

# PHILCO RECEIVING TUBE DATA SHEET

TENTATIVE

## DESCRIPTION

Type 12DW8 is a diode-dissimilar duo-triode designed to function as a combined second detector, first audio stage, and transistor driver stage in 12 volt hybrid automobile radios. Triode #1 is the first audio stage, triode #2 is the driver. The principal feature of the 12DW8 is its ability to operate with a 12 volt plate supply.

## MECHANICAL DATA

Cathode .....	Coated Unipotential
Outline Drawing .....	6-2
Bulb .....	T6 $\frac{1}{2}$
Base .....	E9-1 Small Button Miniature
Maximum Diameter .....	$\frac{7}{8}$ inch
Maximum Overall Length .....	$2\frac{3}{16}$ inches
Maximum Seated Height .....	$1\frac{15}{16}$ inches
Basing .....	9JC

1—Triode #2 Plate	6—Triode #1 Plate
2—Triode #2 Grid	7—Triode #1 Grid
3—Triode #2 Cathode	8—Triode #1 and Diode Cathode
4—Heater	9—Diode Plate
5—Heater	

Mounting Position .....

## ELECTRICAL DATA

### Direct Interelectrode Capacitances

	Shielded*	Unshielded
Triode #1:		
Grid to Plate (g to p).....	1.8	1.8 $\mu\mu\text{f}$
Input: g to (h + k).....	2.9	1.6 $\mu\mu\text{f}$
Output: p to (h + k).....	1.4	0.7 $\mu\mu\text{f}$
Diode Plate to Triode #1 Grid (Maximum).....	0.4	0.4 $\mu\mu\text{f}$

Triode #2:		
Grid to Plate (g to p).....	3.5	3.2 $\mu\mu\text{f}$
Input: g to (h + k).....	4.4	4.4 $\mu\mu\text{f}$
Output: p to (h + k).....	2.1	0.7 $\mu\mu\text{f}$

\*With external shield #315 connected to pin #8

### Heater Characteristics

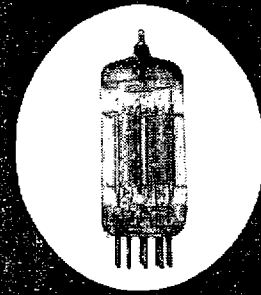
Heater Voltage .....	12.6 volts
Heater Current .....	450 ma
Maximum DC Heater-Cathode Voltage	
Heater Negative with Respect to Cathode .....	16.0 volts
Heater Positive with Respect to Cathode .....	16.0 volts

### Maximum Ratings (Design Maximum Rating System) (Note 1)

	Triode #1	Triode #2	Diode	
Plate Voltage .....	16.0	16.0		volts
Positive DC Grid Voltage .....	0	0		volts
Plate Dissipation .....	0.5	0.5	0.5	watts
Grid Circuit Resistance .....	1.5	1.5		megohm

from JETEC release #2285, Oct. 6, 1958

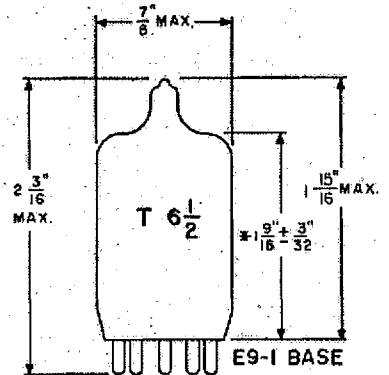
# 12DW8 DIODE, DISSIMILAR DUO-TRIODE TUBE



## GENERAL DESCRIPTION

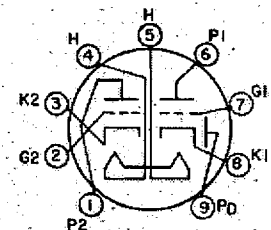
Diode, dissimilar duo-triode for use in hybrid auto radios.

## DIMENSIONAL OUTLINE AND MECHANICAL SPECIFICATIONS



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

6-2



9JC

**BASING DIAGRAM**  
Bottom View of Base

### Typical Operating Conditions and Characteristics

	Triode #1	Triode #2	Diode
Plate Supply Voltage .....	12.6	12.6	volts
Transconductance .....	2700	6500	$\mu$ mho
Amplification Factor .....	9.5	6.4	
Plate Current .....	1.9	7.5	ma
Average Diode Current @ 10 v....			20 ma
Grid Voltage .....	0	0	volts
Grid Resistor .....	1.5	1.0	megohms
Plate Voltage Dropping Resistor ...	100	100	ohms

**NOTE 1**—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.