

OBJECTIVE FOR DEVELOPMENTAL TYPE

Z-5317*

PLANAR TRIODE

The Z-5317 is a high-mu, metal-and-ceramic planar triode intended for operation as a CW, radio-frequency power amplifier or frequency multiplier. The Z-5317 is a low-frequency, CW version of the 6442.

GENERAL

Electrical

Cathode-Indirectly Heated

Heater Characteristics and Ratings

Heater Voltage, AC or DC

6.3^{+ 5%}
-10%

Volts

Heater Current

0.75

Amperes

Direct Interelectrode Capacitances, approximate

	Minimum	Bogey	Maximum	
Grid to Plate	2.10	2.3	2.45	pf
Grid to Cathode, Eh = 0	4.60	5.1	5.45	pf
Plate to Cathode, Eh = 0	---	0.035	0.045	pf

Mechanical

Operating Position - Any

Cooling - Conduction and Convection

Envelope Temperature

175

C

Net Weight, approximate

1

Ounces

MAXIMUM RATINGS

Absolute-Maximum Values

Radio-Frequency Power Amplifier and Oscillator - Class C Telegraphy

Key-down Conditions per Tube Without Amplitude Modulation+

Frequency	1000	Megacycles
DC Plate Voltage	350	Volts
Negative DC Grid Voltage	50	Volts

MAXIMUM RATINGS (Continued)

DC Plate Current	35	Milliamperes
DC Grid Current	15	Milliamperes
Plate Dissipation	8.0	Watts
Peak Heater-Cathode Voltage		
Heater Positive with Respect to Cathode	90	Volts
Heater Negative with Respect to Cathode	90	Volts
Envelope Temperature at Hottest Point	175	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 OPERATIONClass A₁ Amplifier

	Minimum	Bogey	Maximum	
Plate Voltage	---	---	350	Volts
DC Grid Bias, approximate	-1.5	-3.5	-5.25	Volts
Amplification Factor, approximate, E _c /I _b = 35 ma d-c	35	50	65	
Transconductance	13500	16500	19000	Micromhos
Plate Current	---	---	35	Milliamperes

Radio-Frequency Power Amplifier - Class C Telegraphy

Frequency	1000	Megacycles
DC Plate Voltage	350	Volts
DC Plate Current	35	Milliamperes
DC Grid Current	8.0	Milliamperes
Useful Power Output	5.0	Watts

- * Publication of these data does not obligate the General Electric Company to manufacture a tube with these characteristics.
- + Modulation essentially negative may be used if the positive peak of the audio-frequency envelope does not exceed 115 percent of the carrier conditions.

2/19/63 (B)
Supersedes 5/22/59 (B)

REFERENCE NOTES FOR OUTLINE DRAWING

- Note 1. Applies to minimum surface for anode d-c and r-f terminal only. Other surfaces must not be used for these terminal purposes.
- Note 2. Applies to minimum surface for grid d-c and r-f terminal only. Other surfaces, except for Notes 3 and 4, must not be used for terminal purposes.
- Note 3. Applies to minimum surfaces for grid d-c and r-f terminal only.
- Note 4. The cylindrical surface of this diameter may be used for grid d-c and r-f terminal purposes.
- Note 5. The surfaces defined by Notes 2, 3, and 4 must be the only surfaces used for tube stops and clamping purposes.
- Note 6. Other surfaces must not be used for cathode d-c and r-f terminal purposes.
- Note 7. Other surfaces must not be used for anode d-c and r-f terminal purposes.
- Note 8. Applies to surface designated for cathode d-c and r-f terminal. Solder at brazed joint will not exceed the maximum diameter.
- Note 9. The maximum eccentricity of the anode and cathode with respect to the grid terminal in a prescribed jig is 0.010 (or maximum total runout of 0.020) and is measured by indicators at the points designated.
- Note 10. The maximum eccentricity of heater-terminal No. 1 and heater-terminal No. 2 with respect to the grid terminal in a prescribed jig is 0.015 (or maximum total runout of 0.030) and is measured by indicators at the points designated.
- Note 11. Exhaust tubulation must not be subjected to any mechanical stress.
- Note 12. For reference only. Dimension does not include any possible solder fillet.
- Note 13. This area is reserved for tube stamping and coding.

