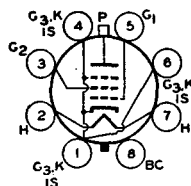


BEAM POWER TUBE

6293

Glass-octal heater-cathode type used as rectangular-wave pulse modulator. Rated for service with duty factors up to 1.0 at a maximum averaging time of 10,000 microseconds.



Rectangular-Wave Modulator maximum plate dissipation, 10 watts. Requires Octal socket and may be mounted in any position. OUTLINE 17, *Outlines Section*. Plate shows no color when tube is operated at maximum CCS ratings.

HEATER VOLTAGE (AC/DC)	6.3 $\pm$ 10%	volts
HEATER CURRENT	1.25	amperes
TRANSCONDUCTANCE*	7000	μ mhos
MU-FACTOR, Grid No.2 to Grid No.1*	4.5	
DIRECT INTERELECTRODE CAPACITANCES:		
Grid No.1 to plate	0.24 max	μ f
Grid No.1 to cathode, grid No.3, grid No.2, internal shield, base sleeve, and heater	13.5	μ f
Plate to cathode, grid No.3, grid No.2, internal shield, base sleeve, and heater	8.5	μ f

* Plate and grid-No.2 volts, 200; plate milliamperes, 100.

MODULATOR—Rectangular-Wave Modulation

Maximum and Minimum CCS Ratings:

For Duty Factor[■] up to 0.003

and Maximum Averaging Time of 10,000 Microseconds in Any Interval

DC PLATE-SUPPLY VOLTAGE [▲]	2000 max	3500 max	volts
INSTANTANEOUS PLATE VOLTAGE [●]	2300 max	4000 max	volts
DC GRID-No.2 (SCREEN-GRID) SUPPLY VOLTAGE [▲]	500 max	200 max	volts
DC GRID-No.1 (CONTROL-GRID) SUPPLY VOLTAGE [▲]	{ -300 max 250 min	{ -300 max -130 min	volts
GRID-No.1 VOLTAGE:			
Instantaneous Negative Value	400 max	400 max	volts
Peak Positive Value	100 max	100 max	volts
PEAK PLATE CURRENT	3 [▲] max	3 [▲] max	amperes
PEAK GRID-No.2 CURRENT	0.75 max	0.75 max	ampere
PEAK GRID-No.1 CURRENT	0.5 max	0.5 max	ampere
PLATE INPUT	80 max	80 max	watts
GRID-No.2 INPUT	1.75 max	1.75 max	watts
GRID-No.1 INPUT	0.5 max	0.5 max	watt
PLATE DISSIPATION [♦]	7 max	10 max	watts
PEAK HEATER-CATHODE VOLTAGE:			
Heater negative with respect to cathode	135 max	135 max	volts
Heater positive with respect to cathode	135 max	135 max	volts
BULB TEMPERATURE (At hottest point)	175 max	175 max	°C

■ Duty factor is defined as the "on" time in microseconds divided by 10,000 microseconds. "On" time for this tube is defined as the sum of the durations of all the individual pulses which occur during any 10,000-microsecond interval. Pulse duration is defined as the time interval between the two points on the pulse at which the instantaneous value is 70 per cent of the peak value. The peak value is defined as the maximum value of a smooth curve through the average of the fluctuations over the top portion of the pulse.

▲ For tube protection, it is essential that sufficient resistance be used in the plate-supply circuit, the grid-No.-2 supply circuit, and the grid-No.1-supply circuit so that the short-circuit current is limited to 0.5 ampere in each circuit.

● This value is approximately 115 per cent of the maximum dc plate-supply voltage.

▲ For higher duty factors, the peak plate current must be reduced. The maximum rated current for a duty factor of 1.0 is 0.2 ampere.

♦ Averaged over any interval not exceeding 10,000 microseconds. Care should be used in determining the plate dissipation. A calculated value based on rectangular pulse can be considerably in error when the actual pulses have a finite rise and fall time. Plate dissipation should preferably be determined by measuring the bulb temperature under actual operating conditions; then, with the tube in the same socket and under the same ambient-temperature conditions, apply to the tube sufficient dc input to obtain the same bulb temperature. This value of dc input is a measure of the plate dissipation.