

TENTATIVE DATA

EITEL-McCULLOUGH, INC.
SAN BRUNO, CALIFORNIA

4E27A/5-125B

POWER PENTODE

MODULATOR
OSCILLATOR
AMPLIFIER

The Eimac 4E27A/5-125B is a power pentode having a maximum plate dissipation rating of 125 watts. Due to its high power-gain, it will deliver relatively large output with low driving-power. The low grid-plate capacitance of the 4E27A/5-125B makes neutralization unnecessary in most cases, and simplifies it in other cases. Type 4E27A/5-125B unilaterally replaces type 4E27.

Cooling of the 4E27A/5-125B is accomplished by radiation from the plate, which operates at a visible red color at maximum dissipation, and by air circulation through the base (unique base design permits unrestricted air-flow) and around the envelope.

GENERAL CHARACTERISTICS

ELECTRICAL

Filament: Thoriated tungsten	
Voltage - - - - -	5.0 volts
Current - - - - -	7.5 amperes
Grid-Screen Amplification Factor (Average)	5.0
Direct Interelectrode Capacitances (Average)	
Grid-Plate (without shielding, base grounded)	0.08 $\mu\mu\text{fd}$
Input - - - - -	10.5 $\mu\mu\text{fd}$
Output - - - - -	4.7 $\mu\mu\text{fd}$
Transconductance ($i_b = 50\text{ma.}$, $E_b = 2500\text{v.}$, $E_{c2} = 500\text{v.}$, $E_{c3} = 0\text{v.}$)	2150 μmhos
Frequency for Maximum Ratings	75 Mc.

MECHANICAL

Base 7 pin - - - - -	Fits Ventilated Giant 7-pin Socket
Basing - - - - -	- RMA type 7BM
Mounting - - - - -	- Vertical, base down
Cooling - - - - -	- Convection and Radiation
Maximum temperature of seals	225°C
Maximum temperature of bulb	250°C
Recommended Eimac Heat Dissipating Connector:	
Plate - - - - -	HR-5
Maximum Overall Dimensions	
Length - - - - -	6.19 inches
Diameter - - - - -	2.75 inches
Net Weight - - - - -	6.7 ounces
Shipping Weight (Average)	1.5 pounds



RADIO FREQUENCY POWER AMPLIFIER AND OSCILLATOR

Class-C Telephony or FM Telephony
(Key-down conditions, 1 tube)

MAXIMUM RATINGS

D-C PLATE VOLTAGE - - - - -	4000 MAX. VOLTS
D-C SCREEN VOLTAGE - - - - -	750 MAX. VOLTS
D-C GRID VOLTAGE - - - - -	-500 MAX. VOLTS
D-C PLATE CURRENT - - - - -	200 MAX. MA.
PLATE DISSIPATION - - - - -	125 MAX. WATTS
SCREEN DISSIPATION - - - - -	20 MAX. WATTS
SUPPRESSOR DISSIPATION - - - - -	20 MAX. WATTS
GRID DISSIPATION - - - - -	5 MAX. WATTS

TYPICAL OPERATION (Frequencies below 75 Mc.)

D-C Plate Voltage - - - - -	1000	1500	2000	2500	3000	Volts
D-C Screen Voltage - - - - -	500	500	500	500	500	Volts
D-C Suppressor Voltage - - - - -	60	60	60	60	60	Volts
D-C Grid Voltage - - - - -	-120	-130	-150	-170	-200	Volts
D-C Plate Current - - - - -	167	200	200	186	167	Ma.
D-C Screen Current - - - - -	11	11	11	7	5	Ma.
D-C Suppressor Current - - - - -	6	5	4	3	3	Ma.
D-C Grid Current - - - - -	6	8	8	7	6	Ma.
Peak R-F Grid Input Voltage	170	200	222	240	260	Volts
Driving Power (approx.) - - - - -	1.0	1.6	1.8	1.7	1.6	Watts
Screen Dissipation - - - - -	5.5	5.5	5.5	3.5	2.5	Watts
Grid Dissipation - - - - -	.3	.6	.6	.5	.6	Watts
Plate Power Input - - - - -	167	300	400	465	500	Watts
Plate Dissipation - - - - -	47	85	100	115	125	Watts
Plate Power Output - - - - -	120	215	300	350	375	Watts

AUDIO FREQUENCY POWER AMPLIFIER AND MODULATOR

Class-B (Sinusoidal wave)

MAXIMUM RATINGS (Per Tube)

D-C PLATE VOLTAGE - - - - -	4000 MAX. VOLTS
D-C SCREEN VOLTAGE - - - - -	750 MAX. VOLTS
D-C GRID VOLTAGE - - - - -	-500 MAX. VOLTS
D-C PLATE CURRENT - - - - -	200 MAX. MA.
PLATE DISSIPATION - - - - -	125 MAX. WATTS
SCREEN DISSIPATION - - - - -	20 MAX. WATTS
SUPPRESSOR DISSIPATION - - - - -	20 MAX. WATTS
GRID DISSIPATION - - - - -	5 MAX. WATTS

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TYPICAL OPERATION (Frequencies below 75 Mc.)

Suppressor Grounded. 750 Screen Volts.

D-C Plate Voltage - - - - -	1000	1500	2000	2500	3000	Volts
D-C Screen Voltage - - - - -	750	750	750	750	750	Volts
D-C Grid Voltage - - - - -	-170	-180	-200	-225	-250	Volts
D-C Plate Current - - - - -	160	200	200	186	167	Ma.
D-C Screen Current - - - - -	21	24	22	12	9	Ma.
D-C Grid Current - - - - -	3	6	6	4	3	Ma.
Peak R-F Grid Input Voltage	205	235	257	270	290	Volts
Driving Power (approx.) - - - - -	.6	1.4	1.5	1.1	.9	Watts
Screen Dissipation - - - - -	16	18	17	9	7	Watts
Grid Dissipation - - - - -	.1	.4	.3	.2	.2	Watts
Plate Power Input - - - - -	160	300	400	465	500	Watts
Plate Dissipation - - - - -	45	85	100	115	125	Watts
Plate Power Output - - - - -	115	215	300	350	375	Watts

TYPICAL OPERATION (Frequencies below 75 Mc.)

Suppressor Grounded. 500 Screen Volts.

D-C Plate Voltage - - - - -	1000	1500	2000	2500	3000	Volts
D-C Screen Voltage - - - - -	500	500	500	500	500	Volts
D-C Grid Voltage - - - - -	-120	-130	-150	-170	-200	Volts
D-C Plate Current - - - - -	145	180	200	184	167	Ma.
D-C Screen Current - - - - -	17	20	23	18	12	Ma.
D-C Grid Current - - - - -	6	8	11	9	7	Ma.
Peak R-F Grid Input Voltage	170	200	240	250	270	Volts
Driving Power (approx.) - - - - -	1.0	1.6	2.6	2.3	1.9	Watts
Screen Dissipation - - - - -	8.5	10	12	9	6	Watts
Grid Dissipation - - - - -	.3	.6	1.0	.8	.5	Watts
Plate Power Input - - - - -	145	270	400	460	500	Watts
Plate Dissipation - - - - -	55	95	125	125	125	Watts
Plate Power Output - - - - -	90	175	275	335	375	Watts

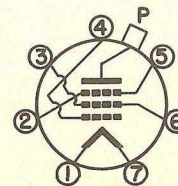
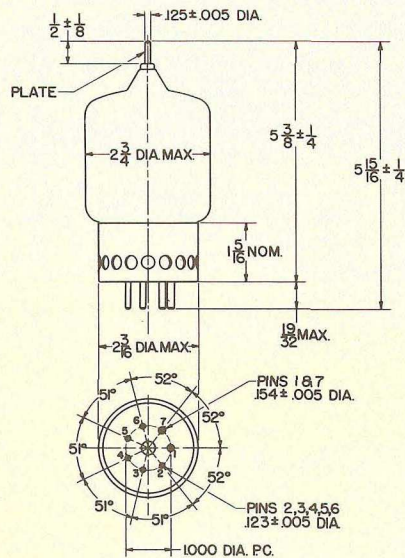
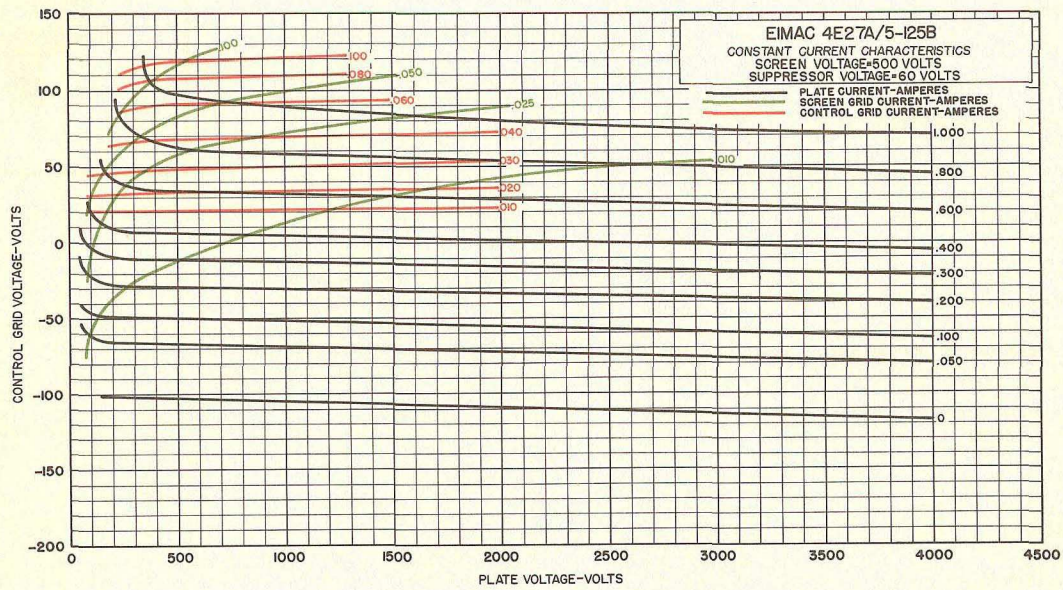
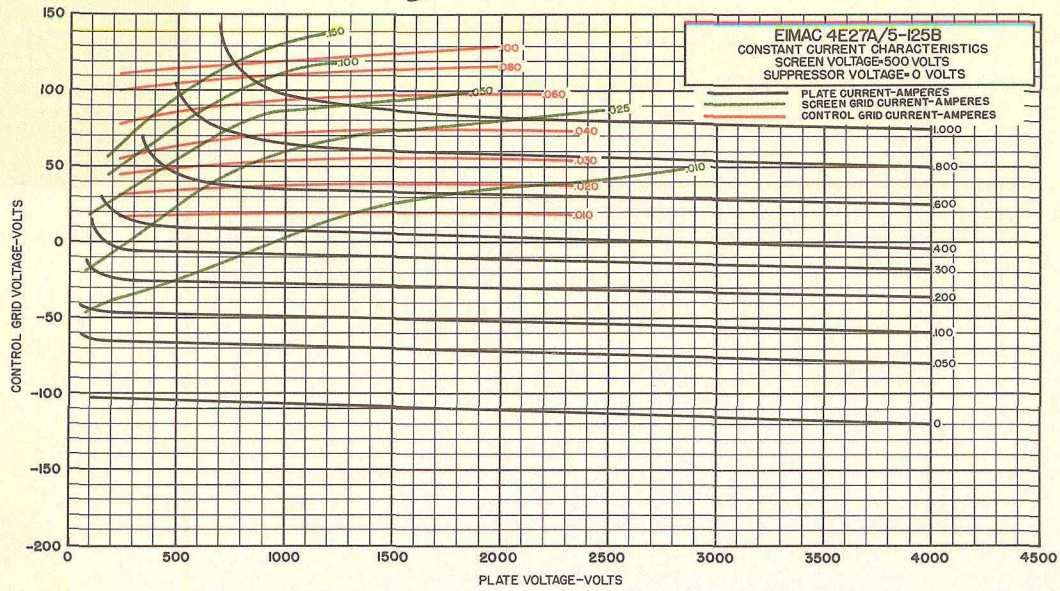
PLATE MODULATED RADIO FREQUENCY AMPLIFIER

Class-C Telephony (Carrier conditions)

MAXIMUM RATINGS (Per Tube)

D-C PLATE VOLTAGE - - - - -	3200 MAX. VOLTS
D-C SCREEN VOLTAGE - - - - -	750 MAX. VOLTS
D-C GRID VOLTAGE - - - - -	-500 MAX. VOLTS
D-C PLATE CURRENT - - - - -	160 MAX. MA.
PLATE DISSIPATION - - - - -	85 MAX. WATTS
SCREEN DISSIPATION - - - - -	20 MAX. WATTS
SUPPRESSOR DISSIPATION - - - - -	20 MAX. WATTS
GRID DISSIPATION - - - - -	5 MAX. WATTS

TENTATIVE DATA



7BM