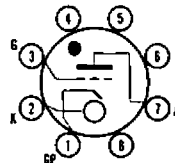


## KRYTRON TRIGGER TUBES

7440            7595            7597

7441            7596            7598

Subminiature "Krytron" gaseous trigger tubes



### ELECTRICAL DATA

#### HEATER CHARACTERISTICS

Heater voltages ..... None required

#### MAXIMUM RATINGS (Absolute maximum ratings)

	7595	7596	7597	7598	
Anode operating voltage	350 min.	400 to 1500	400 to 1500	500 to 2500	volts
Anode hold-off voltage	3	5	5	4	Kv
Anode current, peak	400	100	100	500	amp
Anode input	0.2	0.5	0.5	1	watt
Glow current	30 to 100	30 to 150	30 to 150	30 to 100	μamp
Grid firing voltage	85 to 250	30 to 150	30 to 150	130 min.	volts
Grid firing pulse duration	2 to dc	2 to dc	2 to dc	2 to dc	μsec
Grid firing current	8	15	15	15	μamp
Grid resistor to ground	2.0	1.0	1.0	1.0	meg
Anode delay time					
Temperature normal	1.0	—	—	1.0	μsec
Temperature extremes	1.0	—	—	1.0	μsec
Anode delay time variation					
Temperature Normal	0.15	—	—	0.15	μsec
Temperature extremes	0.15	—	—	0.15	μsec

#### MAXIMUM RATINGS (Absolute maximum values)

	7440	7441	
Anode operating voltage	700	1000	volts
Hold-off voltage	1500	1500	volts
Glow current	100	100	μA
Grid resistor	2.0	2.0	meg
Discharge capacitor	0.2	0.2	μf
Power input	0.1	0.1	watt
Grid bias	±45	±45	volts
Grid pulse current	20	20	μa
Output pulse duration	10	10	μs
Ambient temperature range	-55 to +85		°C
Anode delay time	4.0	1.60	μs
Anode delay time variation	0.4	0.4	μs
Pulse repetition rate	f	f	ppm
Potting temperature (not to exceed 2 hours)	—	—	°C

## ENGINEERING DESIGN DATA

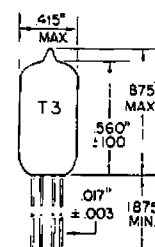
**7440 7441**  
**7595 7596**  
**7597 7598**

NOVEMBER 16, 1959.

### Cold cathode trigger tubes

#### MECHANICAL DATA

Cathode, cold  
Bulb ..... T-3  
Base, subminiature button  
8 flexible leads  
Mounting position ..... Any



#### LEAD CONNECTIONS

Lead 1 ..... Glow pin\*  
Lead 2 ..... Cathode  
Lead 3 ..... Grid  
Lead 4 ..... Omitted  
Lead 5 ..... Omitted  
Lead 6 ..... Omitted  
Lead 7 ..... Anode  
Lead 8 ..... Omitted  
\*Glow pin marked by red dot

#### APPLICATION

"Krytrons" are cold-cathode miniature trigger and timer tubes used in applications where high hold-off voltage, short anode delay times, minimum anode delay variation and high pulse currents are required. Because of their special construction they will withstand wide ambient temperature range, high impact shocks, and severe vibrational stresses. They will operate in sealed enclosures and after storage periods without requiring incident light or other extraneous energies to initiate the glow discharge.

**CBS ELECTRONICS**, Semiconductor Operations, Lowell, Mass.  
A Division of Columbia Broadcasting System, Inc.

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## ENVIRONMENTAL TESTS FOR TYPES

7441

7595

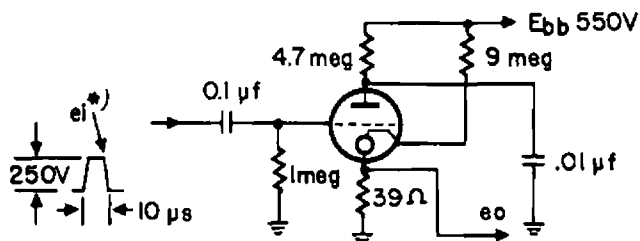
7597

### OPERATION TESTS (Performed under special conditions)

D-c trigger current, d-c trigger voltage, pulse trigger voltage  
 Anode delay time, anode delay time variation  
 Keep-alive starting characteristic

### CONDITIONS FOR TESTS

Oven temperature range of  $-55^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$   
 Temperature cycles under MIL-E-1D 4.9.10  
 After impact shock of 2000g  
 After vibration test of 10-500 cps up to 10g for 4.5 hours in 3 planes



\* May be triggered manually by applying d-c momentarily to grid.

### TYPICAL OPERATION FOR CIRCUIT SHOWN (All Types)

Anode operating voltage	550 volts
Grid voltage	0 volts
Glow current	50 $\mu\text{A}$

### MINIMUM CONDITIONS

Anode operating voltage, d-c	400 volts
Cathode current peak	10 amp
Glow current	30 $\mu\text{A}$
Grid resistor	250,000 ohms
Grid pulse duration	10 $\mu\text{sec}$
Grid pulse amplitude	230 volts

† Pulse repetition rate is governed by the relationship  $W = \frac{1}{2} CV^2f$ , where  
 C = discharge capacitor; V = Anode potential in kilovolts; W = power input,  
 and f = repetition frequency.

\* Hold-off voltage given is the highest voltage to which the tube may be safely subjected under any condition. Provision should be made that the circuitry, tube base and socket will withstand this voltage. This may be accomplished by wider spacing, insulation coating, pressurizing, reduction of moisture, etc.