

IGNITRON FOR CAPACITOR DISCHARGE SERVICE TYPE 7740

The 7740 is a sealed, steel envelope tube with Shoop sprayed area where contact is made to the cathode. The anode connection is a threaded stud. The combination is suitable for connection in low inductance, high current circuits as used in high current capacitor discharge circuits operating up to 20000 volts. In this service the tube will discharge up to 35000 amperes.

GENERAL

Number of Electrodes

Anodes	1
Cathodes	1
Ignitars	1

Ignitor Firing Circuit

Capacitor	0.5	μf
Capacitor Voltage	2.5	Kilovolts
Series Resistor	10	Ohms
Pulse Transformer Ratio (Note 1)	1/1	
Firing Thyatron	Type 4C35	

Mechanical

Mounting Position - Axis Vertical, Anode Lead up

Net Weight	3.7	lbs.
Shipping Weight	4.6	lbs.
Maximum Tube Temperature	60	°C
(measured on cathode header)		

MAXIMUM RATINGS FOR CAPACITOR DISCHARGE

Peak Anode Voltage (Note 2)

Inverse	20000	max.	Volts
Forward (Note 3)	20000	max.	Volts

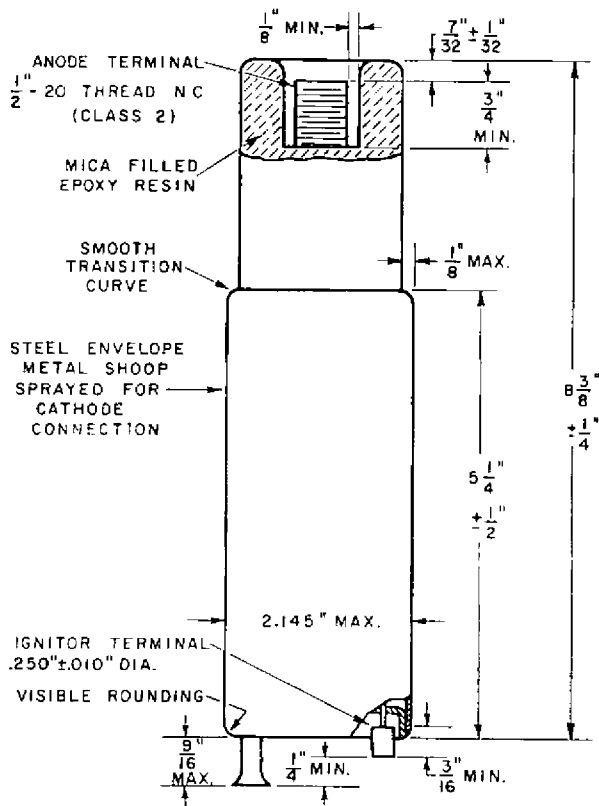
Anode Current

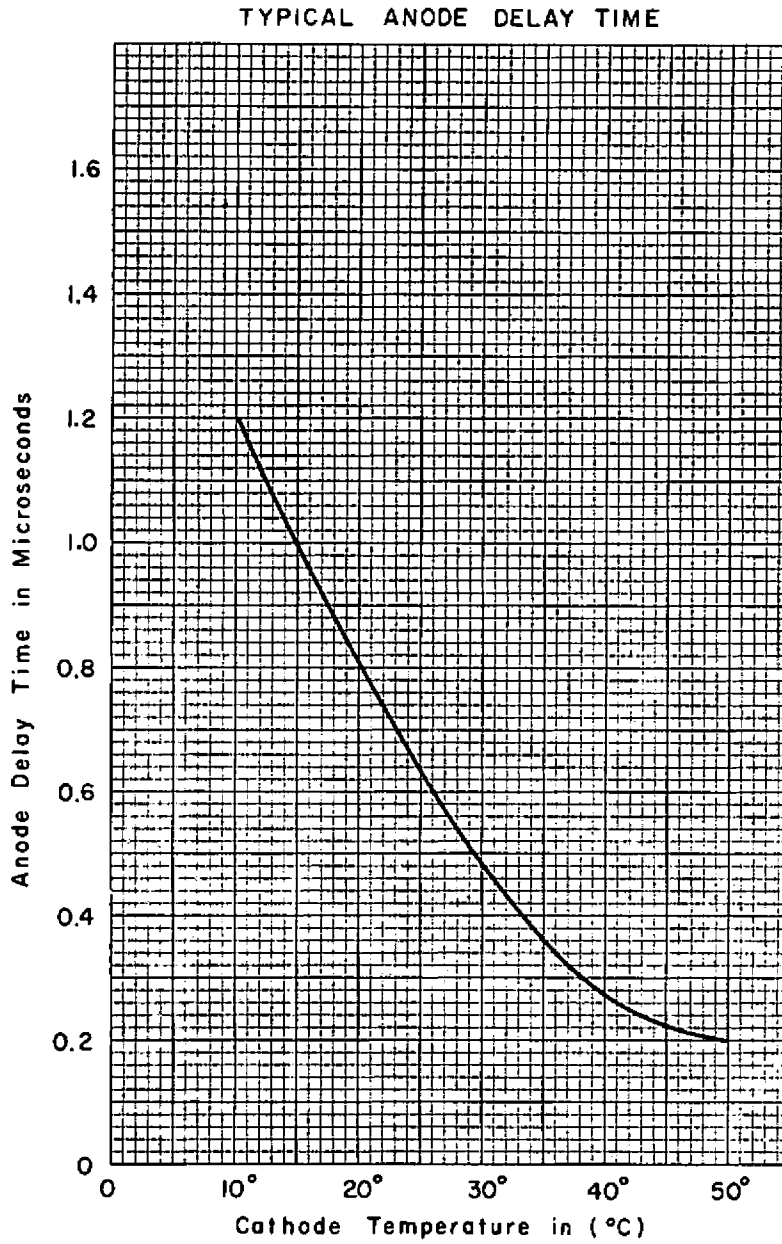
Peak	35000	max.	Ampere
Coulombs Per Discharge	18.6	max.	Amp. Sec.
Repetition Rate	2	max.	Per Minute
Rise Time	5000	max.	Amps/μsec
Average Current	0.6	max.	Ampere

Note 1: The use of a pulse transformer in the ignitor circuit is optional. It may be used for isolation where desired. The capacitor size and voltage and other constants should be adjusted according to the transformer turns ratio. Values shown are for 1/1 ratio.

Note 2: Before installing, mercury must be evaporated from the anode. During operation the anode must always be at higher temperature than the tube envelope. After operation the anode must cool more slowly than the envelope to insure that no mercury condenses on the anode. Initial anode heating may be done by screwing anode threaded connection into metal block heated to 140°C for six to eight hours. Lower portion of envelope must be cooled by water or other method to 25°C or less.

Note 3: Forward voltage (Hold-off voltage) is the voltage to which the capacitors, being switched by the ignitron, are charged.

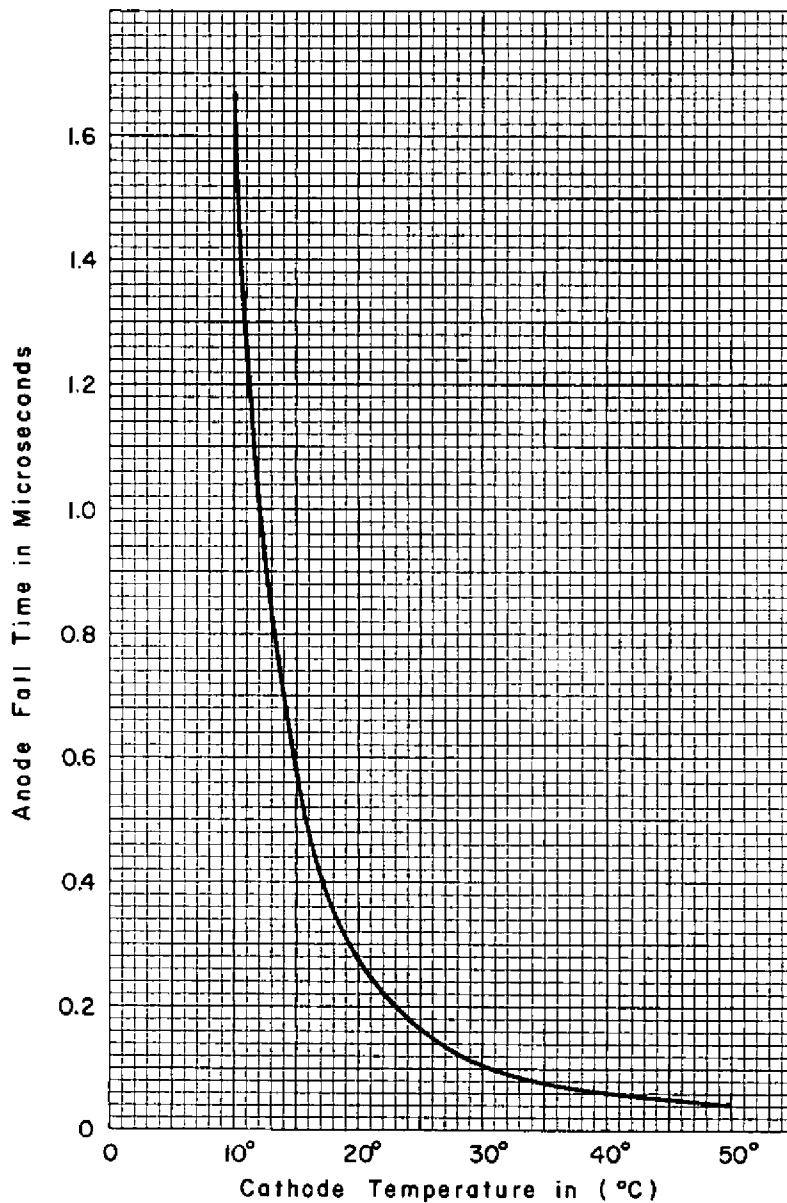




CE-A1570

Anode Delay Time is the time from start of rise of ignitor signal voltage to reduction of anode voltage to 90% of the forward voltage.

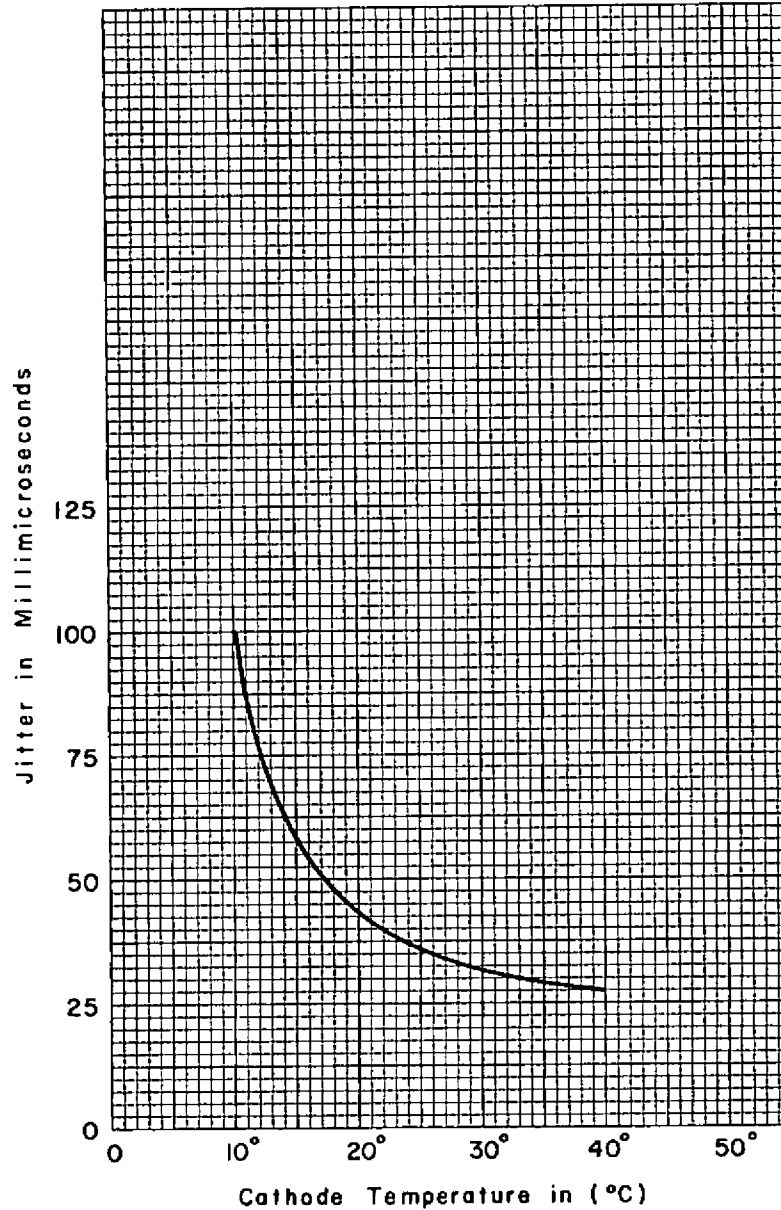
TYPICAL ANODE FALL TIME



CE-A1568

Anode Fall Time is the time for anode voltage to fall from 90% to 10% of the forward voltage.

TYPICAL JITTER



CE-A1569

Jitter is the variation in time for anode voltage to fall to 50% of the forward voltage, stated as a plus-minus value from the average.