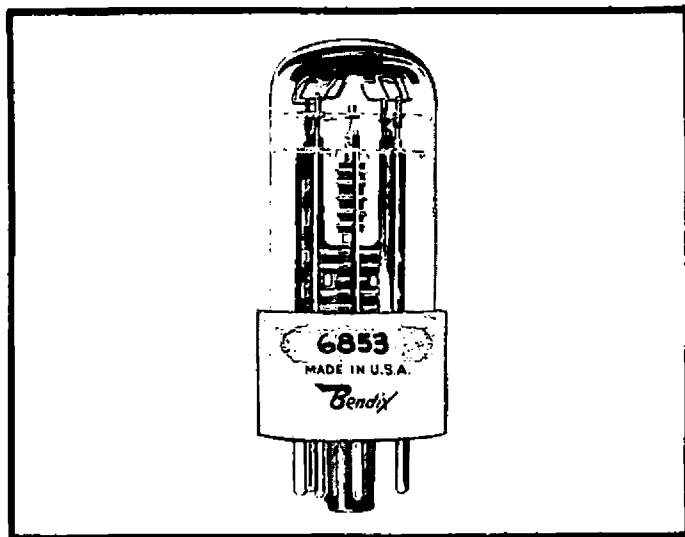


from JEDEC release #4135, Feb. 11, 1963



Red Bank Type TE-45
(Generic Type 5Y3GT)

RELIABLE HARD GLASS FULL-WAVE RECTIFIER



DESCRIPTION

This full-wave, high-vacuum rectifier is one of the Bendix Red Bank line of reliable vacuum tubes specifically designed for aircraft, military and industrial applications where freedom from early failures, long 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.

In addition, this tube is designed for use in equipment with high ambient temperatures and where high levels of vibration, shock and other accelerations are encountered. Careful exhaust to a high degree of vacuum with thorough outgassing of all elements with electron bombardment is employed to ensure long life expectancy. A hard glass (nonex) bulb and stem with nickel pins are used. These, together with a conservative design center of cathode temperature, permit operation of these tubes up to bulb temperatures of 300° C, in contrast to an average of 175° C for soft glass bulbs.

The tube is designed to replace the 5Y3-GT and similar types in applications where severe environmental conditions are encountered, especially in airborne equipment. The cathode type structure instead of a filament structure insures against filament breakage under shock and vibration. The arc-resistant, compound-filled, glass bonded mica base with inter-pin barriers permits operation to an altitude of 80,000 feet. (See Altitude Ratings).

ELECTRICAL RATINGS *

Heater voltage**	5.0 volts
Heater current	1.7 amps
Peak inverse voltage	1550 volts (max.)
Peak plate current (per plate)	415 mA (max.)
Peak surge current (per plate)	1.4 amps. (max.)
AC plate supply voltage and DC output currents	See Rating Chart 1
Cathode warm-up time	45 seconds
Total effective plate supply impedance - per plate	See Rating Chart 2

* 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 $\pm 5\%$.

TYPICAL OPERATION

INPUT TO FILTER

	Capacitor	Choke
Heater voltage (volts)	5.0	5.0
Heater current (amperes)	1.7	1.7
RMS plate supply voltage (volts per plate)	350	500
Input condenser (μ f)	4	-
Input choke (henries)	-	10
DC output current (mA)	125	125
DC output voltage (volts)	350	390

PHYSICAL CHARACTERISTICS

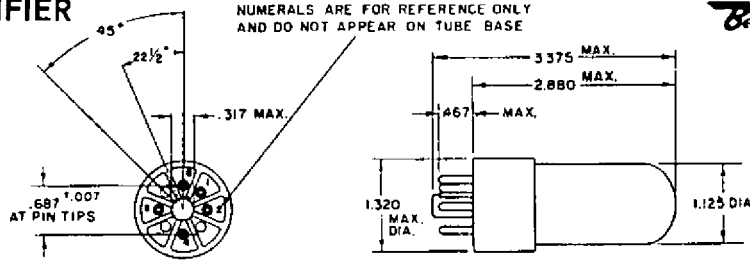
Base	Intermediate shell octal 5-pin (Glass bonded mica - with barriers)
Bulb	T-9
Max. overall length	3.375 in.
Max. seated height	2.880 in.
Max. diameter	1.320 in.
Mounting position	Any
Max. altitude***	80,000 ft.
Max. bulb temperature	300° C.
Life expectancy	10,000 hrs.

***See "Altitude Ratings"

THE **Bendix** CORPORATION

Red Bank Division, EATONTOWN, NEW JERSEY

FULL WAVE RECTIFIER

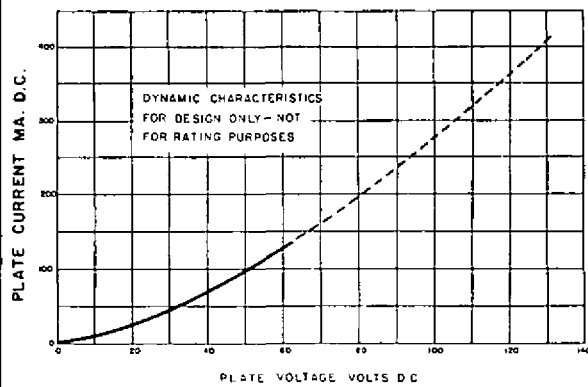


NOTE:
DO NOT CONNECT LEADS TO
NUMBER 1 PIN.
ALWAYS MAKE D.C. OUTPUT RETURN
TO NUMBER 8 PIN.

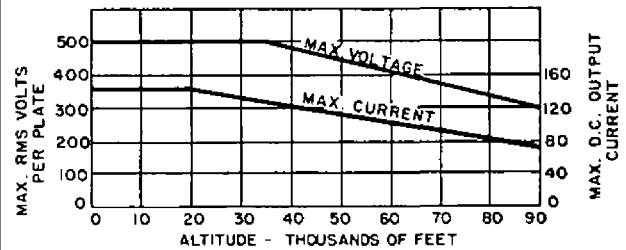
ALL DIMENSIONS ARE IN INCHES UNLESS
OTHERWISE NOTED

BASE DIAGRAM
(BOTTOM VIEW)

OUTLINE DRAWING



AVERAGE PLATE CHARACTERISTICS

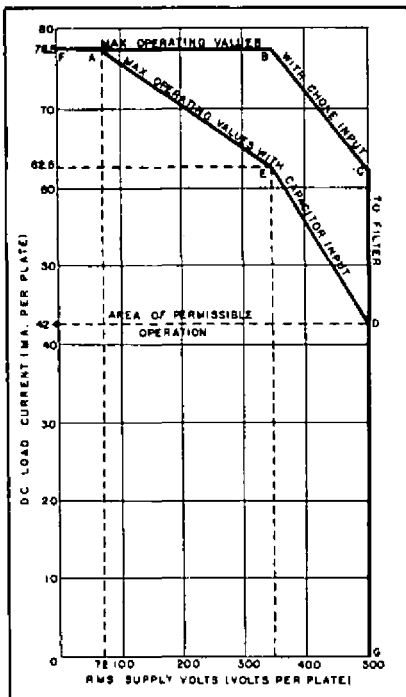


THIS CHART IS INCLUDED AS AN ILLUSTRATION OF THE AMOUNT OF
CURRENT DERATING NECESSARY IN A SPECIFIC APPLICATION TO
AVOID EXCEEDING THE MAXIMUM BULB TEMPERATURE. EACH AP-
PLICATION SHOULD BE CHECKED TO DETERMINE THAT THE MAX-
IMUM BULB TEMPERATURE IS NOT EXCEEDED. EITHER DE-
RATING OR COOLING OR BOTH MAY BE NECESSARY.

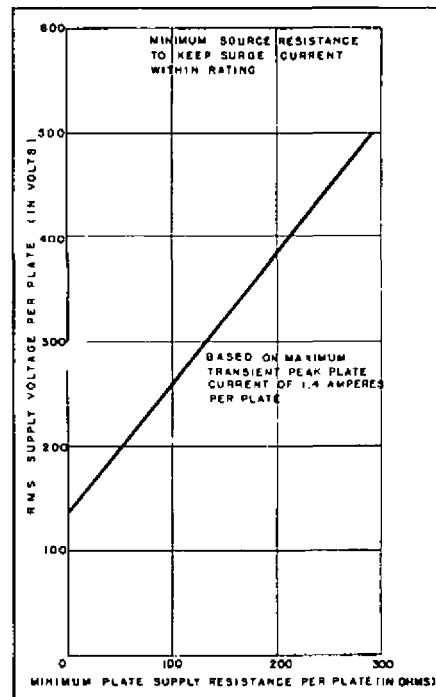
CRITERIA FOR DERATINGS FOLLOWS:-

1. VOLTAGE DERATING - TO KEEP BELOW BASE PIN ARC
OVER POINT.
2. CURRENT DERATING - TO KEEP BULB TEMPERATURE
BELOW MAXIMUM RATING.

ALTITUDE RATINGS



RATING CHART 1



RATING CHART 2