ADVANCE DATA

MECHANICAL DATA

Bulb	T 5 ½
Base	Tinned Flexible Leads (2 15/16" Min. Length)
Mounting Position	Any

ELECTRICAL DATA

Anode Voltage	500 to 1000	Volts	d c
Trigger Voltage			
tp = 2 µsec	215	Volts	Min.
tp = 200 µsec	180	Volts	Min.
	(See Control Data)		
Peak Cathode Current			
Minimum	10	Amperes	
Maximum	500	Amperes	
Power Input[1]	1	Watt	Max.
Trigger Grid Bias[2]	0	Volts	
Trigger Grid Current	10	µa	Min.
Keep Alive Current	30 to 100	µa	
Anode Delay Time	8	µsec	Max.
Ambient Temperature	-55 to +85	°C	

TYPICAL OPERATION

Anode Voltage	500	Volts	d c
Trigger Voltage, tp = 200 µsec	180	Volts	
Peak Cathode Current	60	Amperes	
Frequency	1	pps	
Trigger Grid Bias	0	Volts	
Keep Alive Current	50	µa	
Power Input	1/8	Watt	

NOTES:

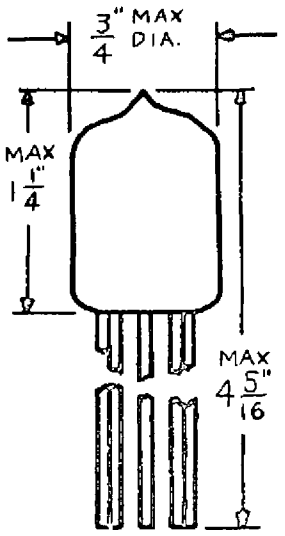
1. Watts $= \frac{FCV^2}{2}$, where C = Discharge Capacity in µf
   V = Anode Voltage in KV
   F = pps (Trigger pulses per sec.)

2. Grid may be run positive with respect to cathode in order to decrease trigger voltage with some reduction in hold-off voltage (i.e. - Reduction in upper anode voltage range)

from JETEC release #1666, June 18, 1956

QUICK REFERENCE DATA

The Sylvania Type 6873 is a ruggedized cold cathode trigger tube with increased trigger sensitivity and higher operating voltage capabilities.



Pin No.	1	Cathode
	2	Clipped at Base
	3	Trigger Grid
	4	Anode
	5	Clipped at Base
	6	Keep-Alive
	7	Clipped at Base

SYLVANIA ELECTRIC PRODUCTS INC.

ELECTRONICS DIVISION
WOBURN, MASS.

Prepared and Released By The TECHNICAL PUBLICATIONS SECTION EMPORIUM, PENNSYLVANIA

May 17, 1956

APPLICATION DATA

The Sylvania Type 6873 trigger tube is an inert-gas filled, internally-triggered, cold cathode tube of extremely rugged and reliable design. The tube is designed for electronic relay and switching service involving extremely high instantaneous peak currents of the order of hundreds of amperes - at low average current levels.

A special grid design enables the 6873 to be triggered by a pulse of very low power (1-2 milliwatts). Because of this, it is possible to trigger the 6873 directly from a phototube without intervening amplifiers. The 6873 tube directly bridges the gap between very low instantaneous current levels and very high instantaneous current levels.

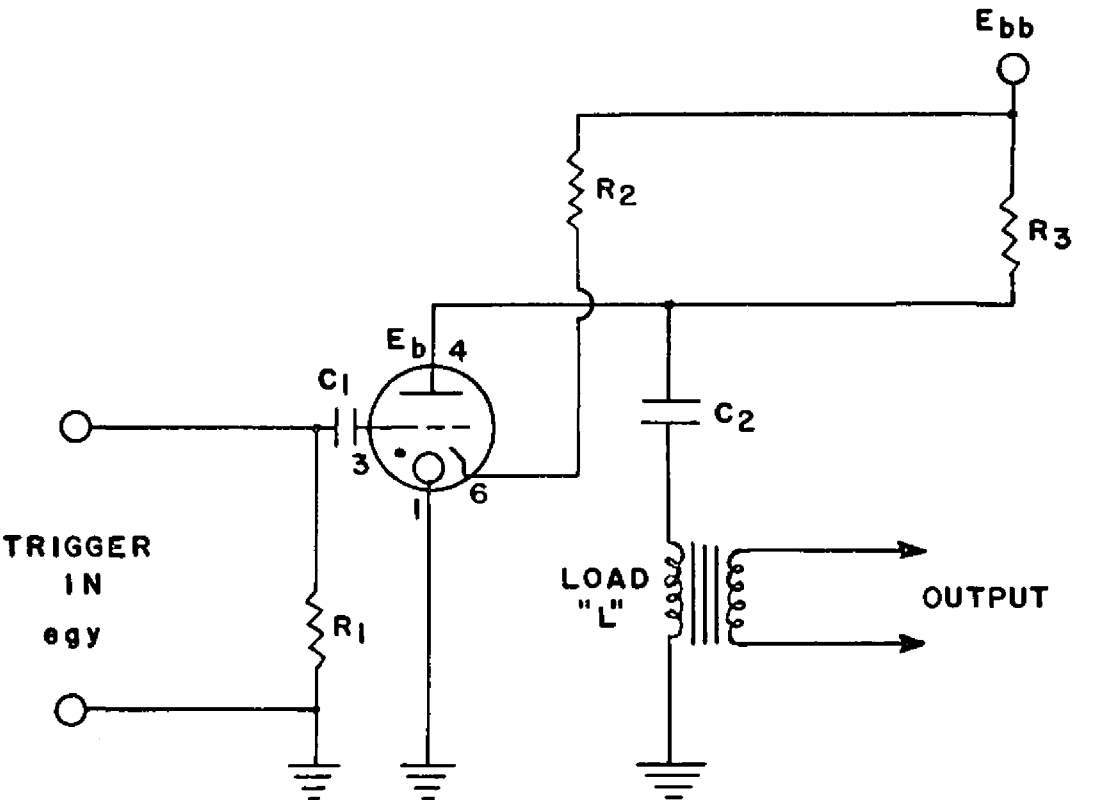
The extremely rugged and reliable design of the 6873 tube makes it ideal for use in applications requiring dependable operation under extreme environmental conditions of shock, vibration, and temperature variations.

The use of a keep-alive grid insures relatively stable triggering characteristics throughout life with a maximum anode delay of 8 microseconds under typical operating conditions.

The 6873 comes equipped with flexible lead wires eliminating the need for a tube socket and, because direct connections are required, a resulting increase in reliability is obtained.

Since the 6873 cathode depends upon a minimum peak current for its activation, Sylvania recommends that circuit values be chosen to insure at least 10 amperes minimum peak current flow during each operation.

TYPICAL OPERATING CIRCUIT



R_1 : 50 ohms to 100,000 ohms* typical

R_2 : 10 megohms to 30 megohms*

R_3 : Depends on "pps" and "C2"

$$R_3 \cong \frac{1}{C_2 x pps}$$

where:

pps = operating frequency

C_1 : 0.1 µfd 600 w Vdc

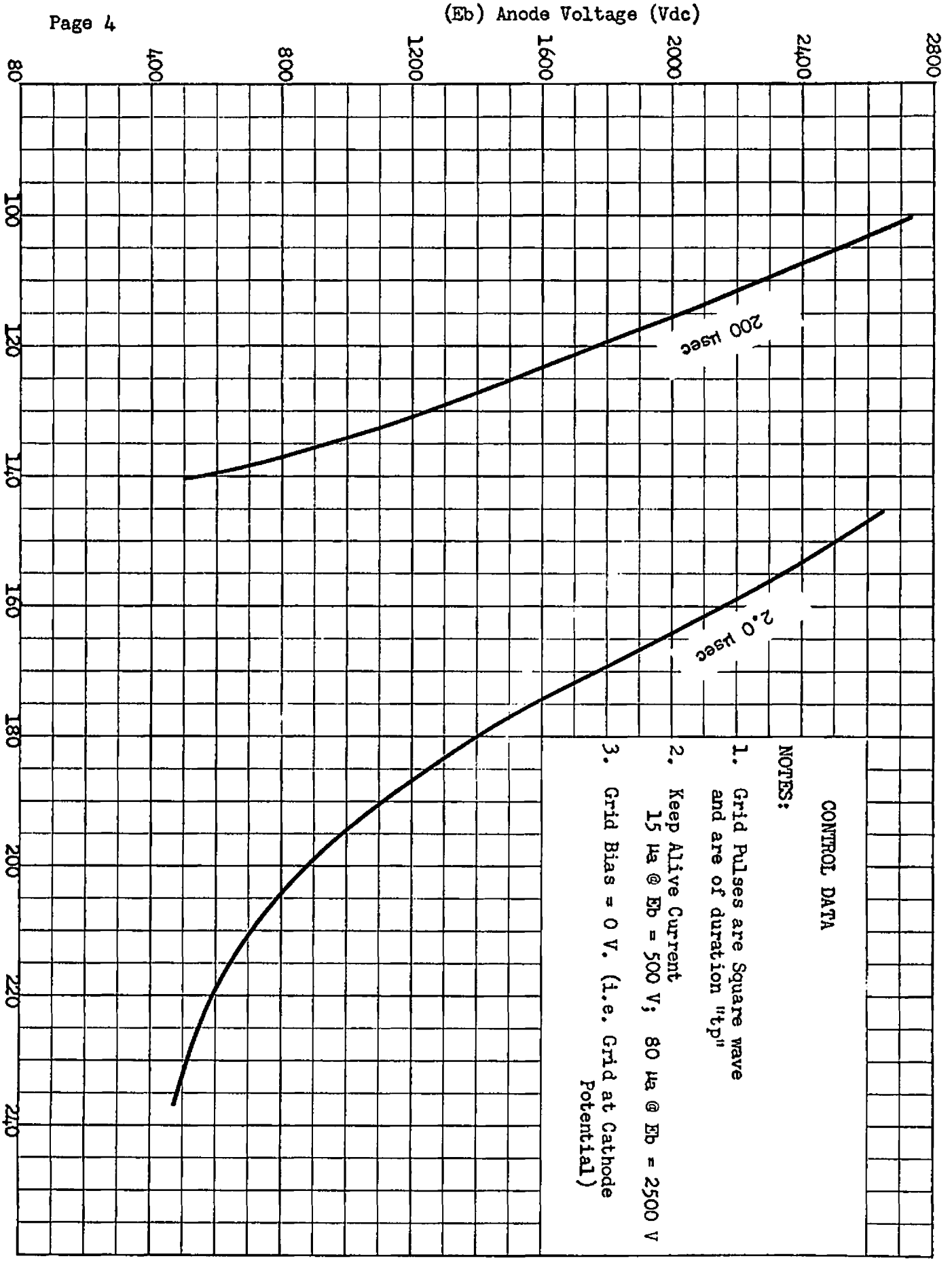
C_2 : 0.1 - 0.25 µfd typical

egy: 180-250 V at 2.0 µsec min. duration

E_{bb}: 500-2000 Vdc

L : usually low impedance so that peak current is ≥ 10 amperes (i.e. ignition transformer)

*see ratings for limitations


(Eb) Anode Voltage (Vdc)
2800
2400
2000
1600
1200
800
400
80
100
120
140
160
180
200
220
240
(egy) Grid Voltage for Firing
200 μsec
2.0 μsec
CONTROL DATA
NOTES:
1. Grid Pulses are Square wave and are of duration "tp"
2. Keep Alive Current 15 μa @ Eb = 500 V; 80 μa @ Eb = 2500 V
3. Grid Bias = 0 V. (i.e. Grid at Cathode Potential)