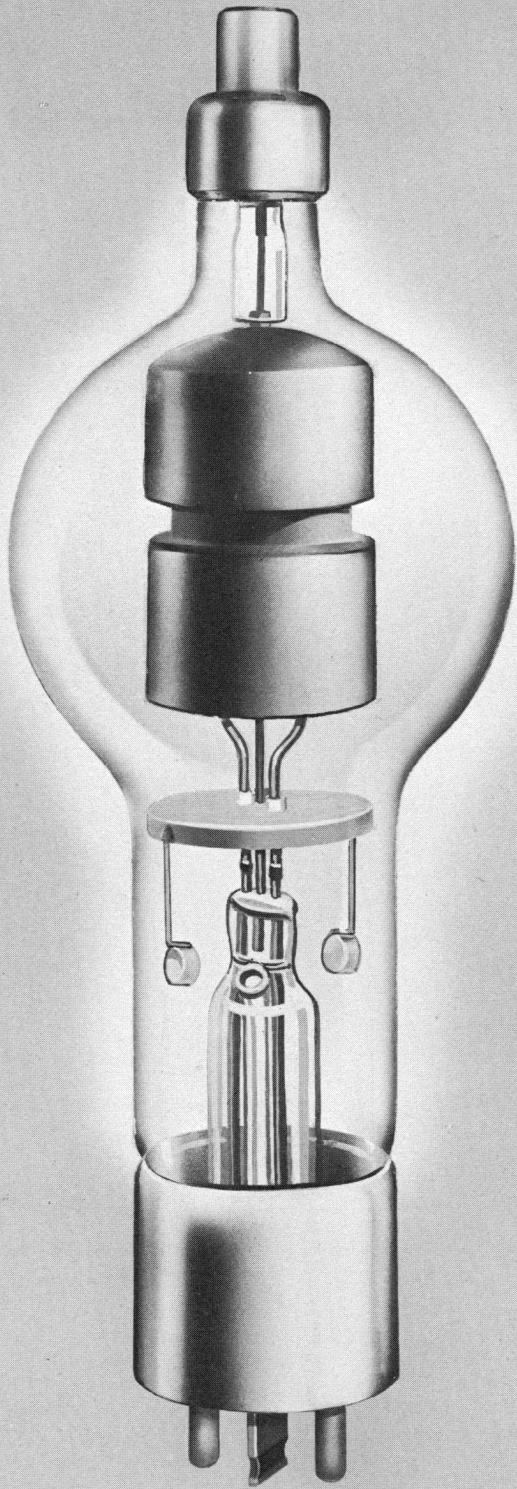


FEDERAL MERCURY VAPOR Half-Wave Rectifier Type F-869-B



GENERAL DATA

DESCRIPTION:

Federal's F-869-B is a mercury vapor, half-wave rectifier for use in high-voltage rectifier circuits.

Electrical:

▶ Filament Voltage	5 Volts
▶ Filament Current	20 Amperes
▶ Cathode Heating Time Required	60 Seconds
▶ Anode Voltage Drop	15 Volts
▶ Critical Anode Voltage	100 Volts

Mechanical:

▶ Type of Cooling—Convection or Forced Air	
▶ Equilibrium Condensed Mercury Temperature Rise Over Ambient	
No Load—Approx.	15° Centigrade
Full Load—Approx.	20° Centigrade
▶ Mounting Position—Vertical, Base Down	
▶ Net Weight, Maximum	3.8 Pounds

Maximum Ratings, Absolute Values

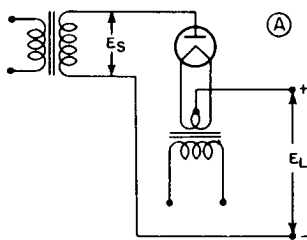
Maximum Peak Inverse Anode Voltage	15,000	20,000 Volts
Condensed Mercury Temperature Limits	30° to 50°	30° to 40° Centigrade
Max. Cathode Current		
Peak	10	10 Amperes
Average	2.5	2.5 Amperes
Surge (maximum duration 0.1 sec.)	100	100 Amperes
Max. Averaging Time	30	30 Seconds
Max. Frequency	150	150 Cycles/sec.

FEDERAL MERCURY VAPOR Half-Wave Rectifier Type F-869-B

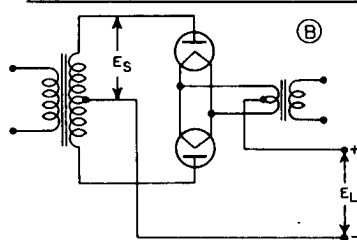
Federal produces tubes of only the highest quality, satisfying the most exacting users.



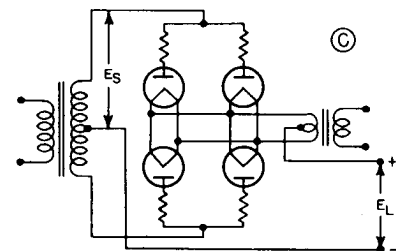
TYPICAL RECTIFIER CIRCUITS



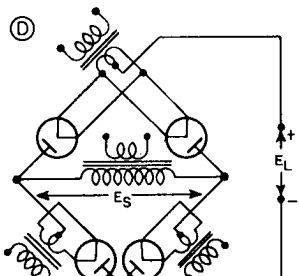
SINGLE PHASE - HALF WAVE



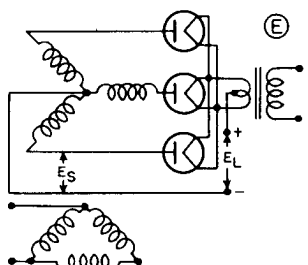
SINGLE PHASE - FULL WAVE



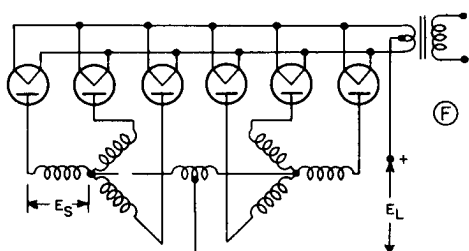
SINGLE PHASE - FULL WAVE PARALLEL



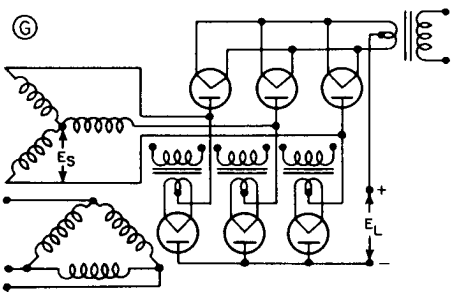
SINGLE PHASE - FULL WAVE BRIDGE



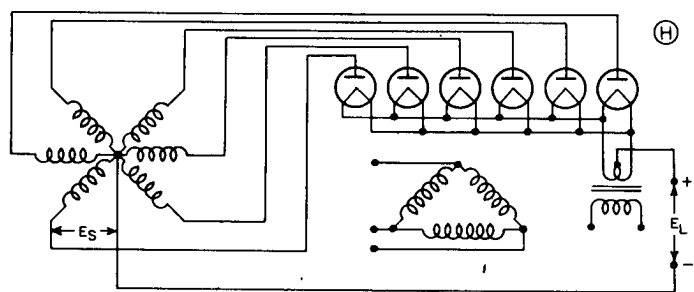
THREE PHASE - HALF WAVE



DOUBLE THREE PHASE - HALF WAVE



THREE PHASE - FULL WAVE



SIX PHASE - HALF WAVE

TYPICAL OPERATION FOR MAXIMUM OUTPUT*

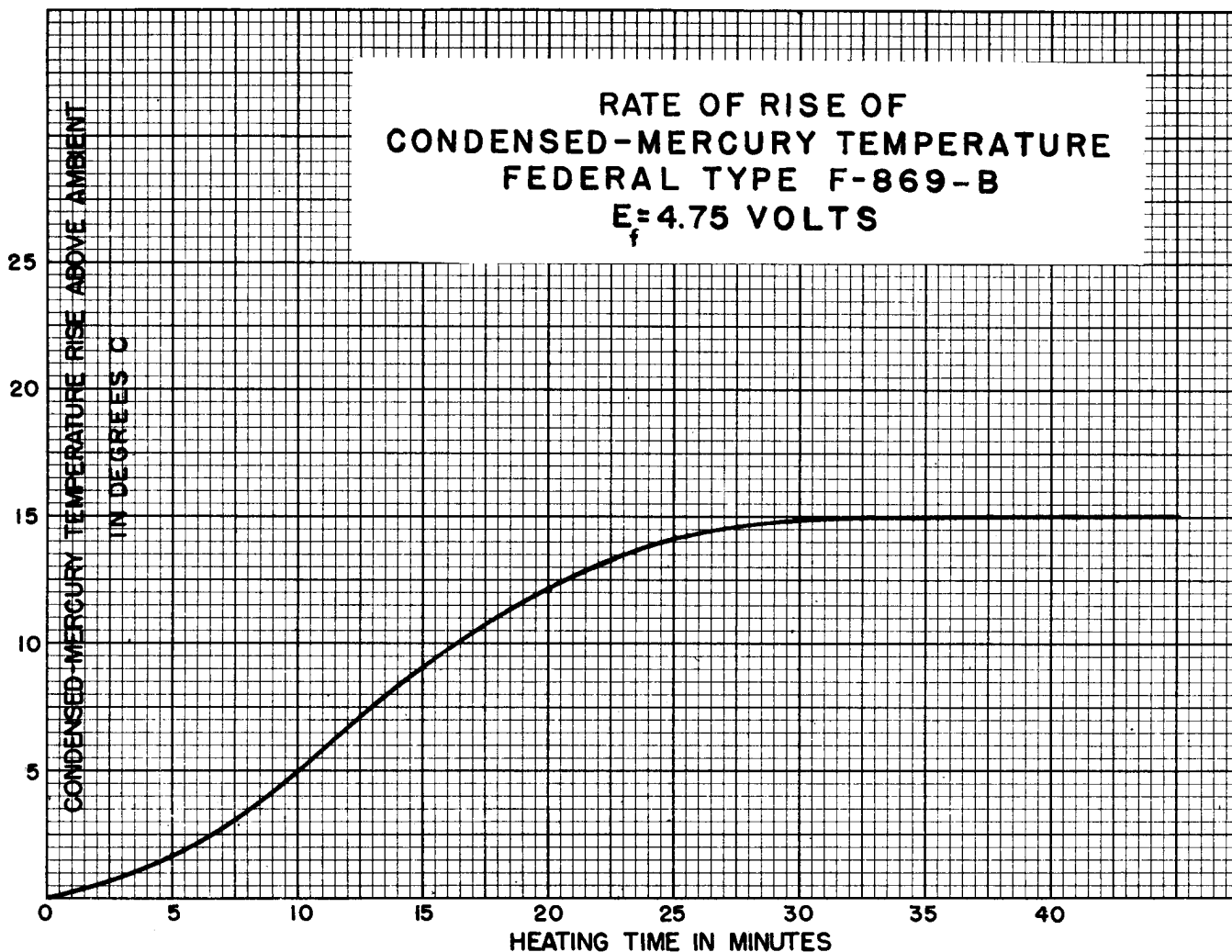
Circuit	R.M.S. Trans. Sec. Volt (E_s)	DC Voltage to Filter (E_L)	Max. DC Load Current
A	14,000	6,300	2.5
B	7,000	6,300	5.0
C	7,000	6,300	10.0
D	14,000	12,700	5.0
E	8,100	9,500	7.5
F	8,100	9,500	15
G	8,100	19,000	7.5
H	7,000	9,500	9.5

*For sine wave input and choke input filter to maintain output current substantially constant.



Federal's longer tube life means lower costs. Increase the life of the tubes in your equipment, and unit costs per hour go down.

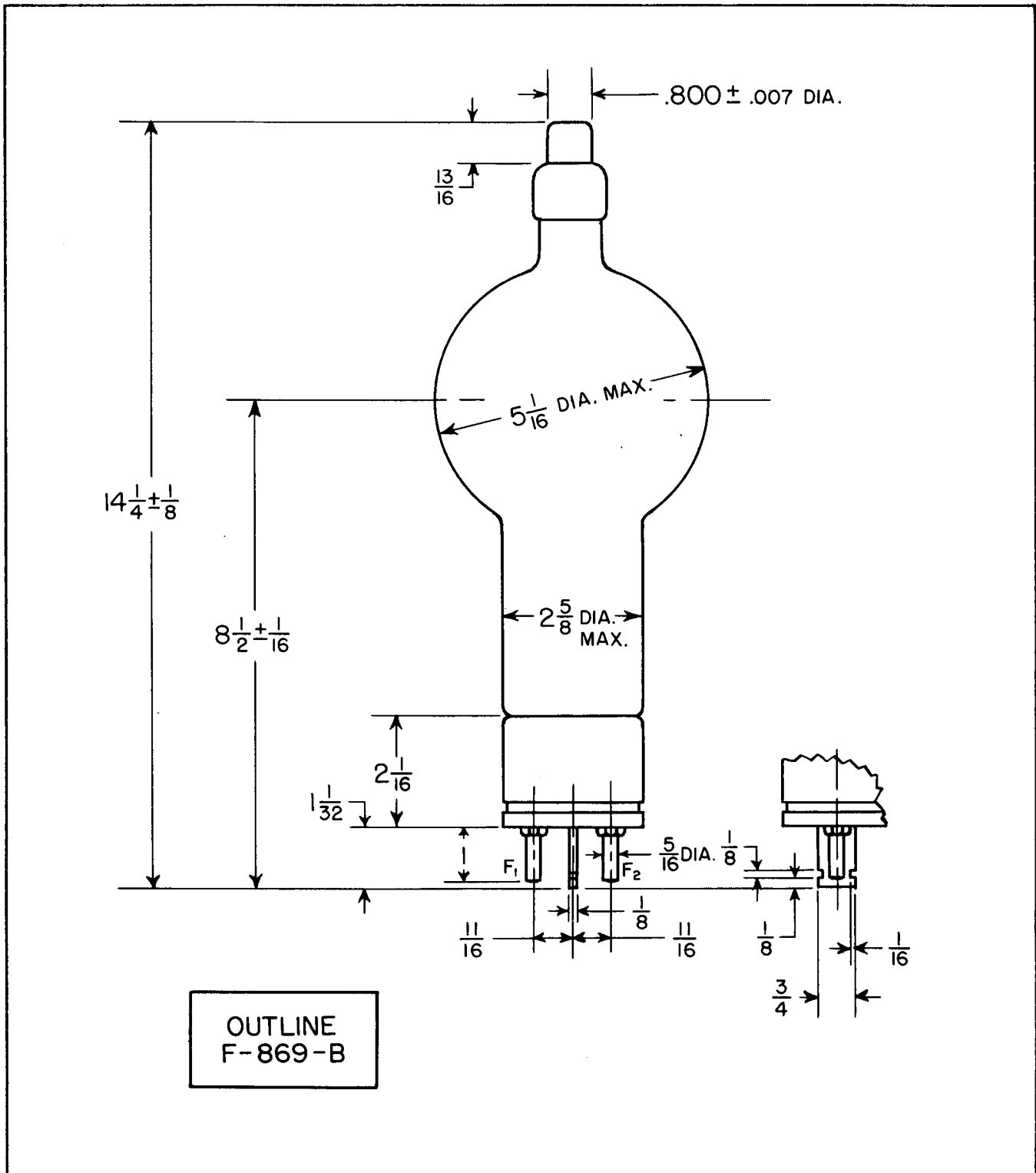
FEDERAL MERCURY VAPOR Half-Wave Rectifier Type F-869-B



FEDERAL MERCURY VAPOR Half-Wave Rectifier Type F-869-B



In satisfying the customer and winning his confidence, Federal has reduced tube selling to a formula.



Federal Telephone and Radio Company

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