

Plate Efficiency Formula:

$$\eta_p = \frac{\text{a-c power output to the load}}{\text{d-c power input to the plate circuit}} \times 100\%$$

Formula Example: A single 3-500Z Power Triode running in Class AB₂ with 3500VDC Plate Input Voltage will have a maximum **AC Power Output to a load of 890 Watts** (*note: data taken from Eimac datasheet*) and two 3-500Z Power Triodes in Parallel configuration, would have **1780 Watts** With a **DC Power Input to the Plate circuit of 3500 VDC** the **Plate Efficiency would be 50.85%**

(Plate Efficiency = **1780 Watts / 3500 VDC x 100%**)



3-500Z

Recommended Socket EIMAC SK-410
 Recommended Chimney EIMAC SK-406
 Recommended Heat-Dissipating Connector;
 Plate HR-6

RADIO FREQUENCY LINEAR AMPLIFIER
CATHODE DRIVEN

(Frequencies to 110 MHz)

Class AB₂

MAXIMUM RATINGS:

DC PLATE VOLTAGE 4000 VOLTS
 DC PLATE CURRENT 0.4 AMPERE
 PLATE DISSIPATION 500 WATTS
 GRID DISSIPATION 20 WATTS

1. Zener diode positive bias used at plate potentials of 3 kV and above.
- Approximate value.
- Currents listed correspond to SSB, or "Two-tone" average current at peak of signal envelope.
- Single-tone current for 3500 Vdc operation may reach this value during short periods of circuit adjustment only.
- Intermodulation distortion products are referenced against one tone of a two tone signal.

TYPICAL OPERATION

Class AB₂, Peak Envelope or Modulation Crest Conditions

Plate Voltage	1500	2000	2500	3000	3500	Vdc
Cathode Voltage ¹	0	0	0	+10	+15	Vdc
Zero Signal Plate Current ²	65	95	130	62	53	mAdc
Single-Tone Plate Current, CW ^{3, 4}	400	400	400	400	400	mAdc
Two-Tone Plate Current	260	270	280	268	262	mAdc
Single-Tone Grid Current ²	130	130	120	108	108	mAdc
Two-Tone Grid Current ²	80	80	70	60	58	mAdc
Single-Tone Power Input	600	800	1000	1200	1400	W
Useful Output Power, CW or PEP	330	500	600	740	890	W
Resonant Load Impedance	1600	2750	3450	4200	5000	Ω
Intermodulation Distortion Products ⁵						
3rd Order	-46	-38	-33	-40	-40	db
5th Order	---	---	---	-46	-45	db
Driving Impedance	94	102	100	115	115	Ω
Maximum Signal Driving Power ²	49	49	46	46	46	W