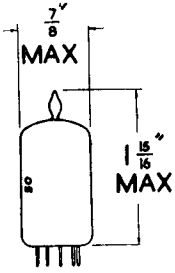
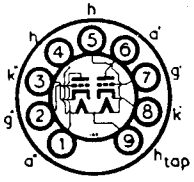
Industrial Type



TYPE 5965
MINIATURE
DOUBLE TRIODE



The BRIMAR 5965 is a Trustworthy miniature double triode designed for use in high-speed digital computors. Each triode section features a high zero-bias anode current, a sharp cut-off characteristic, and a separate cathode connection. In addition, the balance of the cut-off characteristic between the two sections is controlled. The heater-cathode construction is designed for dependable service under conditions of intermittent operation. When used in "on-off" control applications, the 5965 will maintain its emission capabilities after long periods of operation under cut-off conditions.

RATINGS

Heater Voltage (A.C. or D.C.)	6.3	or 12.6 volts
Heater Current	0.45	or 0.225 amp.
Anode Voltage		300 volts max.
Positive D.C. Grid Voltage		0 volts max.
Anode Dissipation		2.2 watts max.
Cathode Current		15 mA max.
Heater Cathode Voltage		90 volts max.
Grid Circuit Resistance—With Fixed Bias		0.1 megohm max.
With Cathode Bias		0.5 megohm max.

OPERATING CHARACTERISTICS (Each Section)

Anode Voltage	150 volts
Cathode Bias Resistor	220 ohms
Amplification Factor	47
Anode Resistance, approximate	7,250 ohms
Mutual Conductance	6.5 mA/V
Anode Current	8.2 mA

TYPICAL OPERATION (Computor Service, Each Section)

	On Condition	Off Condition
Anode Supply Voltage	150	150 volts
Anode Load Resistor	7,200	7,200 ohms
Grid Voltage	0†	— volts
Anode Current, approximate	10.5	— mA
Grid Voltage for 1_a = 150μA approx.‡	—	—5.5 volts

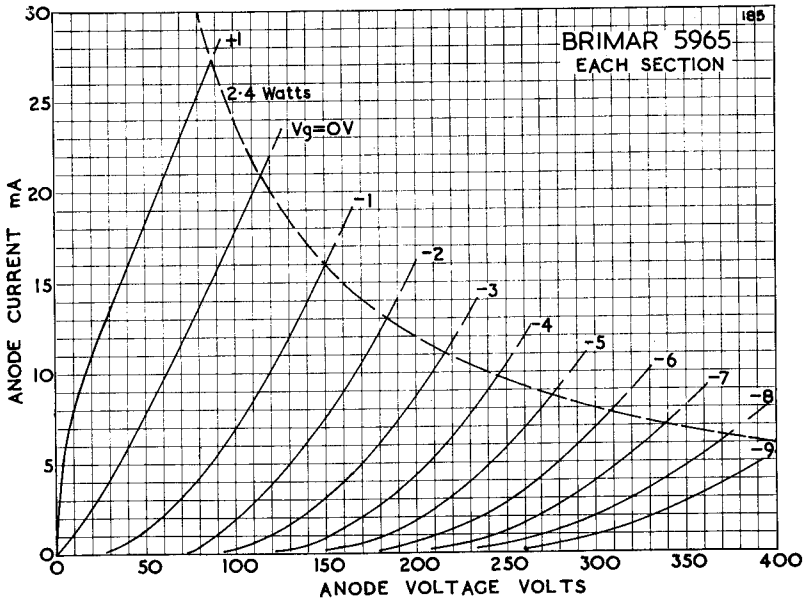
DIRECT INTER-ELECTRODE CAPACITANCES *

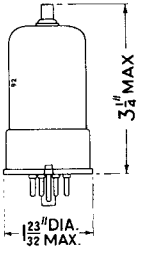
Grid to Anode (Each Section)	3.0 pF
Input (Each Section)	3.8 pF
Output (Section 1)	0.5 pF
Output (Section 2)	0.38 pF
Anode to Anode	0.5 pF

* *Without external shield.*

† *Approximate value of grid voltage with grid current adjusted for approximately 140μA.*

‡ *The grid voltage required to produce 150μA in one section normally will not differ by more than 1·5 volts from the grid voltage required to produce 150μA in the other section with an anode supply voltage of 150 volts and an anode load resistor of 7,200 ohms.*



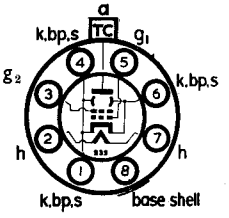


Industrial Type

TYPE **6146**

R.F.

POWER AMPLIFIER



The BRIMAR 6146 is an octal based beam tetrode for use as an R.F. power amplifier up to 175 Mc/s or as an A.F. power amplifier or modulator.

RATINGS (Absolute Maximum)

Heater Voltage	6.3 volts
Heater Current	1.25 amps.
Anode Voltage	600 volts max.
Anode Dissipation	20 watts max.
Screen Voltage	250 volts max.
Screen Dissipation	3 watts max.
Control Grid Voltage	—150 volts max.
Control Grid Current	3.5 mA max.
Control Grid Circuit Resistance—Fixed Bias	100 kilohms
Cathode Bias ...	500 kilohms
R.F. Amplifier or Oscillator ...	30 kilohms
Peak Heater to Cathode Voltage	135 volts max.
Bulb Temperature	220° C. max.

OPERATING CHARACTERISTICS

Anode Voltage	200 volts
Screen Voltage	200 volts
Anode Current	100 mA
Control Grid Voltage for Ia = 100mA	—29.5 volts approx.
Mutual Conductance	7 mA/V
Inner Amplification Factor (μg_1-g_2)	4.5

OPERATION AS A POWER AMPLIFIER (CLASS C TELEGRAPHY)

Operating Frequency	60	175	Mc/s
Anode Voltage	600	320	volts
Screen Voltage	150 *	180 †	volts
Control Grid Voltage	—58‡	—51 §	volts
Peak R.F. Drive Voltage	73	64	volts
Anode Current	112	140	mA
Screen Current	9	10	mA
Control Grid Current	2.8	2.0	mA
Drive Power	0.2	3	watts
Power Output	52	25	watts

* *Grid No. 2 voltage must not exceed 400 volts under key up conditions.*
† *Derived from the 320 volt supply through a series resistor of 15.5 kilohms.*
‡ *Derived from a grid resistor of 20 kilohms or a cathode resistor of 470 ohms.*
§ *Derived from a grid resistor of 27 kilohms or a cathode resistor of 330 ohms.*

INTER-ELECTRODE CAPACITANCES

Input	13.5 pF
Output	9 pF
Control Grid to Anode	0.22 pF max.