File Catalog: Special Purpose Electron Tubes
Section: Receiving Tubes

Bendix

Red Bank Type TE-31
(Generic Type 6L6)

METAL-CERAMIC MINIATURE BEAM POWER AMPLIFIER

RATINGS

Heater Voltage (AC or DC)	6.3 Volts
Heater Current	0.80 Amperes
Plate Voltage (Maximum DC)	300 Volts
Screen Voltage (Maximum DC)	300 Volts
Plate Dissipation (Absolute Max.)	21 Watts
Screen Dissipation (Absolute Max.)	2.75 Watts
Cathode Current (Maximum DC)	0.10 Amperes
Heater-Cathode Voltage (Max.)	±450 Volts
Grid Number 1 Circuit Resistance	
With Fixed Bias (Max.)	0.1 Megohm
With Cathode Bias (Max.)	0.5 Megohm

PIN CONNECTIONS

Pin	Element
1	Cathode and Beam Plates
2	Heater
3	Grid Number 2 (Screen)
4	No Connection
5	Cathode and Beam Plates
6	Heater
7	Grid Number 1
Bulb	Plate

DESCRIPTION

The Bendix 7311 is a beam power amplifier and is one of the Bendix HY-G-500 line of receiving tubes. It is in the miniature tube size and features an external anode, metal-ceramic construction. It is specifically designed to replace type 6L6 for aircraft, missile and industrial applications where limited space requirements and/or envelope temperatures up to 500° C are encountered.

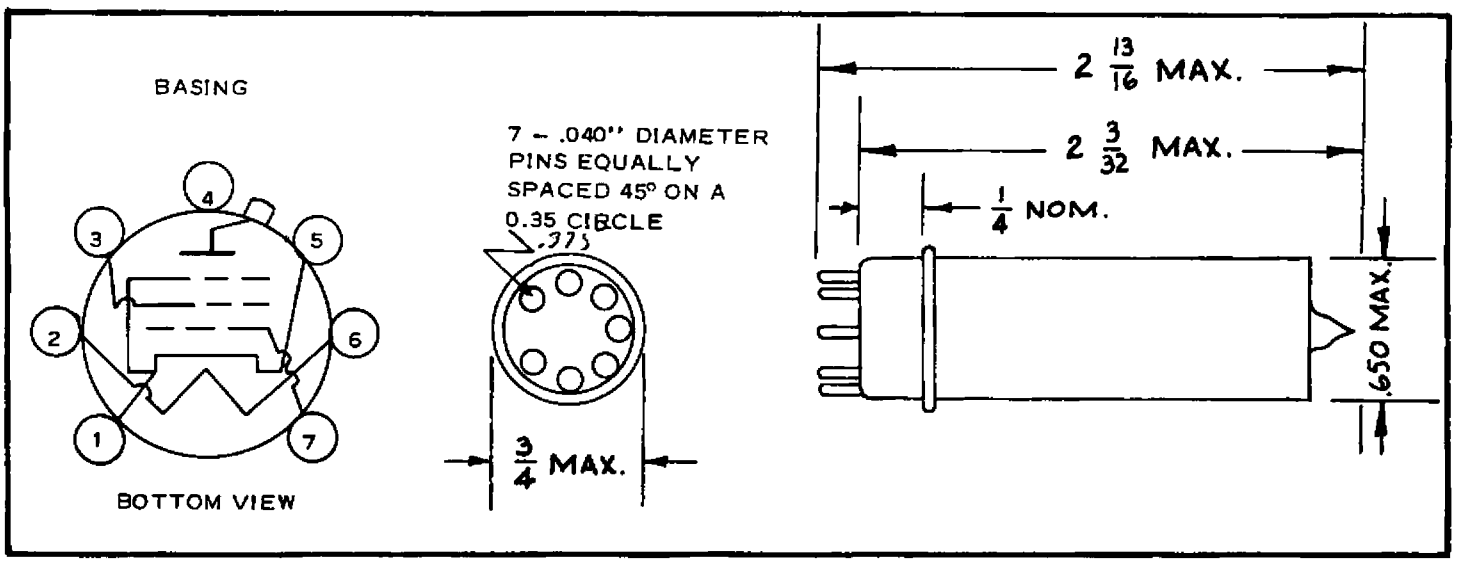
The external metal anode construction permits operation in which auxiliary cooling may be used. This may be by immersion in oil or by clamping to a suitable heat sink.

The electrical connections for the remaining elements are by means of the conventional seven pin miniature tube base and the tube may be operated in any position.

The internal structure employs ceramic element spacers and the much smaller size and mass of the tube elements greatly increase resistance to damage by vibration and shock. A pure alumina heater insulator permits operation at high heater-cathode voltages.

MECHANICAL DATA

Bulb Temperature	500° C Max.
Overall Length	2-13/16 inches Max.
Seated Height	2-3/32 inches Max.
Diameter	3/4 inches Max.
Base	Seven pin miniature
Mounting Position	Any



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TYPICAL OPERATION

Class A Amplifier (Pentode Connection)

Plate Voltage	250	300	Volts
Screen Voltage	250	200	Volts
Grid No. 1 Voltage	-14	-12.5	Volts
Peak AF Grid Number 1 Voltage	14	12.5	Volts
Plate Resistance, Approximate	22500	35000	Ohms
Transconductance	6000	5300	Microhmos
Zero Signal Plate Current	72	48	Milliamperes
Maximum Signal Plate Current	79	55	Milliamperes
Zero Signal Screen Current	5.0	2.5	Milliamperes
Maximum Signal Screen Current	7.3	4.7	Milliamperes
Load Resistance	2500	4500	Ohms
Total Harmonic Distortion, Approximate	10	11	Percent
Maximum Signal Output	6.5	6.5	Watts

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