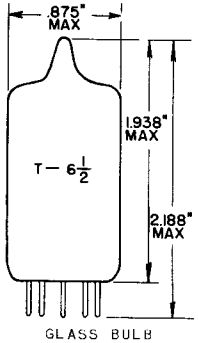
TUNG-SOL

DOUBLE TRIODE

MINIATURE TYPE



GLASS BULB
MINIATURE BUTTON
9 PIN BASE E9-1
OUTLINE DRAWING
JEDEC 6-2

COATED UNIPOTENTIAL CATHODE

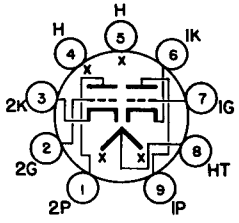
HEATER

SERIES	PARALLEL
12.6 VOLTS	6.3 VOLTS
450 MA.	900 MA.

AC OR DC

ANY MOUNTING POSITION

FOR 12.6 VOLT OPERATION APPLY HEATER VOLTAGE BETWEEN PINS #4 AND #5. FOR 6.3 VOLT OPERATION APPLY HEATER VOLTAGE BETWEEN PIN #8 AND PINS #4 AND #5 CONNECTED TOGETHER.



BOTTOM VIEW
BASING DIAGRAM
JEDEC 9H

THE 5687 IS A GENERAL PURPOSE MEDIUM-MU DOUBLE TRIODE USING THE 9 PIN BUTTON ALL-GLASS CONSTRUCTION. EACH TRIODE IS ELECTRICALLY INDEPENDENT ALTHOUGH THE TWO HEATERS HAVE A COMMON CONNECTION. THE TUBE IS CHARACTERIZED BY HIGH PERVEANCE AND HIGH EMISSION CAPABILITIES.

DIRECT INTERELECTRODE CAPACITANCES

WITH NO EXTERNAL SHIELD

EACH TRIODE UNIT

GRID TO PLATE: (G TO P)	4.0	pf
GRID TO CATHODE: (G TO K+H)	4.0	pf
PLATE TO CATHODE: (P TO K+H)		
SECTION #1	0.6	pf
SECTION #2	0.5	pf
HEATER TO CATHODE: (H TO K)	7.0	pf
PLATE TO PLATE: (1P TO 2P) APPROX.	0.75	pf
GRID TO GRID: (1G TO 2G) APPROX.	0.025	pf

RATINGS

INTERPRETED ACCORDING TO DESIGN CENTER SYSTEM

MAXIMUM HEATER-CATHODE VOLTAGE	90	VOLTS
MAXIMUM PLATE VOLTAGE	300	VOLTS
MAXIMUM INVERSE PLATE VOLTAGE	1000	VOLTS
MAXIMUM PLATE DISSIPATION (EACH UNIT)	4.2	WATTS
MAXIMUM TOTAL PLATE DISSIPATION (BOTH UNITS)	7.5	WATTS
MAXIMUM BULB TEMPERATURE (AT ANY PART OF ENVELOPE)	220	°C
MAXIMUM DC GRID CURRENT (EACH UNIT)	6	MA.
MAXIMUM EXTERNAL GRID CIRCUIT RESISTANCE (EACH UNIT)	1	MEGOHM

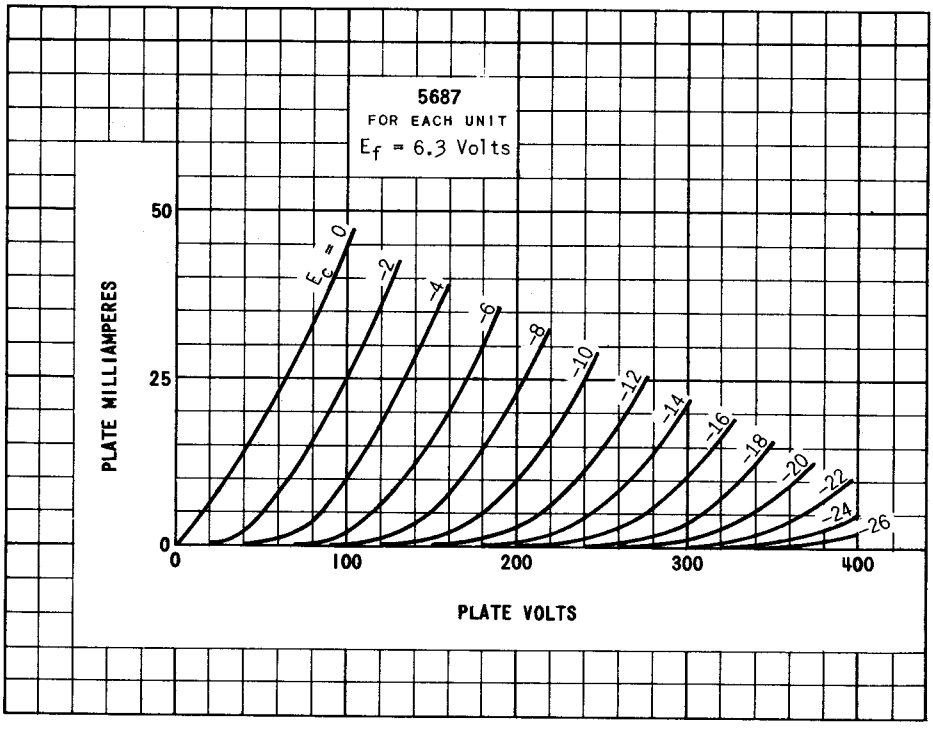
CONTINUED ON FOLLOWING PAGE

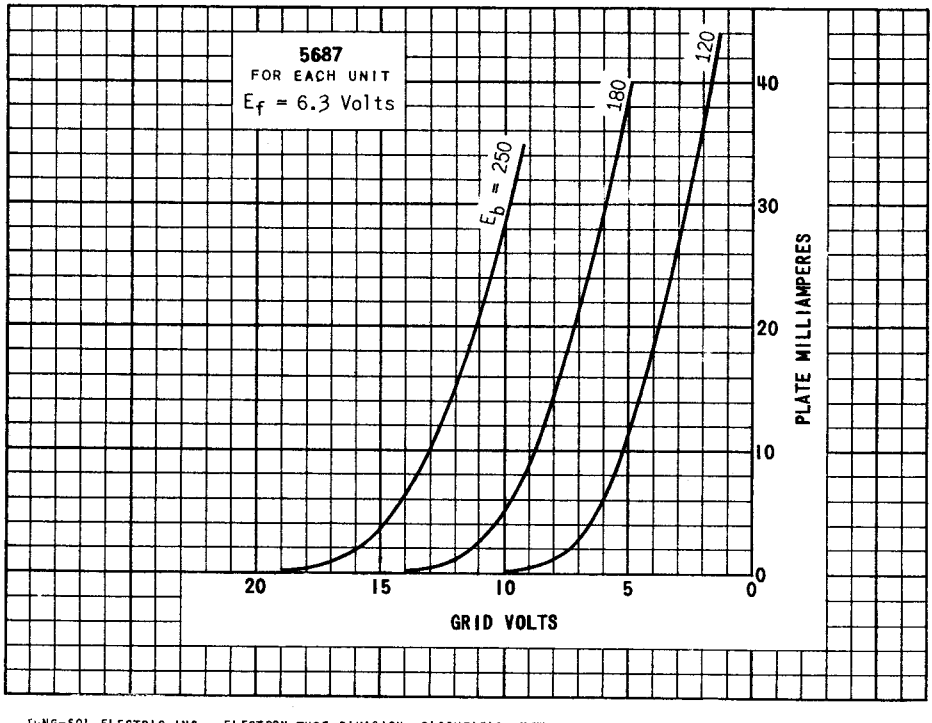
CONTINUED FROM PRECEDING PAGE

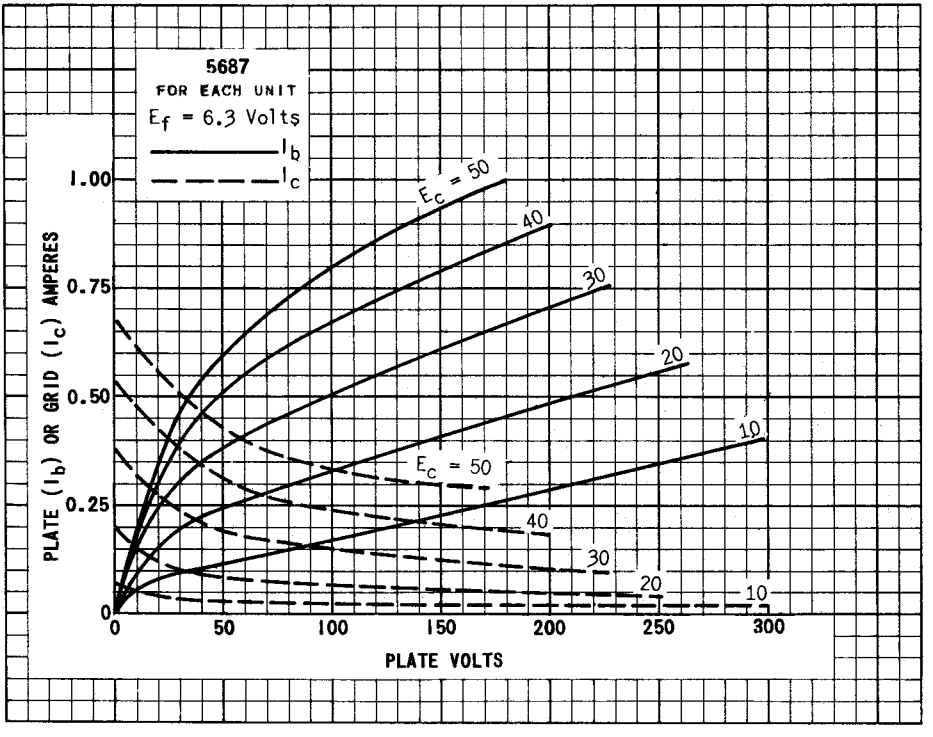
TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS

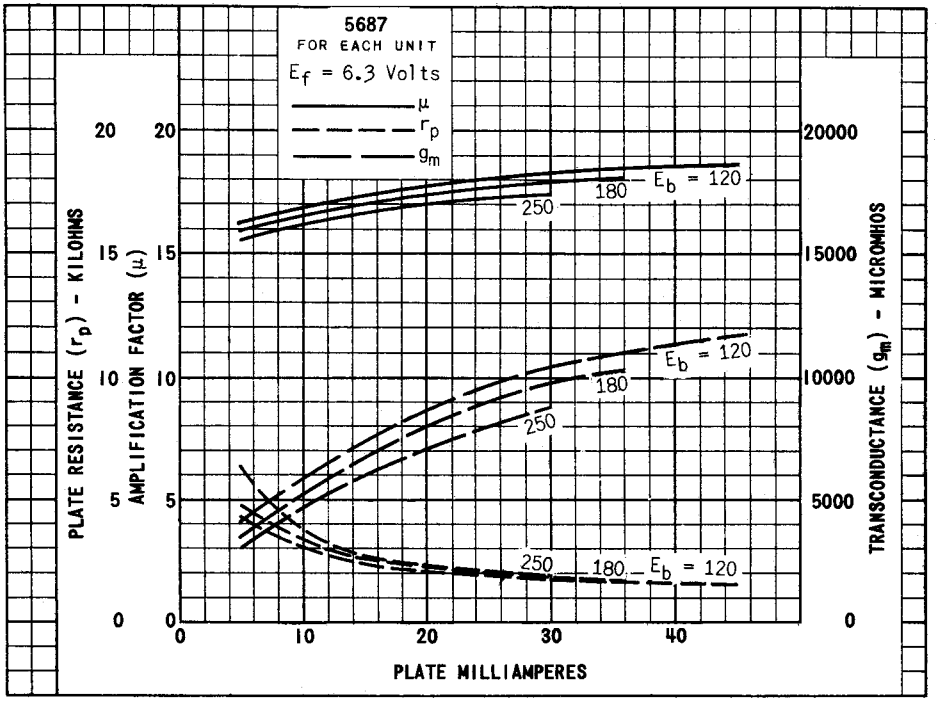
CLASS A_1 AMPLIFIER – EACH UNIT

				VOLTS AMP.
PLATE VOLTAGE	120	180	250	VOLTS
GRID VOLTAGE	−2	−7	−12.5	VOLTS
PLATE CURRENT	36.0	23.0	12.0	MA.
PLATE RESISTANCE (APPROX.)	1 560	2 000	3 000	OHMS
TRANSCONDUCTANCE	11 500	8 500	5 400	µMHOS
AMPLIFICATION FACTOR	18.0	17.0	16.0	
GRID VOLTAGE FOR I_b = 100 µA. (APPROX.)	−9.0	−14.0	−19.0	VOLTS






5687
FOR EACH UNIT
E_f = 6.3 Volts
I_b
I_c
PLATE (I_b) OR GRID (I_c) AMPERES
1.00
0.75
0.50
0.25
0
E_c = 50
40
30
20
10
0
50
100
150
200
250
300
PLATE VOLTS


5687
FOR EACH UNIT
E_f = 6.3 Volts
μ
r_p
g_m
PLATE RESISTANCE (r_p) - KILOHMS
AMPLIFICATION FACTOR (μ)
TRANSCONDUCTANCE (g_m) - MICROMHOS
20
15
10
5
0
20000
15000
10000
5000
0
E_b = 120
180
250
0
10
20
30
40
PLATE MILLIAMPERES