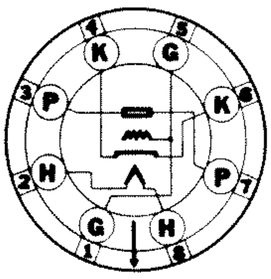

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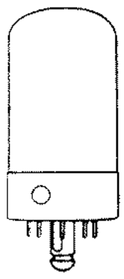


Sylvania Type 7E5

HIGH-FREQUENCY TRIODE

PHYSICAL SPECIFICATIONS

Base	Lock-In 8 Pin
Bulb	T9
Maximum Overall Length	$2^{25}/_{32}$"
Maximum Seated Height	$2\frac{1}{4}$"
Mounting Position	Any

RATINGS

Heater Voltage AC or DC (Nominal)	7.0 Volts
Heater Current (Nominal)	0.160 Ampere
Maximum Plate Voltage	250 Volts
Maximum Plate Current	16 Ma.
Maximum Grid Current	6 Ma.
Maximum Plate Dissipation	4 Watts
Maximum Heater-Cathode Voltage	90 Volts

Direct Interelectrode Capacitances:*

Grid to Plate	1.5 $\mu\mu$f.
Input	3.6 $\mu\mu$f.
Output	2.8 $\mu\mu$f.

*With $1^{5}/_{16}$" diameter shield (RMA Std. M8-308) connected to cathode.

TYPICAL OPERATION

CLASS A_1 AMPLIFIER

Heater Voltage	6.3 Volts
Heater Current	0.150 Ampere
Plate Voltage	180 Volts
Grid Voltage	−3.0 Volts
Plate Current	5.5 Ma.
Mutual Conductance	3000 μmhos
Plate Resistance	120000 Ohms
Amplification Factor	36

UHF OSCILLATOR—750 Mc.♦

Heater Voltage	6.3	6.3 Volts
Plate Voltage	200	250 Volts
Plate Current	11	13 Ma.
Grid Resistor	10000	20000 Ohms
Developed Bias	2.5	3.5 Volts

♦Half-wave four-line oscillator in which line shortening, due to the tube, is approximately 45% of a half-wave length.

UHF OSCILLATOR OR POWER AMPLIFIER—300 Mc.♦

Heater Voltage	6.3 Volts
Plate Supply Voltage§	150 Volts
Plate Current	16 Ma.
Grid Current	6.0 Ma.
Grid Resistor (Approximate)	1700 Ohms
Power Output	0.20 Watt

§Supplied through 3000 ohm dropping resistor.

LOCAL OSCILLATOR FOR 300 Mc. MIXER DRIVING♦

Heater Voltage	6.3 Volts
Plate Supply Voltage§	90 Volts
Plate Current	7.8 Ma.
Grid Voltage	−7.0 Volts
Grid Resistor	3000 Ohms
Mixer Developed Bias‡	−5.3 Volts

§Supplied through 3000 ohm dropping resistor.

♦Quarter wave four-line oscillator in which the line shortening is approximately 30% of a quarter wave length.

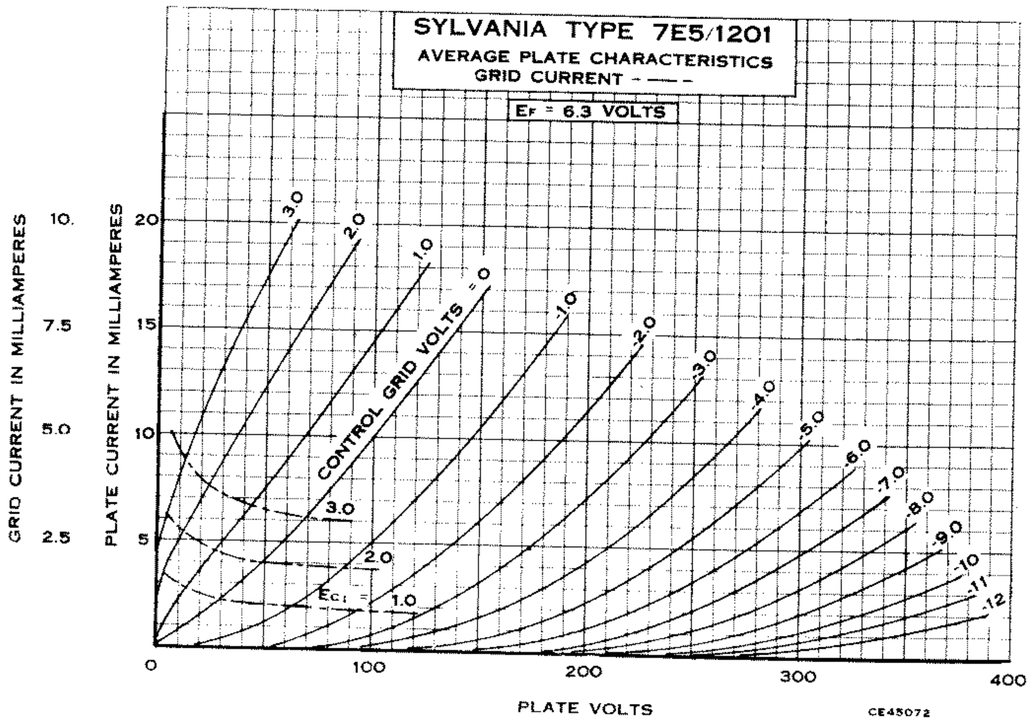
‡Developed bias across 35,000 ohm grid leak of UHF triode mixer tuned to 324 megacycles.

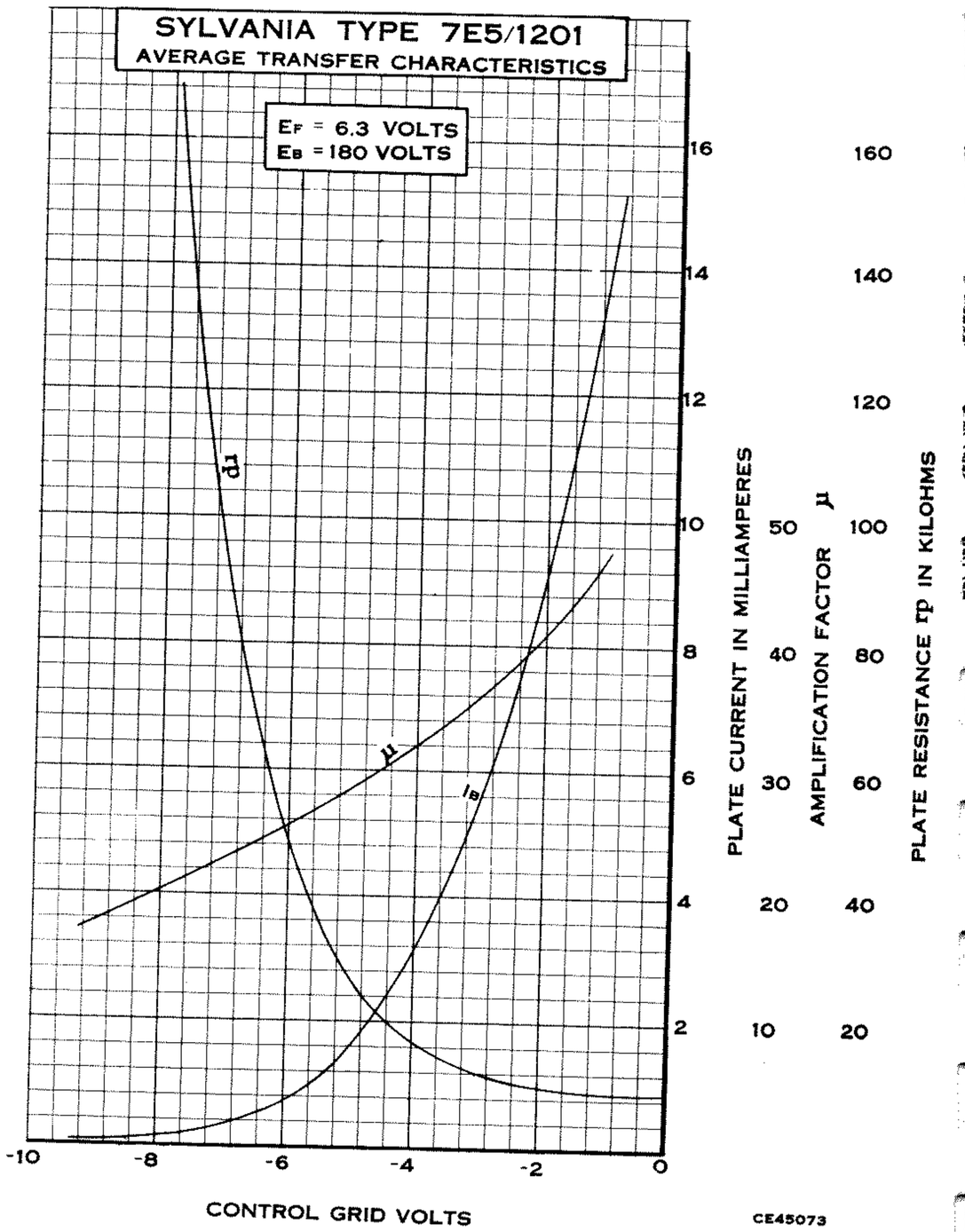
APPLICATION

Sylvania Type 7E5 is a cathode type triode of Lock-In construction designed for ultra-high frequqency applications. This tube can be used as a signal source or local oscillator to frequencies of 750 megacycles when used in a double ended transmission line circuit. This type of operation is facilitated by a symmetrical arrangement of double grid and plate leads. These connections are brought out to the Lock-In single ended base from opposite ends of their respective element structures. Useful power output can be obtained at frequencies of 400 megacycles and lower, but below approximately 200 megacycles the use of other types, such as Sylvania Type 7A4, are recommended.

For use in resistance coupled circuits, see data on Page 51.

7E5 (Cont.)


SYLVANIA TYPE 7E5/1201
AVERAGE PLATE CHARACTERISTICS
GRID CURRENT - - - -
EF = 6.3 VOLTS
GRID CURRENT IN MILLIAMPERES
PLATE CURRENT IN MILLIAMPERES
CONTROL GRID VOLTS = 0
3.0
2.0
1.0
-1.0
-2.0
-3.0
-4.0
-5.0
-6.0
-7.0
-8.0
-9.0
-10
-11
-12
Ec1 =
PLATE VOLTS
CE45072


SYLVANIA TYPE 7E5/1201
AVERAGE TRANSFER CHARACTERISTICS
EF = 6.3 VOLTS
EB = 180 VOLTS
rp
μ
IB
PLATE CURRENT IN MILLIAMPERES
AMPLIFICATION FACTOR μ
PLATE RESISTANCE rp IN KILOHMS
CONTROL GRID VOLTS
CE45073