



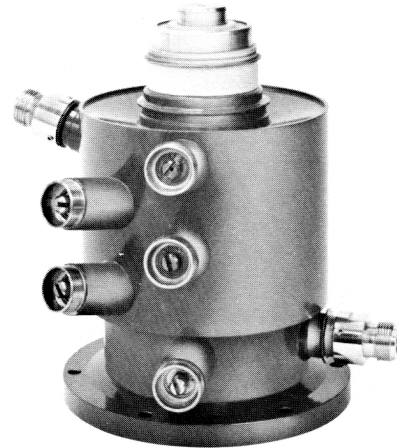
**E I M A C**  
 Division of Varian  
 S A N C A R L O S  
 C A L I F O R N I A

*Tentative Data*

**X3065**

**POWER AMPLIFIER  
 S-BAND KLYSTRON**

The EIMAC X3065 is a conduction cooled, electrostatically focused, power-amplifier klystron designed to operate at frequencies from 2100 to 2110 megahertz. It will deliver a minimum output power of 200 watts with a minimum power gain of 40 decibels. The X3065 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	- - - - -	200 W
Minimum Power Gain	- - - - -	40 db
Cathode: Oxide, Unipotential		
Starting Time	- - - - -	1 minute
Heater: Voltage		
Current	- - - - -	7 Vac
Maximum Starting Current	- - - - -	1.0 Aac
		2 Aac

**MECHANICAL**

Operating Position	- - - - -	- - - Any
Cavity Tuning Torque (maximum)	- - - - -	1 inch pounds
Cooling	- - - - -	By Conduction
Maximum Dimensions:		
Length	- - - - -	6.5 inches
Width	- - - - -	6.50 inches
Depth	- - - - -	5.5 inches
Input rf coupling	- - - - -	Connector TNC
Output rf coupling	- - - - -	Type N
Weight	- - - - -	5 pounds



**MAXIMUM RATINGS**

BEAM VOLTAGE - - - - -	4.0 kVdc
BEAM CURRENT - - - - -	180 mAdc
BEAM INPUT POWER - - - - -	720 W
COLLECTOR DISSIPATION - - - - -	720 W
CATHODE SEAL TEMPERATURE - - - - -	150 °C
LOAD VSWR - - - - -	2:1

**TYPICAL OPERATION**

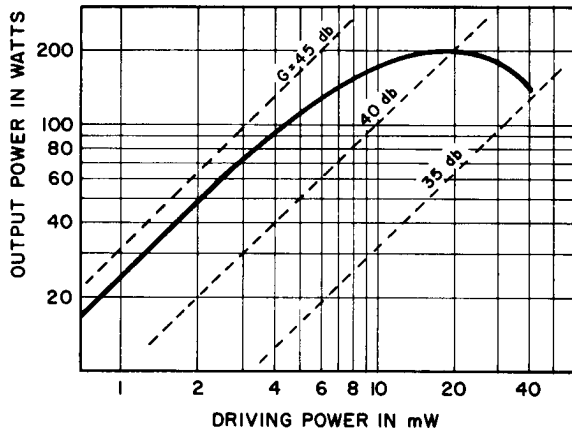
**A – Tuned For Maximum Efficiency**

Frequency - - - - -	2105	2105 MHz
DC Beam Voltage - - - - -	2.2	3.5 kVdc
DC Beam Current - - - - -	73	145 mAdc
Driving Power - - - - -	5	20 mW
Output Power - - - - -	50	200 W
Gain - - - - -	40	40 db
Beam Power Efficiency (without collector depression) - - - - -	31	39.5 %
Beam Power Efficiency (with collector depression) - - - - -	39	42 %
3 db Bandwidth - - - - -	2.0	2.2 MHz

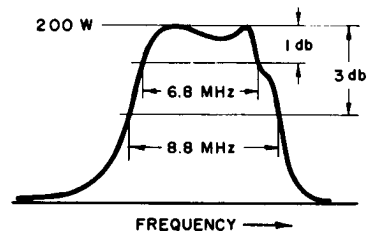
**TYPICAL OPERATION**

**B – Tuned For Bandwidth**

Frequency - - - - -	2105	MHz
DC Beam Voltage - - - - -	3.6	kVdc
DC Beam Current - - - - -	151	mAdc
Driving Power - - - - -	400	mW
Output Power - - - - -	196	W
Gain - - - - -	27	db
Beam Power Efficiency - - - - -	36	%
1 db Bandwidth - - - - -	6.8	MHz
3 db Bandwidth - - - - -	8.8	MHz

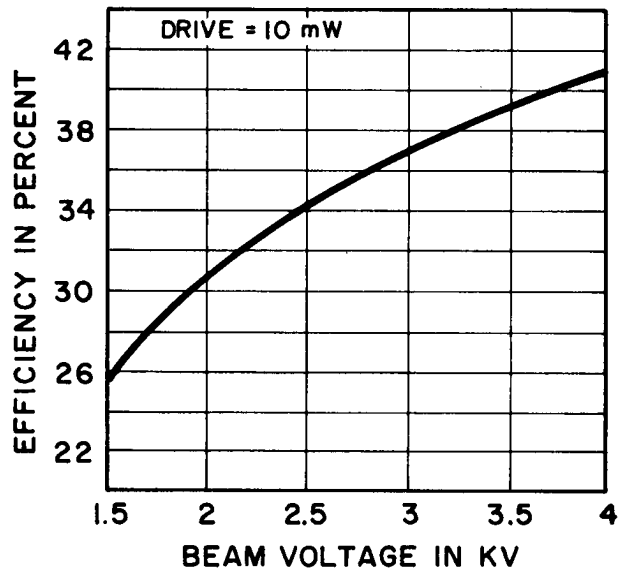
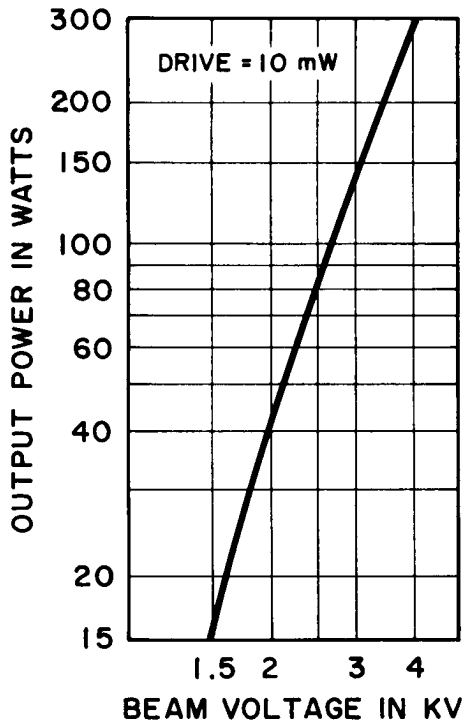


OUTPUT POWER vs DRIVING POWER AT 3.5 KV BEAM VOLTAGE.



DRIVING POWER — 400 mW  
 OUTPUT POWER — 200 W  
 GAIN — 27 db  
 EFFICIENCY — 36 %  
 1 db BANDWIDTH — 6.8 MHz  
 3 db BANDWIDTH — 8.8 MHz

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



BEAM POWER EFFICIENCY, WITHOUT COLLECTOR DEPRESSION, vs BEAM VOLTAGE.



X3065

