

# PHILCO RECEIVING TUBE DATA SHEET

TENTATIVE

## DESCRIPTION

Type 2EN5 is a double diode tube with common cathode, designed for service in television receivers as a phase comparator. It is intended for use with a series heater connection, and has the controlled heater warm-up characteristic. It is particularly suitable for use where low heater input is required.

## MECHANICAL DATA

Cathode .....	Coated Unipotential
Outline Drawing .....	5-2
Bulb .....	T-5½
Base .....	E7-1 Small Button Miniature
Maximum Diameter .....	¾ inch
Maximum Overall Length .....	2⅛ inches
Maximum Seated Height .....	1⅞ inches
Basing .....	7FL
1—No Connection	5—Cathode
2—Diode #2	6—Internal Shield
3—Heater	7—Diode #1
4—Heater	
Mounting Position .....	Any

## ELECTRICAL DATA

### Direct Interelectrode Capacitances

	Unshielded	Shielded*
Diode Input: p to (h + k + I.S.) each unit .....	3.7	3.8 μμf
Coupling: Plate to Plate 1P to 2P (max) .....	1.3	3.8 μμf

\*External shield #316 connected to pin #6

### Heater Characteristics

Heater Voltage .....	2.1 volts
Heater Current .....	450 ma (±6%)
Heater Warm-up Time (Note 1) .....	11 sec

### Maximum Ratings (Design-Maximum Rating System) (Note 2)

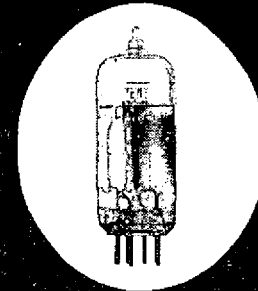
Diode Current for Continuous Operation (Each Plate) .....	5.0 ma
Heater-Cathode Voltage	
Heater Negative with Respect to Cathode (Total DC and Peak) .....	200 volts
Heater Positive with Respect to Cathode (Total DC and Peak) .....	200 volts
(DC) .....	100 volts

### Typical Operating Conditions and Characteristics

Diode Voltage Drop (Approx) for $I_b = 20$ ma each plate .....	5.0 volts
--	-----------

(Over)

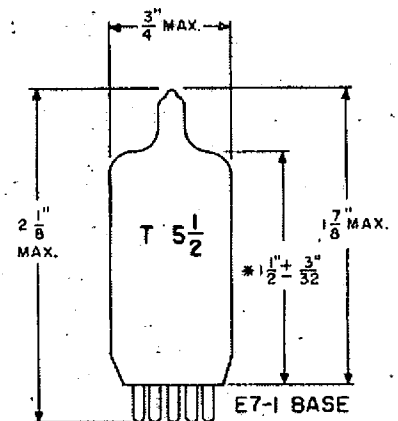
# 2EN5 DOUBLE DIODE TUBE



## GENERAL DESCRIPTION

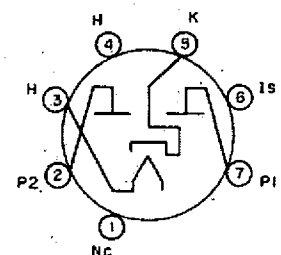
Miniature double diode for TV phase comparator applications.

## DIMENSIONAL OUTLINE AND MECHANICAL SPECIFICATIONS



\* MEASURED FROM BASE SEAT TO BULB-TOP LINE  
AS DETERMINED BY RING GAUGE OF  $\frac{7}{16}$  I.D.

5-2



7FL

**BASING DIAGRAM**  
Bottom View of Base

**NOTE 1**—Heater warm-up time is defined as the time required for the voltage across the heater to reach 80% of its rated value after applying four times the rated heater voltage to a circuit consisting of the tube heater in series with a resistance equal to three times the rated heater voltage divided by the rated heater current.

**NOTE 2**—Design-maximum ratings are limiting values of operating and environmental conditions applicable to a bogey electron device of a specified type as defined by its published data, and should not be exceeded under the worst probable conditions. The device manufacturer chooses these values to provide acceptable serviceability of the device, taking responsibility for the effects of changes in operating conditions due to variations in device characteristics. The equipment manufacturer should design so that initially and throughout life no design-maximum value for the intended service is exceeded with a bogey device under the worst probable operating conditions with respect to supply-voltage variation, equipment component variation, equipment control adjustment, load variation, signal variation, and environmental conditions.