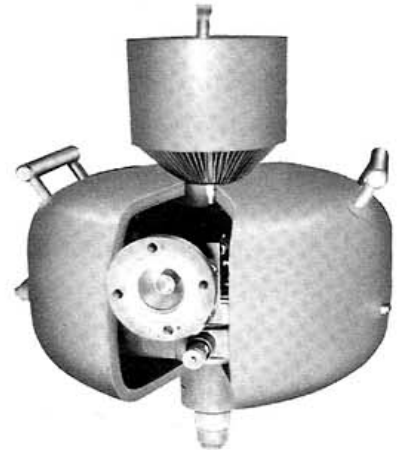




EIMAC
 A Division of Varian Associates
 SAN CARLOS, CALIFORNIA

4K5SL-1
 2 kW
 POWER AMPLIFIER
 S-BAND KLYSTRON

The EIMAC 4K5SL-1 is an air-cooled, permanent magnet focused, power-amplifier klystron designed to operate at frequencies from 1700 to 2400 megahertz. It will deliver a minimum output power of 2 kilowatts with a minimum power gain of 40 decibels. The 4K5SL-1 is intended for use in applications where broad communications bandwidth, light weight and compactness are essential. The second cavity is designed to be coupled to an external load for increased bandwidth.



FEATURES

- PERMANENT MAGNET FOCUSING
- FOUR INTEGRAL CAVITIES
- SECOND CAVITY LOADING
- LOW NOISE LEVEL
- FIXED INPUT AND OUTPUT COUPLING
- TWO LIFTING HANDLES FOR EASE OF HANDLING

CHARACTERISTICS

ELECTRICAL

Frequency	- - - - -	1700-2400 MHz
Minimum Output Power	- - - - -	2 kW
Minimum Power Gain	- - - - -	40 db
Minimum Bandwidth	- - - - -	4 MHz
Cathode: Impregnated, Unipotential		
Starting Time (Minimum, without damage)*	- - - - -	3 Min.
Heater: Voltage	- - - - -	6 Vac
Current	- - - - -	4.5 Aac
Maximum Starting Current	- - - - -	9 Aac

*Cathode emission will be stabilized in 5 minutes

THESE SPECIFICATIONS ARE BASED ON DATA APPLICABLE AT PRINTING DATE. SINCE EIMAC HAS A POLICY OF CONTINUING PRODUCT IMPROVEMENT, SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE.



MECHANICAL

Operating Position	- - - - -	Any
Cavity Tuning Torque (maximum)	- - - - -	12 inch-pounds
Cooling**	- - - - -	Forced Air (20°C at sea level)
Collector Flow	- - - - -	225 CFM
Collector Pressure Drop	- - - - -	0.8 inch H ₂ O
Body Flow	- - - - -	40 cfm
Pressure Drop	- - - - -	1.0 inch H ₂ O
Maximum Dimensions:		
Length	- - - - -	20 inches
Width	- - - - -	14.5 inches
Input rf Coupling	- - - - -	UG-21 D/U Connector
Second Cavity Coupling	- - - - -	UG-21 D/U Connector
Output rf Coupling	- - - - -	1 5/8 inch, 50-ohm line
Weight (Klystron and Magnet)	- - - - -	95 Pounds

**Cooling air drawn through body and collector and exhausted away from klystron.

MAXIMUM RATINGS

BEAM VOLTAGE	- - - - -	8.6 kVdc
BEAM CURRENT	- - - - -	0.8 Adc
COLLECTOR DISSIPATION	- - - - -	6.87 kW
CATHODE SEAL TEMPERATURE	- - - - -	150°C
LOAD VSWR	- - - - -	1.5:1

TYPICAL OPERATION

Tuned For Maximum Efficiency – Load VSWR 1.1:1

	<u>2.0 kW Minimum Output Level</u>				
Frequency	- - - - -	1700	2000	2400	MHz
Output Power	- - - - -	2.250	2.050	2.050	kW
Driving Power	- - - - -	100	100	100	mW
Gain	- - - - -	43.52	43.22	43.12	db
Beam Voltage	- - - - -	7.8	7.8	8.4	kVdc
Beam Current	- - - - -	.590	.590	.650	Adc
Beam Power Efficiency	- - - - -	49	44.5	37.5	%
3 db Bandwidth	- - - - -	4	4.5	6.0	MHz



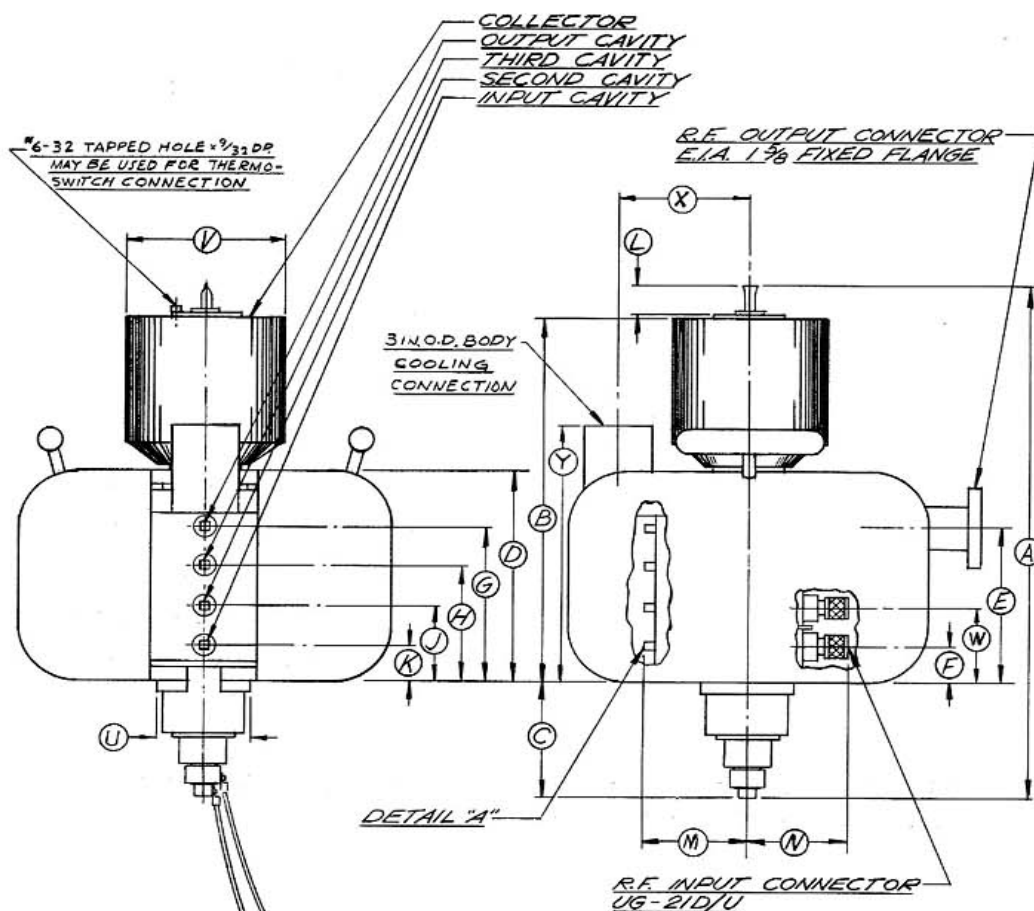
													<u>1 kW Minimum Output Level</u>			
Frequency	-	-	-	-	-	-	-	-	-	-	-	-	1.7	2.0	2.4	MHz
Beam Voltage	-	-	-	-	-	-	-	-	-	-	-	-	6.5	6.5	6.5	kVdc
Beam Current	-	-	-	-	-	-	-	-	-	-	-	-	.450	.450	.450	Adc
Output Power	-	-	-	-	-	-	-	-	-	-	-	-	1.270	1.148	1.025	kW
Driving Power	-	-	-	-	-	-	-	-	-	-	-	-	100	100	100	mW

													<u>500 Watts Minimum Output Level</u>			
Frequency	-	-	-	-	-	-	-	-	-	-	-	-	1.7	2.0	2.4	MHz
Beam Voltage	-	-	-	-	-	-	-	-	-	-	-	-	5.4	5.4	5.4	kVdc
Beam Current	-	-	-	-	-	-	-	-	-	-	-	-	.337	.337	.337	Adc
Output Power	-	-	-	-	-	-	-	-	-	-	-	-	.625	.562	.520	kW
Driving Power	-	-	-	-	-	-	-	-	-	-	-	-	100	100	100	mW

For additional data or information regarding a specific application, write to EIMAC, Division of Varian Associates, 301 Industrial Way, San Carlos, California.

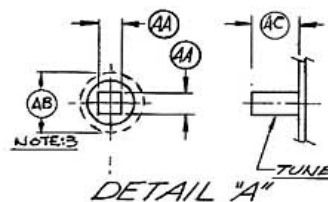
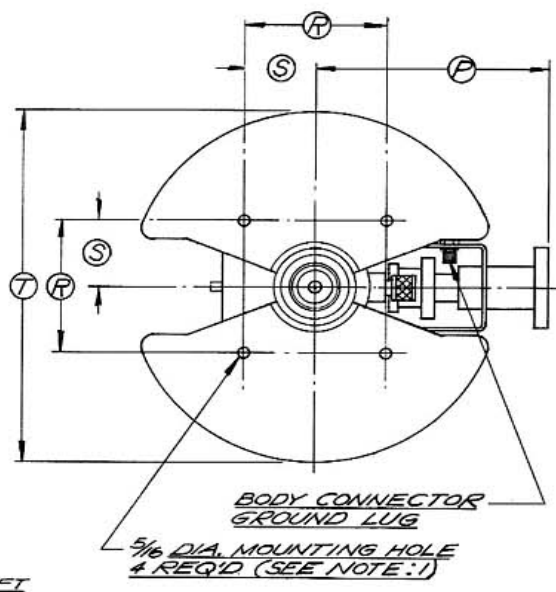


4K5SL-1



DIMENSIONAL DATA			
REF	NOM	MIN.	MAX.
A			20.000
B	13.475		
C			4.625
D			7.874
E	5.820		
F	1.470		
G	5.820		
H	4.370		
J	2.920		
K	1.470		
L			1.500
M	4.472		
N	3.475		
P	7.910		
R		4.888	5.012
S		2.444	2.506
T			14.500
U			3.042
V		6.000	6.125
W	2.920		
X	5.125		
Y	10.000		
AA		.245	.255
AB		.647	
AC		.340	

18 IN. LONG LEADS (MIN)
YELLOW - HEATER
WHITE - HEATER CATHODE



NOTES:
1. KEEP MAGNETIC MATERIAL AT LEAST SIX INCHES AWAY FROM MAGNET; OTHER MAGNETS SHOULD BE AT LEAST TWELVE INCHES DISTANT.
2. DIMENSIONS ARE IN INCHES.
3. CYLINDER OF CLEARANCE TO BE CENTERED ON EACH TUNER SHAFT.

4K5SL-1 KLYSTRON