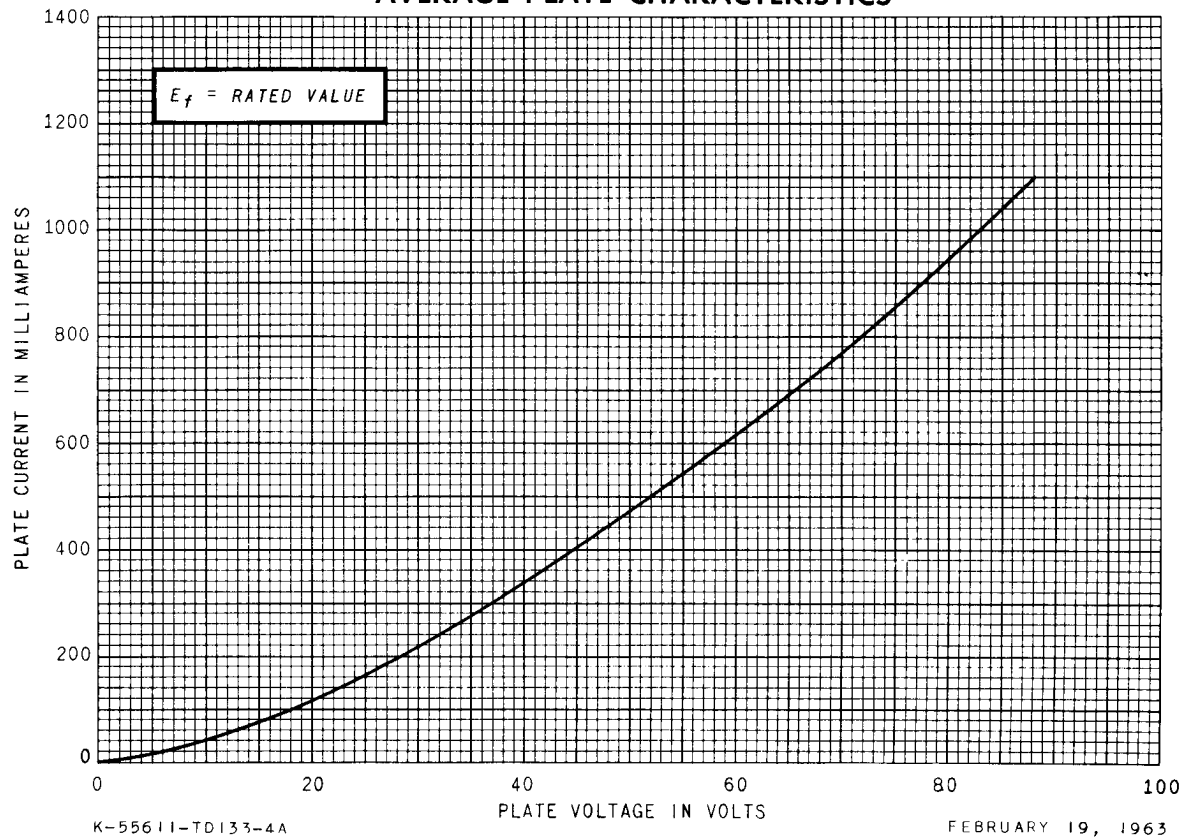


OPERATION CHARACTERISTICS

HALF-WAVE RECTIFIER WITH CAPACITOR-INPUT FILTER



AVERAGE PLATE CHARACTERISTICS



TUBE DEPARTMENT
GENERAL  **ELECTRIC**
Owensboro, Kentucky