



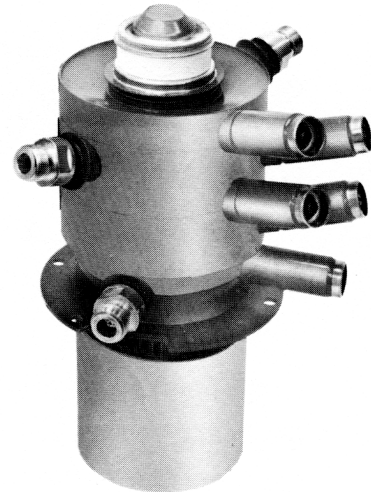
**E I M A C**  
 Division of Varian  
 S A N C A R L O S  
 C A L I F O R N I A

*Tentative Data*

**X3065A**

**POWER AMPLIFIER  
 S-BAND KLYSTRON**

The EIMAC X3065A is an air cooled, electrostatically focused, power-amplifier klystron designed to operate at frequencies from 2100 to 2110 megahertz. It will deliver a minimum output power of 500 watts with a minimum power gain of 40 decibels. The X3065A is intended for use in applications where light weight and compactness are essential.



**FEATURES**

- ELECTROSTATIC FOCUSING
- FIVE INTEGRAL CAVITIES
- LOW NOISE LEVEL
- FIXED INPUT AND OUTPUT COUPLING
- INSTANT FAULT RECYCLING

**CHARACTERISTICS**

**ELECTRICAL**

Frequency	- - - - -	2100-2110 MHz
Minimum Output Power	- - - - -	500 W
Minimum Power Gain	- - - - -	30 db
Cathode: Oxide, Unipotential		
Starting Time	- - - - -	1 minute
Heater: Voltage		
Current	- - - - -	7 Vac
Maximum Starting Current	- - - - -	1 Aac
		2 Aac

**MECHANICAL**

Operating Position	- - - - -	Any
Cavity Tuning Torque (maximum)	- - - - -	1 inch pounds
Cooling	- - - - -	Forced Air (20°C at sea level)
Collector Flow	- - - - -	100 cfm
Collector Pressure Drop	- - - - -	1 inches H <sub>2</sub> O
Maximum Dimensions:		
Length	- - - - -	9.0 inches
Width	- - - - -	6.5 inches
Depth	- - - - -	5.5 inches
Rf Input Coupling	- - - - -	Connector TNC
Rf Output Coupling	- - - - -	7/8 inch, 50-ohm line
Weight	- - - - -	5 pounds



**MAXIMUM RATINGS**

DC BEAM VOLTAGE	- - - - -	6.0 kVdc
DC BEAM CURRENT	- - - - -	0.325 mAdc
DC BEAM INPUT POWER	- - - - -	1.95 kW
COLLECTOR DISSIPATION	- - - - -	1.95 kW
CATHODE SEAL TEMPERATURE	- - - - -	150 °C
LOAD VSWR	- - - - -	2:1

**TYPICAL OPERATION**

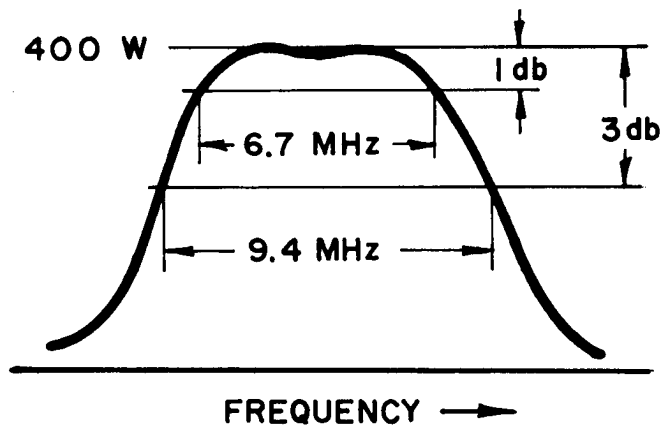
**A — Tuned For Maximum Output Power**

Frequency	- - - - -	2105	2105 MHz
DC Beam Voltage	- - - - -	4.75	4.9 kVdc
DC Beam Current	- - - - -	230	250 mAdc
Driving Power	- - - - -	500	50 mW
Output Power	- - - - -	500	500 W
Gain	- - - - -	30	40 db
Beam Power Efficiency	- - - - -	46	41 %
3 db Bandwidth	- - - - -	7.5	3.7 MHz

**TYPICAL OPERATION**

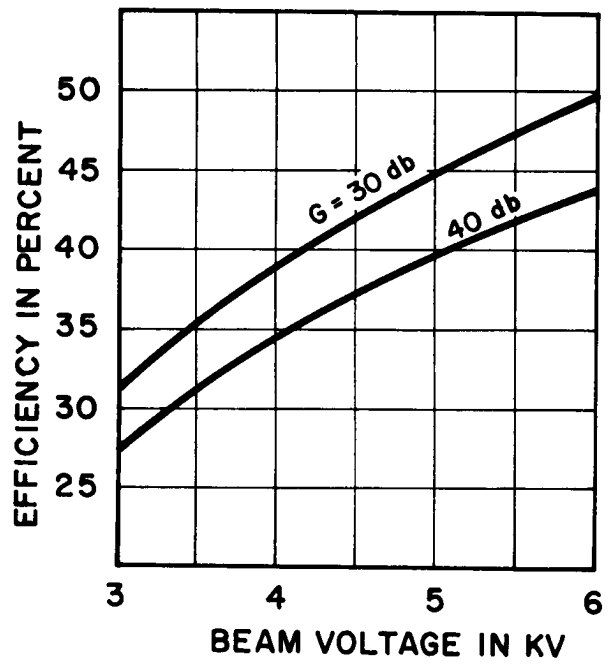
**B — Tuned For Bandwidth**

Frequency	- - - - -	2105	MHz
DC Beam Voltage	- - - - -	5.3	kVdc
DC Beam Current	- - - - -	270	mAdc
Driving Power	- - - - -	500	mW
Output Power	- - - - -	500	W
Gain	- - - - -	30	db
Beam Power Efficiency	- - - - -	35	%
1 db Bandwidth	- - - - -	6.7	MHz
3 db Bandwidth	- - - - -	9.4	MHz

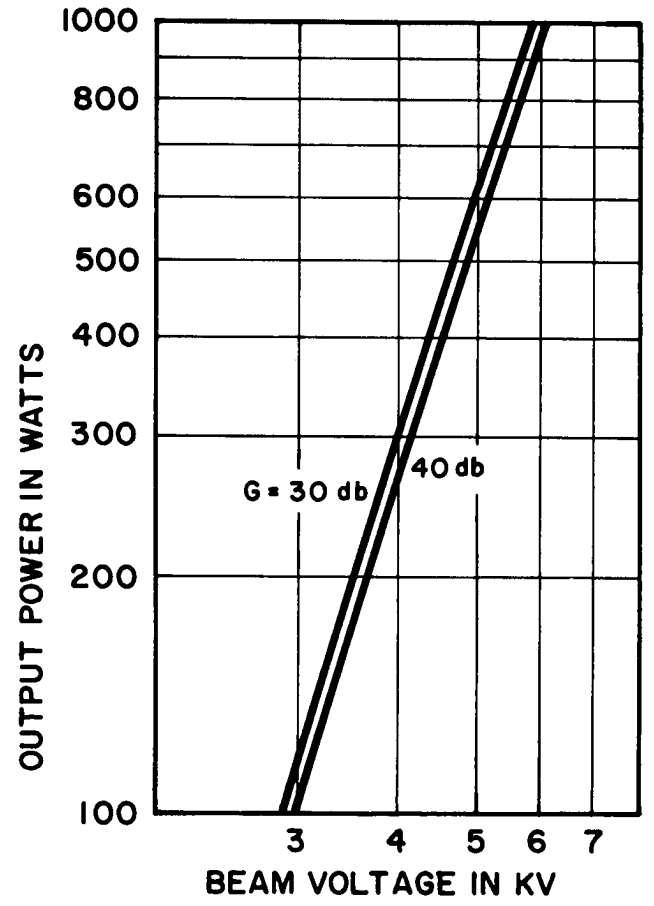


DRIVING POWER — 500 mW  
 OUTPUT POWER — 400 W  
 GAIN ————— 29 db  
 EFFICIENCY ——— 35 %  
 1 db BANDWIDTH — 6.7 MHz  
 3 db BANDWIDTH — 9.4 MHz

RF-OUTPUT POWER vs FREQUENCY. THE CAVITIES ARE TUNED FOR BANDWIDTH.



CAVITIES TUNED FOR MAXIMUM EFFICIENCY



CAVITIES TUNED FOR MAXIMUM EFFICIENCY



X3065A

