

*Sheet 10/62*

## Lighthouse Triode

### GENERAL DATA

#### Electrical:

Heater, for Unipotential Cathode:

Voltage (AC or DC) . . . . .	6.3 ± 5%	volts
Current at 6.3 volts. . . . .	0.75	amp
Heater heating time <sup>a</sup> . . . . .	6	sec
Cathode heating time. . . . .	See <i>Operating Considerations</i>	

Direct Interelectrode Capacitances

(Approx.):		
Grid to plate . . . . .	1.3	μμf
Grid to cathode for heater volts =		
0 . . . . .	2.2	μμf
6.3 . . . . .	2.8	μμf
Plate to cathode for heater volts = 0 . . . . .	0.02	μμf
Cathode rf terminal to cathode. . . . .	100	μμf

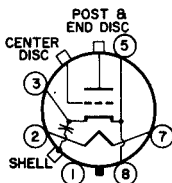
#### Characteristics, Class A<sub>1</sub> Amplifier:

Plate Voltage . . . . .	250	volts
Cathode Resistor. . . . .	200	ohms
Cathode Capacitor . . . . .	1000	μf
Amplification Factor. . . . .	35	
Plate Resistance (Approx.). . . . .	6860	ohms
Transconductance. . . . .	5100	μmhos
Plate Current . . . . .	17	ma

#### Mechanical:

Operating Position. . . . .	Any
Maximum Overall Length. . . . .	2-9/16"
Maximum Seated Length. . . . .	1.973"
Maximum Diameter. . . . .	1.312"
Weight (Approx.). . . . .	1.2 oz
Base. . . . .	Small H-Wafer 6-Pin (JEDEC Group 1, No. B6-108)
Basing Designation for BOTTOM VIEW. . . . .	6BY

- Pin 1 - Internal Connection—Do Not Use
- Pin 2 - Heater
- Pin 3 - Cathode
- Pin 5 - Cathode
- Pin 7 - Heater



- Pin 8 - Cathode
- Shell - Cathode RF Terminal
- Center Disc - Grid Terminal
- Post & End Disc - Plate Terminal

#### Thermal:

Cooling . . . . .	Convection and Conduction
Seal Temperature. . . . .	175 max. °C



# 2C40A

## RF POWER AMPLIFIER & OSCILLATOR — Class C Telegraphy

Maximum CCS<sup>b</sup> Ratings, *Absolute-Maximum Values:*

*For frequencies up to 3370 Mc*

DC PLATE VOLTAGE. . . . .	500 max.	volts
DC GRID VOLTAGE:		
Negative-bias value . . . . .	50 max.	volts
DC PLATE CURRENT. . . . .	25 max.	ma
DC GRID CURRENT . . . . .	8 max.	ma
PLATE DISSIPATION . . . . .	6.5 max.	watts
PEAK HEATER-CATHODE VOLTAGE:		
Heater negative with respect to cathode .	90 max.	volts
Heater positive with respect to cathode .	90 max.	volts
PEAK CATHODE-SHELL VOLTAGE:		
Shell negative with respect to cathode. .	90 max.	volts
Shell positive with respect to cathode. .	90 max.	volts

## PLATE-PULSED POWER OSCILLATOR

Maximum CCS<sup>b</sup> Ratings, *Absolute-Maximum Values:*

*For frequencies up to 3370 Mc, maximum "on" time<sup>c</sup> of 10 microseconds, and maximum pulse duration of 1.5 microseconds*

PEAK PLATE VOLTAGE. . . . .	1400 max.	volts
GRID VOLTAGE:		
Peak-negative value . . . . .	100 max.	volts
DC positive-bias value. . . . .	0 max.	volts
PLATE CURRENT:		
Peak. . . . .	2 max.	amp
Average . . . . .	3 max.	ma
GRID CURRENT:		
Peak. . . . .	1 max.	amp
Average . . . . .	1.5 max.	ma
PLATE DISSIPATION . . . . .	4 max.	watts
PEAK HEATER-CATHODE VOLTAGE:		
Heater negative with respect to cathode .	90 max.	volts
Heater positive with respect to cathode .	90 max.	volts
PEAK CATHODE-SHELL VOLTAGE:		
Shell negative with respect to cathode. .	90 max.	volts
Shell positive with respect to cathode. .	90 max.	volts

## GRID-PULSED POWER OSCILLATOR

*Grid-pulsed operation is limited to the Maximum Ratings shown under the heading RF POWER AMPLIFIER & OSCILLATOR — Class C Telegraphy*

<sup>a</sup> All other tubes in the same heater string should have the same heater heating time.

<sup>b</sup> Continuous Commercial Service.

<sup>c</sup> "On" time is defined as the sum of the durations of all the individual pulses which occur during any 5000-microsecond interval.

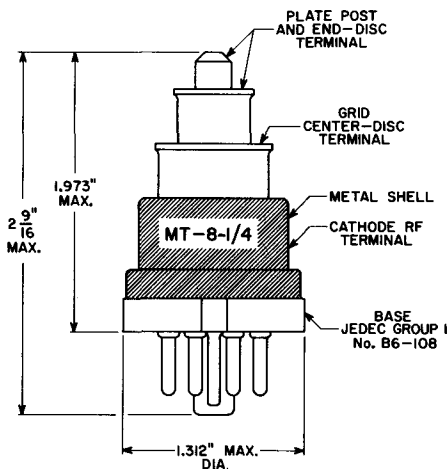


## OPERATING CONSIDERATIONS

In *Plate-Pulsed Power Oscillator Service*, the plate voltage must not be applied until a minimum of 1 minute after the application of the heater voltage.

In *RF Power Amplifier & Oscillator — Class C Telegraphy Service* or *Grid-Pulsed Power Oscillator Service*, with dc plate voltages of 250 volts or less, the plate voltage and the heater voltage may be applied simultaneously.

In *RF Power Amplifier & Oscillator — Class C Telegraphy Service*, where long and reliable operation are important, the maximum ratings should be reduced by 25 per cent.



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