FULL-WAVE RECTIFIERS

DESCRIPTION

These full-wave, high-vacuum rectifiers are from the Bendix Red Bank line of reliable vacuum tubes specifically designed for aircraft and industrial applications where freedom from early failures, long average service life, and uniform operating characteristics are extremely important. Each tube is given a 45-hour run-in under various overload, vibration and shock conditions likely to be encountered in service. This run-in serves to reduce early failures by eliminating tubes with any minor defects that might lead to failure under actual operating conditions. The three tubes covered on this sheet are identical with the exception of the filament ratings.

The heavy-gage heater construction, together with a pure alumina insulator, permits operation at high heater cathode voltages. The large area cathode operating at moderate temperatures gives long service life and freedom from arc-overs. The eight-pillar mount structure and the button-type stem provide a strong assembly that will stand up under extreme conditions of vibration and shock. The tube requires an 8-pin octal socket and can be mounted in any position. Adequate ventilation should be provided.

RATINGS*

Heater voltage and current**

†JAN 5839 (R.B. Type TE-2).......26.5 volts, 0.255 amps.
5838 (R.B. Type TE-3).......12.6 volts, 0.6 amps.
JAN 5852 (R.B. Type TE-5).......6.3 volts, 1.2 amps.
†Illustrated above.

Peak inverse voltage..................1375 volts (max.)
Peak plate current—(per plate)......230 mA (max.)
DC heater-cathode potential...........450 volts (max.)
Cathode heating time..................45 sec.
Total effective plate supply impedance—per plate...........150 ohms (min.)

For maximum current and voltage ratings, refer to the graph at right.

*To obtain greatest life expectancy from tube, avoid designs where the tube is subjected to all maximum ratings simultaneously.

**Voltage should not fluctuate more than ±5%.

PHYSICAL CHARACTERISTICS

Base..................................Intermediate shell octal 6-pin (Melamine—with barriers)
Bulb..................................T-9
Max. overall length..............3.320 in.
Max. seated height................2.820 in.
Max. diameter......................1.380 in.
Mounting position...................Any
Max. altitude***....................80,000 ft.
Max. bulb temperature...........160°C.

***See chart on reverse side.

THE BENDIX CORPORATION

Red Bank Division, EATONTOWN, NEW JERSEY

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FULL-WAVE RECTIFIERS

(5839
5838 Type 1
5852 Type 3
5839 Type 5)

(Generic Type 6X5)

SURGE LIMITING RESISTOR $R_s$ SHOULD BE (50 OHMS MIN).
VALUES OF TRANSFORMER IMPEDANCE $Z_{T_2}$, RESISTOR $R_s$, AND CONDENSER $C$
MUST BE SELECTED SO THAT MAX PEAK
PLATE CURRENT RATING WILL NOT
BE EXCEEDED.

APPLICATION OF FULL-WAVE RECTIFIER

DYNAMIC CHARACTERISTICS
FOR DESIGN ONLY—NOT FOR RATING PURPOSES.

MAXIMUM OUTPUT D.C. VOLTAGE
MAXIMUM CURRENT

ALTIMETER - THOUSANDS OF FEET

THIS CHART IS INCLUDED AS AN ILLUSTRATION OF THE AMOUNT
OF CURRENT DERATING NECESSARY IN A SPECIFIC APPLICATION
TO AVOID EXCEEDING THE MAXIMUM BULB TEMPERATURE. EACH
APPLICATION SHOULD BE CHECKED TO DETERMINE THAT THE
MAXIMUM BULB TEMPERATURE IS NOT EXCEEDED. EITHER
DERATING OR COOLING OR BOTH MAY BE NECESSARY.
CRITERIA FOR DERATINGS FOLLOWS—
1. VOLTAGE DERATING—TO KEEP BELOW BASE PIN ARC
OVER POINT.
2. CURRENT DERATING—TO KEEP BULB TEMPERATURE
BELOW MAXIMUM RATING.

AVERAGE PLATE CHARACTERISTICS

ALTITUDE RATINGS

NUMERALS ARE FOR
REFERENCE ONLY AND
DO NOT APPEAR ON
TUBE BASE

NOTE:
DO NOT CONNECT LEADS
TO NUMBER 1 PIN.

BASE DIAGRAM
(BOTTOM VIEW)