HIGH VOLTAGE REGULATOR OR SWITCH TUBE
POWER TETRODE

Oil cooled power tetrode in metal-glass construction intended for use as high voltage regulator or switch tube for voltages up to 85kV and anode dissipations up to 1 kW average.

QUICK REFERENCE DATA

		Hold Off	Open(Pulse)
Anode voltage	Av	80 kV	2 kV
Grid 2 voltage =Grid 1 voltage	Vg2=Vg1	-700V	<200 V
Anode current	Ia	<50 uA	2.5 A
Grid 1 + Grid 2 current	Ig	-	<1.2 A

HEATING: direct; thoriated tungsten filament, mesh type

Filament voltage	Vf		7.5	V ±5%
Filament current	If		17	A
Filament Peak starting current	Ifp	max.	85	A
Cold filament resistance	Rfo		53	mOhms

TYPICAL CHARACTERISTICS

Measured at:	Va		4kV
	Vg2		500V
	Ia		300mA
Transconductance	S		10 mA/V
Amplification Factor	u_{g2g1}		6

CAPACITANCES

Cathode to grid 1*	C_{cg1}	≈	12 pF
Grid 1 to Grid 2*	C_{g1g2}	≈	19 pF
Grid 2 to anode**	C_{g2a}	≈	6 pF

*Grid 2 connected to anode
** Grid 1 connected to cathode

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TEMPERATURE LIMITS

Bulb Temperature	T_{env}	max.	150	°C
Temperature of pin seals	T_{pin}	max.	150	°C
Temperature of anode	T_{anode}	max.	250	°C

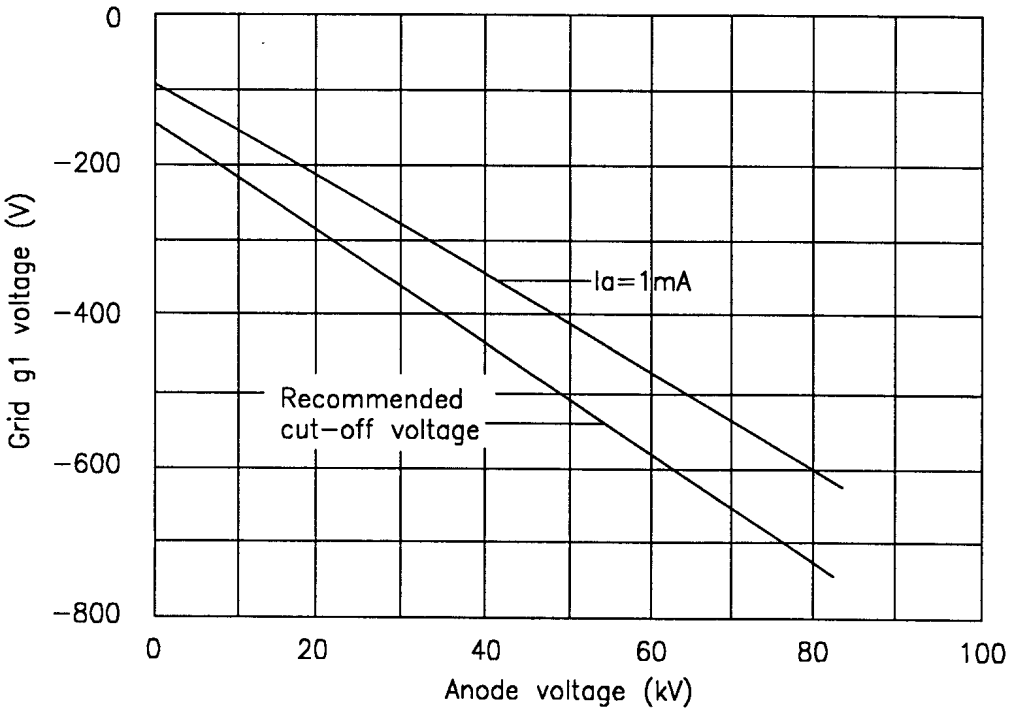
COOLING

Convection or forced; transformer oil

LIMITING VALUES (Absolute maximum rating system)

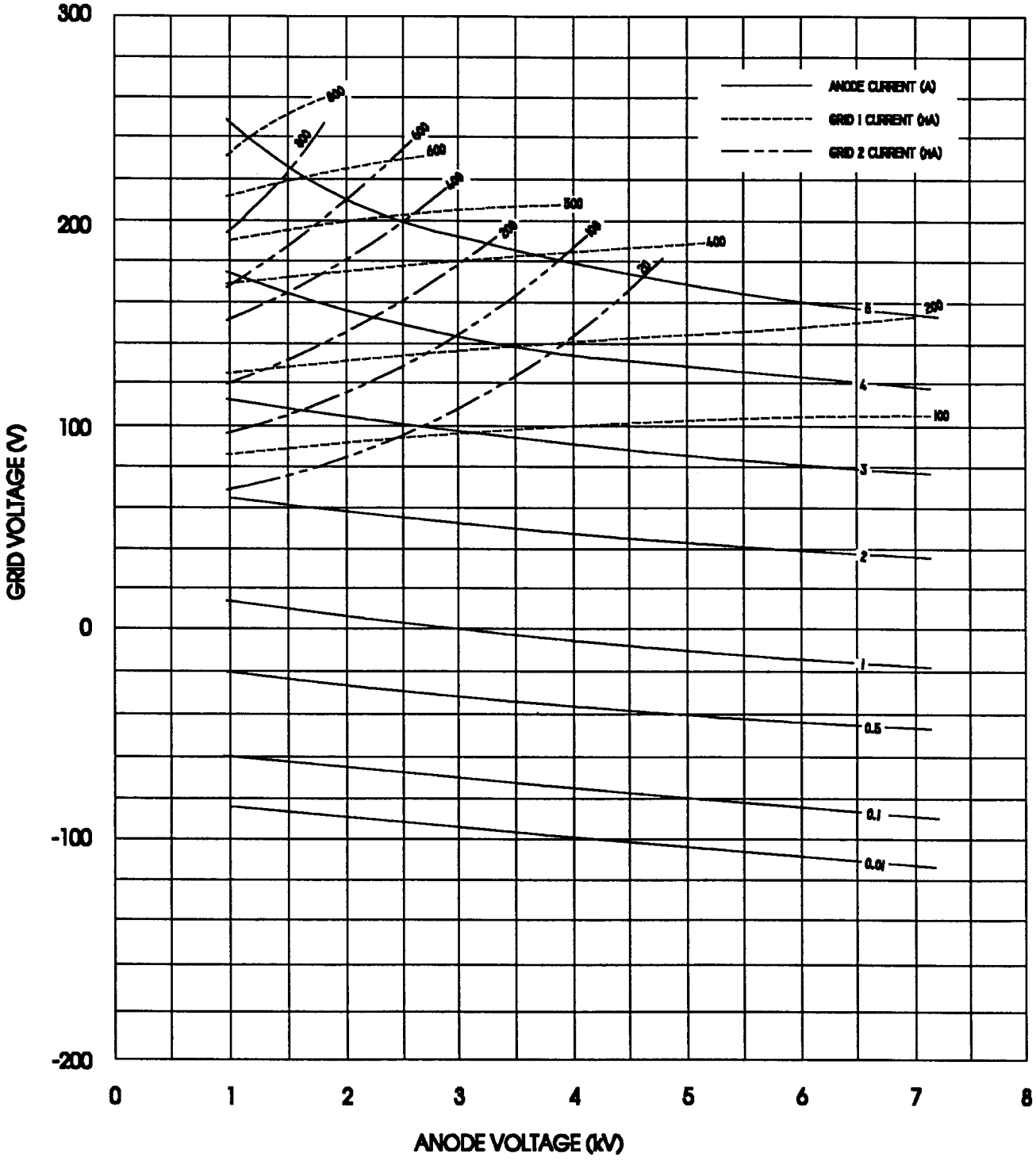
Anode voltage in oil	V_a	85	kV
Grid 2 Voltage (+ and -)	V_{g2}	1000	V
Grid 1 voltage	$-V_{g1}$	1000	V
Peak Cathode current	I_{kp}	5	A
Anode dissipation in oil*	W_a	1	kW
Grid 2 dissipation*	W_{g2}	75	W
Grid 1 dissipation*	W_{g1}	25	W

CUT–OFF CHARACTERISTICS
for Vg2=500V



*-Average value.
-For pulse operation the dissipation depends on voltage and current during pulse and duty cycle.
-For peak anode dissipation >50kW, pulse lengths >1 s, and special applications the manufacturer should be consulted for more detailed information.

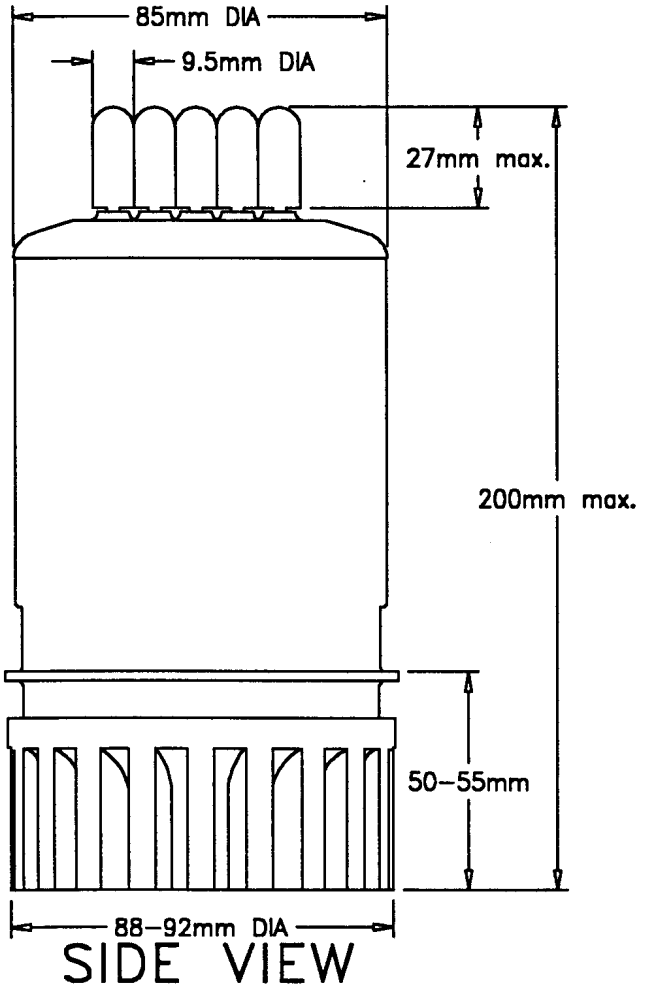
CONSTANT CURRENT CHARACTERISTICS
Vg2=500V



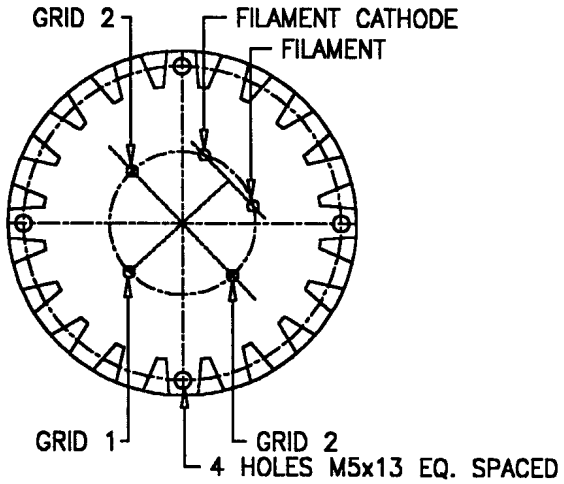
MECHANICAL DATA:

Mounting Position:	Vertical with anode up or down
Nett Mass:	approx. 3.6 Kg
Base:	super giant UTE 5A38
Socket:	2422 512 00001

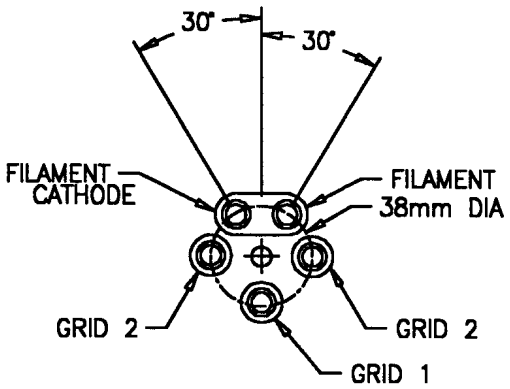
Outline Drawing



SIDE VIEW



ANODE VIEW



BASE VIEW

Warning - Personal Safety Hazards

High Temperature

Do not come in contact with the AX5184 during the operation period or immediately after removing tube voltages. The temperature of the tube during operation often exceeds 200°C.

High Voltage

The AX5184 operates at voltage ranges from 10 kilovolts to 85 kilovolts. Equipment must be designed with safety switches so that no one can come in contact with these potentialy fatal voltages. Warnings should also be posted on the equipment.

X-Ray radiation

High vacuum tubes operating above 10 kilovolts produce X-rays which are progressively more dangerous as the voltage increases. The AX5184 is a potential X-Ray hazard when operated in its normal rated voltage and current.

X-ray shielding must be provided on all sides of the AX5184 to provide adequate protection. If there is any doubt as to the adequacy of shielding, an expert in this field should be contacted to perform an X-Ray survey of the equipment.