

FEDERAL MERCURY VAPOR HALF-WAVE RECTIFIER Type F-575-A



GENERAL DATA

DESCRIPTION:

The Federal F-575-A is a mercury-vapor, half-wave rectifier for use in high voltage rectifier circuits.

Electrical:

► Filament Voltage	5 Volts
► Filament Current	10 Amperes
► Cathode Heating Time	30 Seconds min.
► Anode Voltage Drop, Typical	10 Volts
► Critical Anode Voltage	50 Volts max.

Mechanical:

► Type of Cooling	Convection
► Equilibrium Condensed Mercury Temperature Rise over Ambient	
No load—approx.	12° C
Full load—approx.	20° C
► Mounting Position	Vertical, base down
► Net Weight, maximum	13 Ounces

Maximum Ratings, Absolute Values

Max. Peak Inverse Anode Voltage	10,000	15,000 Volts
Max. Cathode Current		
Peak	7	6 Amperes
Average	1.75	1.5 Amperes
Surge (max. duration 0.2 second)	60	60 Amperes
Max. Averaging Time	20	20 Seconds
Maximum Frequency	150	150 Cycles per second
Condensed-Mercury Temp. Limits*	20 to 60	20 to 50 degrees C

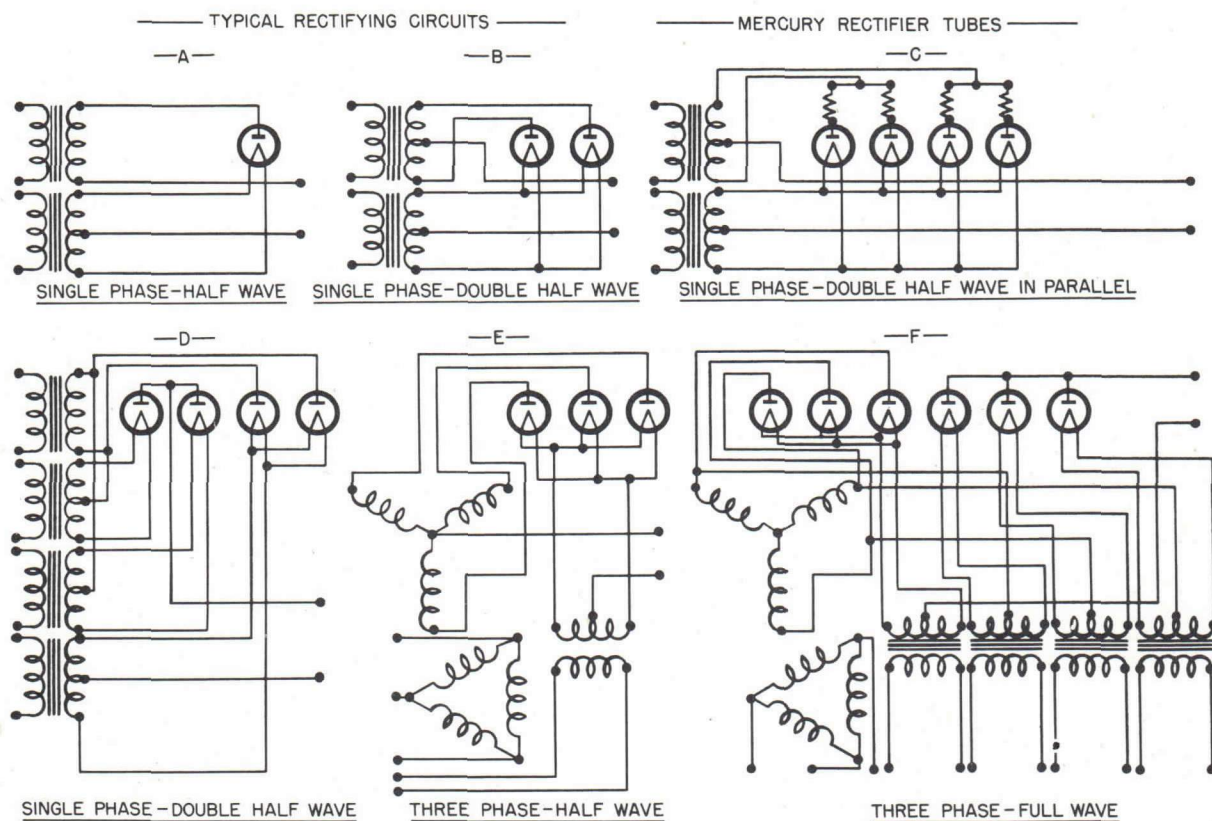
*To be measured within 1/4" band immediately above base.

In all parts of the world, Federal Mercury Vapor Rectifier Tubes have, for many years, set the *standard* for fine performance. Compare F-575-A performance with any "best" you may have in mind.

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Federal always has made better Rectifier tubes, better from the standpoint of better service rendered the user.



Typical rectifying circuits in which Federal's Type F-575-A may be employed are illustrated above. The approximate DC output current and voltage for each

type of rectifying circuit shown, when tubes are operated at maximum permissible space current and inverse voltages, are given in the following table:

Circuit	No. of Tubes	Input Voltage R.M.S.	Approx. DC Output	
			Volts	Amperes
A	1	10,600 per tube	4,800	1.5
B	2	5,300 per tube	4,800	3.0
C	4	5,300 per tube	4,800	6.0
D	4	10,600 per 2 tubes	9,600	3.0
E	3	6,100 per leg	7,200	4.5
F	6	6,100 per leg	14,300	4.5

The above values are for rectifiers working into filters the input inductance of which, is sufficient to maintain the output current substantially constant. Pure sine

waveform of the power source is assumed. Transformer regulation and voltage drops in tubes and filter are neglected.

The F-575-A is engineered with the same painstaking care as the most costly tube manufactured by Federal.

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CONDENSED-MERCURY TEMPERATURE RISE ABOVE AMBIENT IN DEGREES C

RATE OF RISE:
CONDENSED MERCURY TEMPERATURE
 $E_f = 4.75$ VOLTS
FEDERAL TYPE F-575-A
MERCURY VAPOR RECTIFIER

16
14
12
10
8
6
4
2
0

HEATING TIME IN MINUTES

0

10

20

30

40

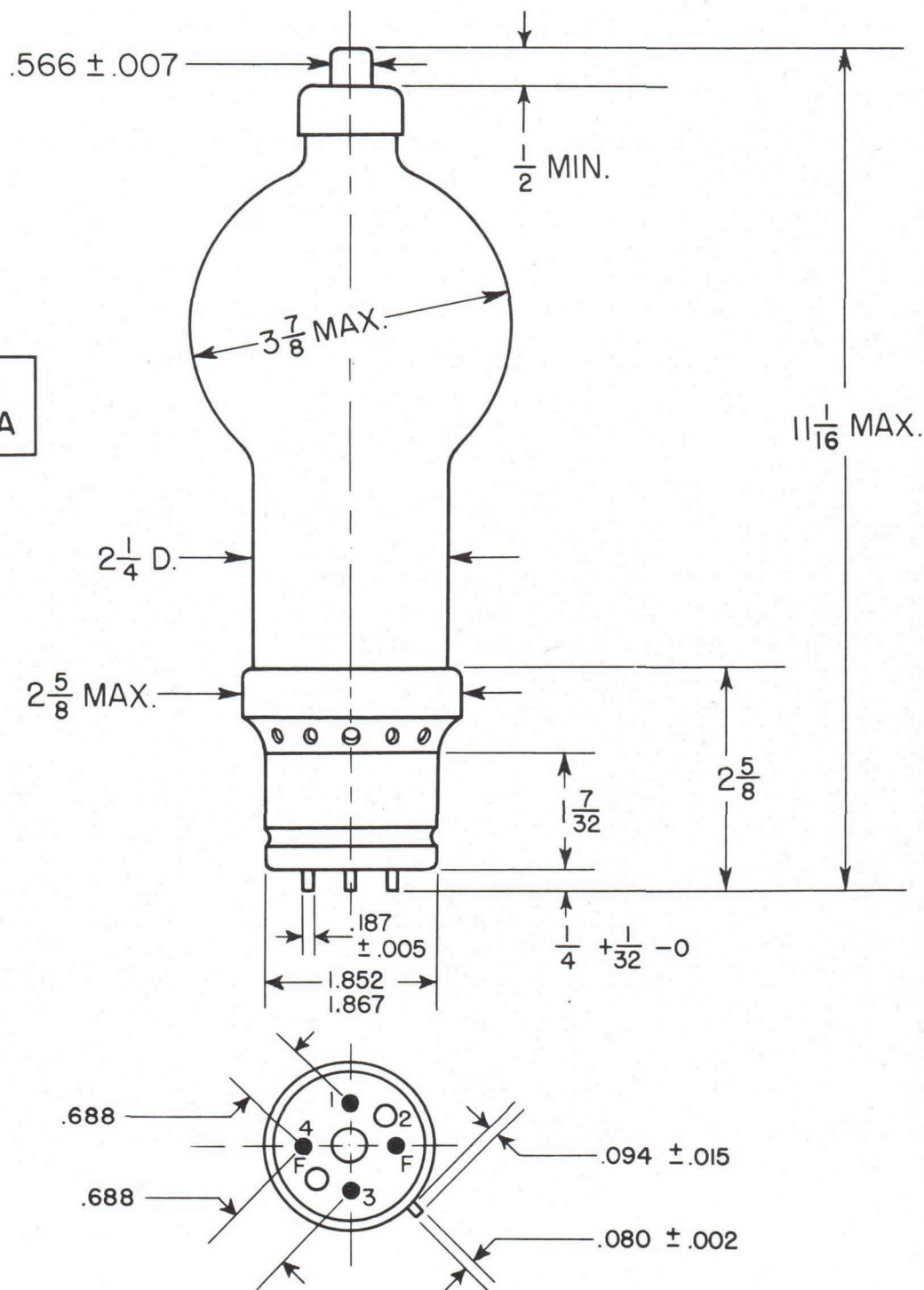
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Federal Rectifiers are not a mass-production item. Actually, they are custom-built . . . "the made-to-order tube."

OUTLINE
F-575-A



Form FJ-216. Printed in U. S. A.

