

Beam Power Tube

CERAMIC-METAL SEALS
 "ONE-PIECE" ELECTRODE DESIGN
 CONDUCTION COOLED
 COAXIAL-ELECTRODE STRUCTURE

52.5-WATTS CW INPUT
 27-WATTS CW OUTPUT AT 400 Mc
 15-WATTS CW OUTPUT AT 1200 Mc
 3.2-WATTS CW OUTPUT AT 3000 Mc

UNIPOTENTIAL CATHODE

The 7870 is the same as the 7801 except for the following items:

Heater, for Unipotential Cathode:

Voltage (AC or DC) ^a	6.3 ± 10%	volts
Current at heater volts = 6.3	1	amp

^a Because the cathode is subjected to considerable back bombardment as the frequency is increased with resultant increase in temperature, the heater voltage should be reduced depending on operating conditions and frequency to prevent overheating the cathode and resultant short life.

CHARACTERISTICS RANGE VALUES FOR EQUIPMENT DESIGN

	Note	Min.	Max.	
Heater Current.	1	0.88	1.1	amp ←
Direct Interelectrode Capacitances:				
Grid No.1 to plate.	2	—	0.025	μf
Grid No.1 to cathode & heater . .	2	8.5	10.3	μf
Plate to cathode & heater . . .	2	—	0.004	μf
Grid No.1 to grid No.2.	2	14	20.6	μf
Grid No.2 to plate.	2	2.1	2.5	μf
Grid No.2 to cathode & heater . .	2	—	0.18	μf
Grid-No.1 Voltage	1,3	-1	-10	volts
Grid-No.1 Cutoff Voltage.	1,4	—	-25	volts
Grid-No.2 Current	1,3	-3	2	ma
Positive Grid-No.1 Voltage. . . .	1,5	0	14	volts
Transconductance.	1,6	7500	—	μmhos

Note 1: With 6.3 volts ac or dc on heater.

Note 2: Measured with special shield adapter.

Note 3: With dc plate voltage of 750 volts, dc grid-No.2 voltage of 250 volts, and dc grid-No.1 voltage adjusted to give a dc plate current of 35 ma.

Note 4: With dc plate voltage of 750 volts, dc grid-No.2 voltage of 250 volts, and dc grid-No.1 voltage adjusted to give a dc plate current of 1 ma.

Note 5: With dc plate voltage of 300 volts, dc grid-No.2 voltage of 250 volts, and dc grid-No.1 voltage of -100 volts. Rectangular pulses, pulse duration of 4500 to 5000 microseconds and pulse-repetition frequency of 10 to 12 pps. The positive-pulse grid-No.1 voltage is adjusted to give a plate current of 300 ma. at leading edge of pulse.

Note 6: With dc plate voltage of 300 volts, dc grid-No.2 voltage of 150 volts, dc grid-No.1 voltage adjusted to give a dc plate current of 35 ma.

← Indicates a change.

