Issued 10/62

2C40A

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[a]	6	sec
Cathode heating time	See *Operating Considerations*	
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

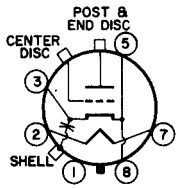
Characteristics, Class A_1 Amplifier:

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

RF POWER AMPLIFIER & OSCILLATOR — Class C Telegraphy

Maximum CCS[b] 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[b] Ratings, *Absolute-Maximum Values:*

For frequencies up to 3370 Mc, maximum "on" time[c] 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

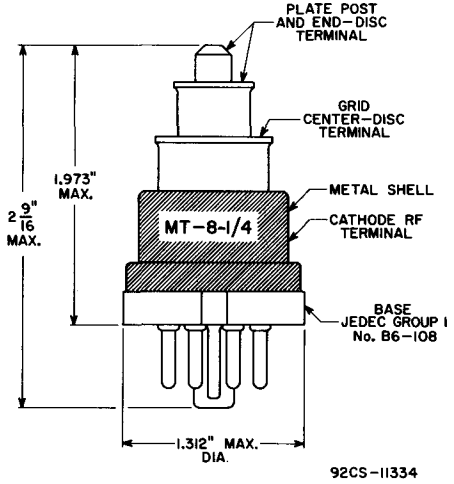
[a] All other tubes in the same heater string should have the same heater heating time.

[b] Continuous Commercial Service.

[c] *"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.