7230

Reliable Cold-Cathode Trigger Tube

The 7230 is a cold-cathode miniature trigger and timer tube used in critical applications where high hold-off voltage, short anode delay times, minimum anode delay variation and high pulse currents are required. Special construction enables the 7230 to operate over an ambient temperature range of -55°C to +85°C, withstand impact shocks with 100g peaks, and severe vibrational stresses. Dark-start design characteristic, is such that it will operate in sealed enclosures and after storage periods without requiring incident light or other extraneous energies to initiate the glow discharge.

MECHANICAL DATA

Cathode cold
Bulb T5-1/2
Base, min. button 7-lead flexible leads
Lead length, minimum 2.75 inches
Lead diameter .028 ± .010 inch
Mounting position Any
Max. overall ht. (leads not included) 1.250 inch
Maximum diameter 0.75 inch

LEAD CONNECTIONS

Lead 1. Grid
Lead 2. Anode
Lead 3. Omitted
Lead 4. Omitted
Lead 5. Omitted
Lead 6. Glow pin
Lead 7. Cathode

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ELECTRICAL DATA

Maximum Ratings (Absolute Maximum Values)

Anode operating voltage 1000 volts
Hold-off voltage 3000 volts
Cathode current peak 500 amp
Glow current 100 µA
Grid resistor 2.0 meg
Discharge capacitor 0.5 µf
Power input 1.0 W
Grid bias ± 80 volts
Grid pulse current 10 µa
Output pulse duration 10 µs
Ambient temperature range -55 to +85° C
Anode delay time 2.0 µs
Anode delay time variation 0.2 µs
Pulse repetition rate** 20 ppm
Potting temperature (not to exceed 2 hours) 125° C

**Pulse repetition rate is governed by the relation \( W = \frac{1}{2} CV^2f \),
where \( C \) = discharge capacitor; \( V \) = anode potential in kilovolts;
\( W \) = power input, and \( f \) = repetition frequency.

Typical Operation (For circuit below)

Anode supply voltage 550 volts
Grid voltage 0 volts
Glow current 50 µa

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

Minimum Conditions

Anode operating voltage, d-c 500 volts
Cathode current peak 10 amp
Glow current 30 µA
Grid resistor 0.25 meg
Grid pulse duration 10 µs
Grid pulse amplitude 230 volts
SPECIAL TESTS AND RATINGS

Operation tests for: d-c trigger current, d-c trigger voltage, pulse trigger voltage, emission, anode delay time, anode delay time variation, keep alive starting characteristic.

Conditions for tests:

Over temperature of -55 to +85°C
Temperature cycles under Mil-E-1C, 4.9.10
After impact shock of 100g
After vibration test of 10-500 cps cycling up to 10g for 4.5 hours
    in 3 planes of vibration.