



8LT8 DUPLEX-DIODE PENTODE

DESCRIPTION AND RATING

The 8LT8 is a miniature tube containing a pentode and two diodes. It is intended for horizontal oscillator and AFC service.

GENERAL

ELECTRICAL

Cathode - Coated Unipotential

Heater Characteristics and Ratings

Heater Voltage, AC or DC* 8.1 Volts
 Heater Current† 0.45±0.03 Amperes
 Heater Warm-up Time, Average 11 Seconds
 Direct Interelectrode Capacitances¶

Pentode Section

Grid-Number 1 to Plate: (g1 to p) 0.05 pf
 Input: g1 to (h + k + g2 + g3 +
 Dp2 + i.s.) 10 pf
 Output: p to (h + k + g2 + g3 +
 Dp2 + i.s.) 3.8 pf

Diode Sections

Plate (Section 1) to Cathode:
 (p1 to k) 1.4 pf
 Plate (Section 2) to Cathode:
 (p2 + Pg3 + i.s.) to k. 1.5 pf
 Plate to Plate: p1 to (p2 + Pg3 +
 i.s.) 2.2 pf

MECHANICAL

Operating Position - Any
 Envelope - T-6 1/2, Glass
 Base - E9-1, Button 9-Pin
 Outline Drawing - EIA 6-2
 Maximum Diameter 0.875 Inches
 Maximum Over-all Length 2.188 Inches
 Maximum Seated Height 1.938 Inches

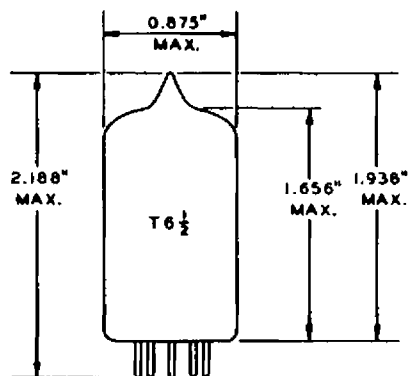
MAXIMUM RATINGS

Design-Maximum ratings are limiting values of operating and environmental conditions applicable to a bogey 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 allowance for the effects of changes in operating conditions due to variations in the characteristics of the tube under consideration.

The equipment manufacturer should design so that initially and throughout life no design-maximum value for the intended service is exceeded with a bogey 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 all other electron devices in the equipment.

PHYSICAL DIMENSIONS

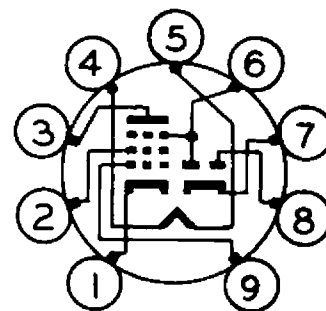


EIA 6-2

TERMINAL CONNECTIONS

- Pin 1 - Pentode Cathode
- Pin 2 - Pentode Grid Number 2 (Screen)
- Pin 3 - Pentode Plate
- Pin 4 - Heater
- Pin 5 - Heater
- Pin 6 - Diode Plate (Section 2), Pentode Grid Number 3, and Internal Shield
- Pin 7 - Diode Cathode
- Pin 8 - Diode Plate (Section 1)
- Pin 9 - Pentode Grid Number 1

BASING DIAGRAM



EIA 9RD

MAXIMUM RATINGS (Cont'd)

DESIGN-MAXIMUM VALUES

Pentode Section

Plate Voltage . . . . .	. 330	Volts
Screen Supply Voltage . . . . .	. 330	Volts
Screen Voltage - See Screen Rating Chart		
Positive DC Grid-Number 1 Voltage . . . . .	. 0	Volts
Plate Dissipation . . . . .	. 3.1	Watts
Screen Dissipation . . . . .	. 0.65	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-Circuit Resistance		
With Cathode Bias . . . . .	. 1.0	Megohms

Diode Sections

Diode Current for Continuous Operation, Each Diode 5.0	Milliamperes
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CHARACTERISTICS AND TYPICAL OPERATION

AVERAGE CHARACTERISTICS

Pentode Section

Plate Voltage . . . . .	. 125	Volts
Grid Number 3, Diode Plate (Section 2), and Internal Shield Connected to Ground		
Screen Voltage . . . . .	. 125	Volts
Cathode-Bias Resistor . . . . .	. 56	Ohms
Plate Resistance, approximate . . . . .	. 200000	Ohms
Transconductance . . . . .	. 13000	Micromhos
Plate Current . . . . .	. 10	Milliamperes
Screen Current . . . . .	. 3.4	Milliamperes
Grid-Number 1 Voltage, approximate		
I _b = 20 Microamperes	-3.5	Volts

Diode Sections

Average Diode Current, Each Diode		
With 5 Volts DC Applied . . . . .	. 20	Milliamperes

NOTES

- * Heater voltage for a bogey tube at I_f = 0.45 amperes.
- † The equipment designer should design the equipment so that heater current is centered at the specified bogey value, with heater supply variations restricted to maintain heater current within the specified tolerance.
- § The time required for the voltage across the heater to reach 80 percent of the bogey value after applying 4 times the bogey heater voltage to a circuit consisting of the tube heater in series with a resistance equal to 3 times the bogey heater voltage divided by the bogey heater current.
- ¶ Without external shield.

SCREEN RATING CHART

