

# Technical Information

## CK 7978

### DECADE COUNTER

The CK7978 is a cold cathode gas-filled 5 KC medium speed bi-directional ring stepping decade counter tube. This type features direct visual neon glow readout or electrical readout in the form of a voltage from any of the cathode leads. Negligible power dissipation, short resolution time, simple low cost circuitry, and no moving parts make this a very reliable counter device. Some of the many uses for this type include counting, timing, sampling, frequency dividing, coding, matrixing, telemetering, and controlling.

### ELECTRICAL DATA

#### RATINGS—ABSOLUTE MAXIMUM VALUES:

Total Anode Current Maximum	0.60	Ma
Total Anode Current Minimum	0.30	Ma
Voltage Between Electrodes (Excluding Anode)	200	volts
Supply Voltage (Anode to Cathode)—Minimum	350	volts
Minimum Transfer Voltage	35	volts
Input Frequency	5000	cps

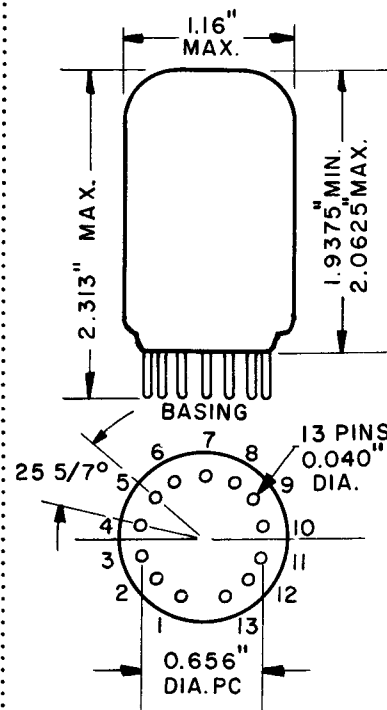
#### CHARACTERISTICS AND TYPICAL OPERATION:

DC Supply Voltage	425	volts
Anode Resistor	0.68	megohms
Nominal Tube Drop	190	volts
Guide Bias—Minimum	35	volts
Cathode Resistor	100	K ohms
Output Voltage (Across Cathode Resistor)	30	volts
Double Pulse Drive Amplitude—Minimum	-75	volts
Double Pulse Drive Duration—Minimum	60	μsec.
Double Pulse Drive Overlap	10	μsec.
Reset Pulse Width—Minimum	50	μsec.
Forced Reset Pulse Amplitude—Minimum	-120	volts

### MECHANICAL DATA

ENVELOPE.....T-9 Glass  
 BASE .....13 Pin  
 MOUNTING POSITION..... Any  
 (Visual Readout From top  
 of Tube)  
 ZERO POSITION ..... Cathode  
 #0 (Aligned with Pin  
 Number 8 ±10°)

### PHYSICAL DIMENSIONS



### TERMINAL CONNECTIONS

- Pin 1 Anode
- Pin 2 Cathode #5
- Pin 3 Cathode #4
- Pin 4 Guide #2
- Pin 5 Cathode #3
- Pin 6 Cathode #2
- Pin 7 Cathode #1
- Pin 8 Cathode #0
- Pin 9 Cathode #9
- Pin 10 Guide #1
- Pin 11 Cathode #8
- Pin 12 Cathode #7
- Pin 13 Cathode #6