

# Beam Power Tube

Quick-Heating Filament

High Power Sensitivity

90 Watts CW Input (ICAS) up to 60 MHz

60 Watts CW Input (ICAS) at 175 MHz

For use as an rf power  
amplifier in communications equipment

## ELECTRICAL

Filament, Coated:

Voltage (AC or DC) . . . . .	1.6 ± 10%	V
Current at 1.6 volts . . . . .	3.2	A
Heating time . . . . .	1	s
Transconductance <sup>a</sup> . . . . .	6000	μmho
Mu-Factor <sup>a</sup> , Grid No.2 to Grid No.1 . . . . .	4	

Direct Interelectrode Capacitances:

Grid No.1 to plate . . . . .	0.24 max.	pF
Grid No.1 to filament & grid No.3 & internal shield, base sleeve and grid No.2 . . . . .	11	pF
Plate to filament & grid No.3 & internal shield, base sleeve and grid No.2 . . . . .	8.5	pF

## MECHANICAL

Operating Position . . . . .	Vertical, or horizontal with plane of pins 3 and 7 vertical
Maximum Overall Length . . . . .	3-13/16"
Seated Length . . . . .	3-1/8" ± 1/8"
Maximum Diameter . . . . .	1-21/32"
Bulb . . . . .	T-12
Cap . . . . .	Small (JEDEC No.C1-1)
Base . . . . .	Small wafer octal 8-pin with sleeve (JEDEC Group 1, No.B8-150)
Bulb Temperature (At hottest point) . . . . .	220 max. °C

## RF POWER AMPLIFIER & OSC. - CLASS C TELEGRAPHY<sup>b</sup> AND

### RF POWER AMPLIFIER - CLASS C FM TELEGRAPHY

Maximum ICAS Ratings, *Absolute-Maximum Values:*

	<i>Up to 60 MHz</i>
DC Plate Voltage . . . . .	750 max. V
DC Grid-No.2 Voltage . . . . .	250 max. V

# 4652/8042

DC Grid-No.1 Voltage . . . . .	-150 max.	V
DC Plate Current . . . . .	150 max.	mA
DC Grid-No.1 Current . . . . .	4 max.	mA
Plate Input . . . . .	90 max.	W
Grid-No.2 Input . . . . .	3 max.	W
Plate Dissipation . . . . .	25 max.	W

## Typical Operation as Amplifier at 175 MHz

DC Plate Voltage . . . . .	400	V
DC Grid-No.2 Voltage <sup>c</sup> . . . . .	190	V
From a series resistor of . . . . .	18000	$\Omega$
DC Grid-No.1 Voltage <sup>d</sup> . . . . .	-60	V
From a grid resistor of . . . . .	30000	$\Omega$
DC Plate Current . . . . .	150	mA
DC Grid-No.2 Current . . . . .	11	mA
DC Grid-No.1 Current (Approx.) . . . . .	2	mA
Driving Power (Approx.) . . . . .	4.5	W
Power Output (Approx.) . . . . .	30	W

### Maximum Circuit Values:

Grid-No.1 Circuit Resistance . . . . .	30000 max.	$\Omega$
--	------------	----------

<sup>a</sup> For plate volts = 200 V, grid No.2 volts = 200 V, and plate current = 100 mA.

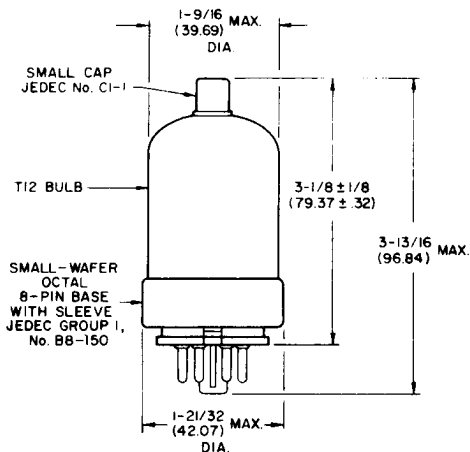
The following footnotes apply to the *RCA Transmitting Tube Operating Considerations* given at front of this section.

<sup>b</sup> See *Classes of Service*.

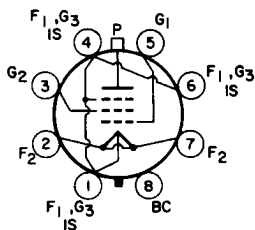
<sup>c</sup> See *Electrical Considerations* - Grid-No.2 Voltage Supply.

<sup>d</sup> See *Electrical Considerations* - Grid-No.1 Voltage Supply.

## DIMENSIONAL OUTLINE - Dimensions In Inches (mm)



## TERMINAL DIAGRAM (Bottom View)



Pin 1: Filament 1, Grid No.3, Internal Shield

Pin 2: Filament 2

Pin 3: Grid No.2

Pin 4: Same as Pin No.1

Pin 5: Grid No.1

Pin 6: Same as Pin No.1

Pin 7: Filament 2

Pin 8: Base Sleeve

Cap: Plate