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# TWIN DIODE

7-PIN MINIATURE TYPE

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For use in mobile communications equipment operating from 6-cell storage-battery systems. Useful as a detector in AM and FM receivers, as a full-wave rectifier in power supplies having low dc requirements, and in speech-clipper applications.

## GENERAL DATA

### Electrical:

Heater, for Unipotential Cathodes:

Voltage range. . . . .	12 to 15	. . . . .	ac or dc volts
Current (Approx.) at 13.5 volts . . . . .	0.155	. . . . .	amp

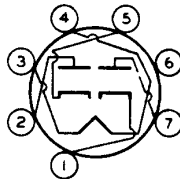
Direct Interelectrode Capacitances (Approx.):<sup>o</sup>

Plate to cathode, internal shield, and heater (Each unit) . . . . .	3.2	$\mu$ f
Cathode to plate, internal shield, and heater (Each unit) . . . . .	3.6	$\mu$ f
Plate of unit No.1 to plate of unit No.2. . . . .	0.026	$\mu$ f

### Mechanical:

Operating Position . . . . . Any  
 Maximum Overall Length . . . . . 1-3/4"  
 Maximum Seated Length. . . . . 1-1/2"  
 Length, Base Seat to Bulb Top (Excluding tip). 1-1/8"  $\pm$  3/32"  
 Diameter . . . . . 0.650" to 0.750"  
 Dimensional Outline. . . . . See General Section  
 Bulb . . . . . T5-1/2  
 Base . . . . . Small-Button Miniature 7-Pin (JETEC No.E7-1)  
 Basing Designation for BOTTOM VIEW . . . . . 6BT

Pin 1 - Cathode of Unit No.1  
 Pin 2 - Plate of Unit No.2  
 Pin 3 - Heater  
 Pin 4 - Heater



Pin 5 - Cathode of Unit No.2  
 Pin 6 - Internal Shield  
 Pin 7 - Plate of Unit No.1

## RECTIFIER

### Maximum Ratings, Absolute Values:

PEAK INVERSE PLATE VOLTAGE . . . . .	350 max.	volts
PEAK PLATE CURRENT PER PLATE . . . . .	60 max.	ma
DC OUTPUT CURRENT PER PLATE. . . . .	10 max.	ma
PEAK HEATER-CATHODE VOLTAGE:		
Heater negative with respect to cathode. . .	120 max.	volts
Heater positive with respect to cathode. . .	120 max.	volts

### Typical Operation:

The two units may be used separately or in parallel

Heater Voltage . . . . .	13.5	volts
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<sup>o</sup>: See next page.

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AC Plate Voltage per Plate (RMS) . . . . .	117	volts
Minimum Total Effective Plate-Supply Impedance per Plate . . . . .	300	ohms
DC Output Current per Plate . . . . .	9	ma

<sup>o</sup> With external shield JETEC No.316 connected to cathode of unit under test.

## CHARACTERISTICS RANGE VALUES FOR EQUIPMENT DESIGN

	Note	Min.	Max.	
Heater Current . . . . .	1	0.143	0.167	amp
Plate Current per Plate . . . . .	1,2	15	-	ma
Heater-Cathode Leakage Current (Each unit):				
Heater negative with respect to cathode. . . . .	1,3	-	5	$\mu$ a
Heater positive with respect to cathode. . . . .	1,3	-	5	$\mu$ a
Leakage Resistance:				
Plate to all other electrodes of both units tied together. . . . .	1,4	50	-	megohms

Note 1: With ac or dc heater volts = 13.5.

Note 2: With plate volts = 5 and electrodes of unit not under test connected to ground.

Note 3: With 100 volts dc between heater and cathode.

Note 4: With plate 300 volts negative with respect to all other electrodes of both units tied together.

## SPECIAL RATINGS &amp; PERFORMANCE DATA

## Heater-Cycling Life Performance:

This test is performed on a sample lot of tubes from each production run. A minimum of 2000 cycles of intermittent operation is applied under the following conditions: heater volts = 17 cycled one minute on and four minutes off, heater 135 volts negative with respect to cathode, and all other elements connected to ground. At the end of this test, tubes are checked for heater-cathode shorts and open circuits.

## 500-Hour Intermittent Life Performance:

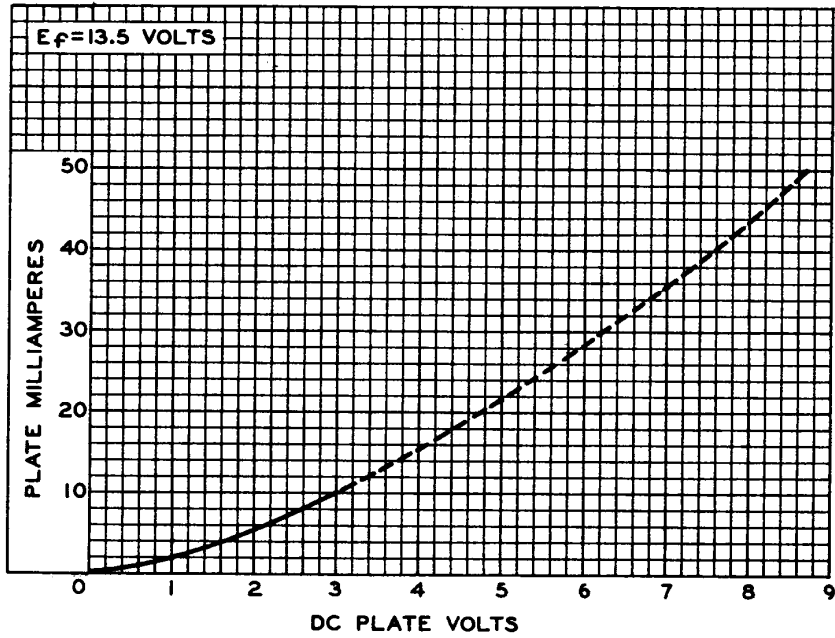
This test is performed on a sample lot of tubes from each production run to insure high quality of the individual tube and to guard against epidemic failures. Life testing is conducted under the following conditions: heater volts = 15 and maximum-rated plate current.



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AVERAGE PLATE CHARACTERISTIC  
EACH UNIT



92CS-9774