

KUTHE LABORATORIES, INC.

6777 (KU14) HYDROGEN THYRATRON

The 6777 is a unipotential cathode, three element, hydrogen filled thyatron with reservoir, designed for network discharge service. In such service it is suitable for producing pulse outputs of more than 120 KW at an average power level of more than 80 watts.

The special features of the 6777 include the high peak voltage and current ratings and the very compact size.

ELECTRICAL DATA, GENERAL

Heater voltage	6.3v $\pm$ 7.5%
Heater current	2.6 amperes
Minimum heating time	3 minutes

MECHANICAL DATA, GENERAL

Mounting position	Any
Overall length	4 7/8 $\pm$ 3/8 inches
Greatest diameter	1 9/16 max
Base	Medium, 4 pin, lower loss phenolic, A4-0
Cap	Small metal, C1-1
Cooling	Note 3

RATINGS

Anode supply voltage	2.5 kv (min)
Peak anode forward voltage	8.0 kv (max)
Peak anode inverse voltage (Note 1)	8.0 kv (max)
Peak anode current	35 amperes (max)
Average anode current	45 ma (max)
Anode current rate of rise	1200 amp/us (max)
Grid drive voltage (Note 2)	175 volts (min)

TYPICAL OPERATION AS PULSE MODULATOR, DC RESONANCE CHARGING

Anode supply voltage	Ebb: 3.5	KV DC
Pulse repetition rate	prf: 2800	pps
Pulse duration	tp: 0.25	microseconds
Pulse forming network impedance	Zn: 115	ohm app.
Trigger voltage	egy: 175	Volts
Peak power output	pp: 130	KW
Average power output	Pave: 91	W
Average current	Iave: 22.7	ma.

NOTE 1

The peak inverse voltage, exclusive of a spike of 0.05 us max duration, shall not exceed 3 KV during the first 25 microseconds after the pulse.

NOTE 2

The voltage between grid and cathode terminals of the tube, with the grid of the tube disconnected, should have the following characteristics:

A. Voltage	175 - 250 volts
B. Duration at 10% point	2.0 microseconds (min)
C. Time of Rise	0.5 microseconds (max)
D. Impedance	1500 ohms (max)

NOTE 3

Cooling of the anode lead is permissible, but there shall be no air blast directly on the bulb.