THYRATRON
SELF INDICATING

THE 7323 IS A SUBMINIATURE THYRATRON WITH NEGATIVE CONTROL GRID CHARACTERISTICS. THE GASEOUS GLOW IT EXHIBITS WHILE CONDUCTING IS SEVERAL TIMES BRIGHTER THAN AN NE-2 GLOW LAMP (BOTH DEVICES AT MAXIMUM RATINGS) AND MAKES THE USE OF AUXILIARY READOUT DEVICES UNNECESSARY. IT MAY BE VIEWED EITHER "END ON" OR FROM THE SIDE.

BECAUSE OF ITS SMALL SIZE, LOW OPERATING VOLTAGES, MINUTE TRIGGERING REQUIREMENTS AND LOW FILAMENT POWER, THE 7323 IS PARTICULARLY SUITED FOR USE IN TRANSISTOR CIRCUITS. THE TERMINAL LEADS MAY BE SOLDERED DIRECTLY INTO A CIRCUIT OR MAY BE CLIPPED FOR INSERTION IN AN IN-LINE SUBMINIATURE SOCKET.

THE 7323 REPLACES TYPE CK1050 IN ALL APPLICATIONS.

ELECTRICAL DATA

FILAMENT VOLTAGE
1.25±10% VAC

FILAMENT CURRENT
280 MA.

ANODE VOLTAGE DROP @ 3 MA.
18 VDC

MECHANICAL DATA

MOUNTING POSITION
ANY

BULB
T-2

DIAMETER (MAX.)
0.315 INCHES

LENGTH (WITHOUT LEADS) (MAX.)
1.07 INCHES

CONNECTIONS
FLEXIBLE LEADS

WEIGHT (APPROX.)
0.06 OUNCES

* INDICATES AN ADDITION.

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TUNG-SOL

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RATINGS

ABSOLUTE VALUES

ANODE SUPPLY VOLTAGE (RMS) (MAX.) 80 VAC
CATHODE CURRENT (MAX.) 3 MADC
PRECONDUCTION GRID (TRANSFER)
CURRENT @ $E_B = 75$ VOLTS RMS (MAX.) 0.5 $\mu$MADC

TYPICAL OPERATING CONDITIONS

ANODE SUPPLY VOLTAGE (RMS) 65 VAC
ANODE CIRCUIT RESISTANCE 10,000 OHMS
ANODE CURRENT 2 MADC
GRID BIAS VOLTAGE -4.5 VDC
GRID SERIES RESISTANCE 2 MEGOHMS

PULSE OPERATED RFLAY

APPLICATION NOTES

IT IS OFTEN NECESSARY TO PROVIDE A RELAY DEVICE TO OPERATE AT LOW LEVEL, LOW VOLTAGE, SHORT DURATION PULSES SUCH AS ARE FOUND IN TRANSISTOR CIRCUITS. THE 7323 SELF INDICATING THYRATRON PERFORMS THIS FUNCTION AS WELL AS PROVIDING AN ADEQUATE, VISUAL READOUT INDICATOR. ALTHOUGH NOT AS BRILLIANT AN INDICATOR AS COMPARABLE COLD CATHODE THYRATRONS, THE 7323 OPERATING AT 3 MILLIAMPERES IS MANY TIMES BRIGHTER THAN AN NE-2 NEON GLOW LAMP. THE EFFICIENT FILAMENT CONSUMES ONLY ABOUT ONE THIRD WATT OF HEATER POWER.

AS WITH ANY GAS TUBE, ONCE THE TUBE CONDUCTS, THE TUBE VOLTAGE DROP REMAINS VIRTUALLY CONSTANT AND THE CURRENT THROUGH THE TUBE IS LIMITED BY THE CIRCUIT RESISTANCE. THE GRID CIRCUIT SHOULD CONTAIN A 1,000 OHM SERIES RESISTANCE IF THE SOURCE RESISTANCE IS LOWER THAN THIS FIGURE.

THE 7323 IS NORMALLY MOUNTED BEHIND A PANEL CUT OUT FOR EITHER END-ON OR SIDE VIEWING. A SUBMINIATURE HEAT DISSIPATING TYPE OF TUBE CLAMP PROVIDES BOTH A CONVENIENT MEANS OF MOUNTING AS WELL AS SHIELDING TO MINIMIZE THE EFFECT OF HAND CAPACITY OR ELECTRICAL FIELDS.

THE 7323 CAN BE OPERATED FROM EITHER AN A.C. OR D.C. ANODE SUPPLY VOLTAGE. IF DC OPERATED, IT IS NECESSARY TO BREAK THE ANODE CIRCUIT (EITHER BY A MECHANICAL SWITCH OR NEGATIVE PULSE) TO RESTORE CONTROL AFTER THE TUBE HAS FIRED. THIS IS PARTICULARLY ADVANTAGEOUS IN THE "HOLD UNTIL RESET" TYPE OF APPLICATION.
Figure 1: Operational range of critical grid voltage.

- Will never conduct for A-C anode volts (RMS 60 cycle).
- Will always conduct for D-C grid supply volts.

Figure 2: Anode voltage - volts d.c. vs. anode current - milliamperes d.c.
FIRING TIME CURVE

$E_b = 65$ VAC (RMS)
$R_g = 2.2$ MEGOHM

Grid over voltage is grid signal voltage higher than d.c. firing potential that must be applied to tube for faster than normal firing.