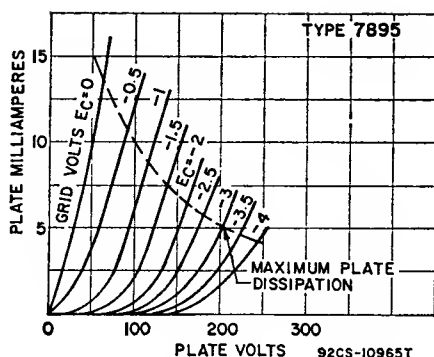
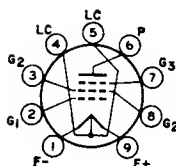




Refer to chart at end of section.

7898



9PB

BEAM POWER TUBE

7905

INDUSTRIAL
TYPE

Miniature quick-heating-filament beam power tube for use as an RF oscillator, amplifier and frequency multiplier in mobile communications equipment. Outlines section, 6E; requires miniature 9-contact socket.

Operating Position	Vertical, base up or down, or Horizontal with pins 2 and 8 in vertical plane	
Filament Voltage	6.3 $\pm$ 10%	volts
Filament Current	0.65	ampere
Heating Time	Less than 1	second
Direct Interelectrode Capacitances:		
Grid No.1 to Plate	0.14 max.	pF
Grid No.1 to Filament, Grid No.3, and Grid No.2	8.5	pF
Plate to Filament, Grid No.3, and Grid No.2	5.5	pF
Bulb Temperature (At hottest point on bulb surface)	225 max.	$^{\circ}$ C

MAXIMUM CIRCUIT VALUES

Grid-No.1-Circuit Resistance	0.1	megohm
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Class A₁ Amplifier

CHARACTERISTICS

Plate Voltage	200	volts
Grid No.3	Connected to pin 1 at socket	
Grid-No.2 Voltage	185	volts
Grid-No.1 Voltage	—6	volts
Mu-Factor, Grid No.2 to Grid No.1	11.5	
Transconductance	6700	μ mbos
Plate Current	36	mA
Grid-No.2 Current	2.5	mA

RF Power Amplifier & Oscillator—Class C Telephony^a
and

RF Power Amplifier—Class C FM Telephony

MAXIMUM ICAS^b RATINGS (Absolute-Maximum Values)

DC Plate Voltage	Up to 175 MHz	300	volts
Grid No.3 (Suppressor Grid)	Connect to pin 1 at socket		
DC Grid-No.2 (Screen-Grid) Supply Voltage		300	volts
DC Grid-No.2 Voltage		250	volts
DC Grid-No.1 (Control-Grid) Voltage		—125	volts
DC Plate Current		60	mA
DC Grid-No.2 Current		10	mA

DC Grid-No.1 Current	5	mA
Plate Input	18	watts
Grid-No.2 Input	1.5	watts
Plate Dissipation	10	watts

TYPICAL ICAS^b OPERATION^c

As amplifier at 175 MHz

DC Plate Voltage	300	300	volts
Grid No.3	Connected	to pin 1 at	socket
DC Grid-No.2 Voltage ^d	160	185	volts
DC Grid-No.1 Voltage ^e from a grid-No.1 resistor of 18,000 ohms	—36	—39	volts
Peak RF Grid-No.1 Voltage	41	43	volts
DC Plate Current	50	60	mA
DC Grid-No.2 Current	2.5	4	mA
DC Grid-No.1 Current (Approx.)	2	2.2	mA
Driving Power ^f (Approx.)	1	1	watt
Useful Power Output ^g (Approx.)	5.5	7	watts

Plate-Modulated RF Power Amplifier—Class C Telephony

Carrier conditions per tube for use with a maximum modulation factor of 1

MAXIMUM ICAS^b RATINGS (Absolute-Maximum Values)

	Up to 175 MHz		
DC Plate Voltage	250		volts
Grid No.3	Connected	to pin 1 at	socket
DC Grid-No.2 Voltage	250		volts
DC Grid-No.1 Voltage	—125		volts
DC Plate Current	60		mA
DC Grid-No.2 Current	10		mA
DC Grid-No.1 Current	5		mA
Plate Input	15		watts
Grid-No.2 Input	1.4		watts
Plate Dissipation	7		watts

TYPICAL ICAS^b OPERATION^c

At 175 MHz

DC Plate Voltage	250	volts
Grid No.3	Connected	to pin 1 at socket
DC Grid-No.2 Voltage ^d	250	volts
DC Grid-No.1 Voltage ^e from a grid-No.1 resistor of 33,000 ohms	—70	volts
Peak RF Grid-No.1 Voltage	75	volts
DC Plate Current	60	mA
DC Grid-No.2 Current	2.5	mA
DC Grid-No.1 Current (Approx.)	2.1	mA
Driving Power ^f (Approx.)	1	watt
Useful Power Output ^g (Approx.)	6.5	watts

Frequency Multiplier**MAXIMUM ICAS^b RATINGS (Absolute-Maximum Values)**

DC Plate Voltage	300	volts
Grid No.3	Connected	to pin 1 at socket
DC Grid-No.2 Supply Voltage	300	volts
DC Grid-No.2 Voltage	250	volts
DC Grid-No.1 Voltage	—125	volts
DC Plate Current	50	mA
DC Grid-No.2 Current	10	mA
DC Grid-No.1 Current	5	mA
Plate Input	15	watts
Grid-No.2 Input	1.5	watts
Plate Dissipation	10	watts

TYPICAL ICAS^b OPERATION^c

As doubler to 175 MHz

DC Plate Voltage	250	300	volts
Grid No.3	Connected	to pin 1 at	socket
DC Grid-No.2 Voltage ^d	200	215	volts
DC Grid-No.1 Voltage ^e from a grid-No.1 resistor of 53,000 ohms	—53	—80	volts
Peak RF Grid-No.1 Voltage	60	87	volts
DC Plate Current	45	50	mA
DC Grid-No.2 Current	3.4	3.4	mA
DC Grid-No.1 Current (Approx.)	1	1.5	mA
Driving Power ^f (Approx.)	0.4	0.5	watt
Useful Power Output ^g (Approx.)	2.5	3.5	watts

As tripler to 175 MHz

DC Plate Voltage	250	250	volts
Grid No.3	Connected to pin 1 at socket		
DC Grid-No.2 Voltage ^d	180	225	volts
DC Grid-No.1 Voltage ^f from a grid-No.1 resistor of:			
50,000 ohms	-90		volts
60,000 ohms		-108	volts
Peak RF Grid-No.1 Voltage	105	118	volts
DC Plate Current	40	50	mA
DC Grid-No.2 Current	2.5	3.4	mA
DC Grid-No.1 Current (Approx.)	1.8	1.8	mA
Driving Power ^f (Approx.)	0.4	0.6	watt
Useful Power Output ^g (Approx.)	1.4	2	watts

^a Key-down conditions per tube without amplitude modulation. Amplitude modulation essentially negative may be used if the positive peak of the audio-frequency envelope does not exceed 115 per cent of the carrier conditions.

^b Intermittent Commercial and Amateur Service.

^c Pins 4 and 5 at rf ground.

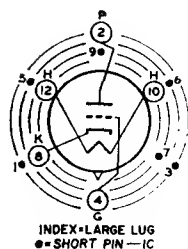
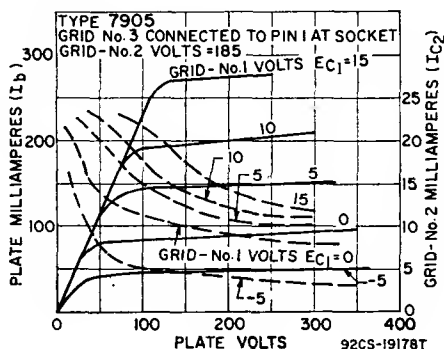
^d Obtained preferably from a separate source or from the plate-voltage supply with a voltage divider. If a series resistor is used, it should be adjustable to permit obtaining the desired operating plate current after initial tuning adjustments are completed.

^e Obtained from a grid-No.1 resistor, or from a combination of grid-No.1 resistor and either fixed supply or cathode resistor. The combination of grid-No.1 resistor and fixed supply has the advantage of not only protecting the tube from damage through loss of excitation but also of minimizing distortion by bias-supply compensation.

^f Driving power includes circuit losses and is the actual power measured at the input to the grid circuit.

^g Measured at load.

^h Obtained preferably from a separate source modulated along with the plate supply, or from the modulated plate supply through a series resistor. It is recommended that this resistor be adjustable to permit obtaining the desired operating plate current after initial tuning adjustments are made.



12AQ

MEDIUM-MU TRIODE

8056

INDUSTRIAL
TYPE

Nuvistor type, medium-mu triode for use in low voltage industrial applications. Outlines section, 1; requires nuvistor socket.

Heater Voltage (ac/dc)	6.3 $\pm$ 0.6	volts
Heater Current	0.135	ampere
Peak Heater-Cathode Voltage	$\pm$ 100	volts