

6AV60

The Toshiba 6AV60 is a high power, forced air and water cooled, four integral resonator, magnetically focused Klystron amplifier for use under C.W. conditions, with mechanical tuning covering the frequency range from 6325 to 6425 megacycles.

It will deliver a C.W. output power of 3 kilowatts approximately with a power gain of 30 decibels.

Both input and output couplings are designed for mating with UG-344/U cover flanges of RG-50/U wave guides.

This Klystron is intended for use in transmitter of space communication systems.

GENERAL DATA

Electrical:

Frequency	{ Minimum	6325 megacycles
	{ Maximum	6425 megacycles
Heater Voltage		12 volts
Heater current		8 amperes
Cathode preheating time		5 minutes

Mechanical:

Physical dimensions		See outline drawing
Base and electrical connection		See outline drawing
Mounting position		Cathode vertical
RF coupling	{ Input	See outline drawing
	{ Output	See outline drawing
Focusing magnetic field		2000 gaussess
Cooling	Collector	Forced liquid
	Body	Forced liquid
	Cathode bushing	Forced air

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TECHNICAL DATA

Tuning	Tuning screws
Net weight	6 kg approx.
Type of cathode	Barium tungsten, Unipotential

MAXIMUM RATINGS

	Minimum	Maximum
Heater voltage	10 volts	15 volts
Cathode preheating time	3 minutes	-
Cathode current	-	1.7 amperes
Collector voltage	-	13 kilovolts
Collector current	-	1.5 amperes
Collector input power	-	18 kilowatts
Body voltage	-	13 kilovolts
Body dissipation	-	2 kilowatts
Focusing electrode voltage	-450 volts	0 volt
Focusing electrode dissipation	-	5 watts
Load VSWR	-	1.2:1
Collector coolant temperature at outlet	-	60 degree centigrade

TYPICAL OPERATION

Frequency	6390 megacycles
Cathode current	1.4 amperes
Collector voltage	10 kilovolts
Collector current	1.3 amperes
Body voltage	10 kilovolts
Body current	100 milliamperes
Focusing electrode voltage (Adjusted for maximum beam transmission)	-100 volts
Focusing electrode current	0 milliampere
RF driving power	3 watts
Power output	3 kilowatts
Power gain	30 decibels
Efficiency	23 percent

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TECHNICAL DATA

Bandwidth (Between half power points)

100 megacycles

Focusing magnetic field strength

2000 gaussses

Cooling quantity {Collector(water)

20 liter per minutes

{Body(water)

2 liter per minuts