

872A

Rectifier - Half Wave electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION

CONSTRUCTION

RECTIFIER

Directly heated coated-filament mercury-vapor half-wave rectifier for transmitting and industrial high-voltage supplies. Its low arc voltage provides efficient ampere-class power conversion.

GENERAL CHARACTERISTICS

BASE DESIGNATION	A4-29	BASE PINS	4
NOMINAL HEATER	5 V / 7.5 A	PARALLEL HEATER	– / –
HEATING	Direct	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION1 Rectifier	
MAXIMUM CATHODE CURRENT	8 A
PEAK INVERSE VOLTAGE	10000 V
NOMINAL OUTPUT CURRENT	1.25 A
PEAK FORWARD CURRENT	5 A
FORWARD VOLTAGE DROP	10 V
WARM-UP TIME	30 s
Promoted values are taken from printed General Characteristics / Maximum Ratings. Additional published conditions and operating data are preserved in parameters.	

Coated-filament half-wave mercury-vapor rectifier for high-voltage transmitting and industrial power supplies.



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1938 Raytheon Amateur

Published test conditions and operating points. Values on this page are preserved as reported by this source.

1938 RAYTHEON AMATEUR

Section 1 · Rectifier

APPLICATION		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Application	MercuryVaporHalfWaveRectifier text	—



SOURCE OPERATING CONDITIONS

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1938 RCA Transmitting Tubes

Published test conditions and operating points. Values on this page are preserved as reported by this source.

1938 RCA TRANSMITTING TUBES

Section 1 · Rectifier

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
HeaterVoltageNominal	5 V	Nominal
HeaterCurrentNominal	6.75 A	Nominal
Maximum Peak Inverse Voltage	10000 V	—
Rectified Output Current	1.25 A	—
PeakForwardCurrent	5 A	—

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Forward Voltage Drop	10 V	—



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1940 Taylor Tubes

Published test conditions and operating points. Values on this page are preserved as reported by this source.

1940 TAYLOR TUBES

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Peak inverse voltage	10000 V	CondensedMercuryTemperature=20-60C
Peak inverse voltage	5000 V	CondensedMercuryTemperature=20-70C
RMS AC input voltage	3580 V	SinglePhaseFullWaveTwoTubes
Maximum DC output voltage	3180 V	SinglePhaseFullWaveTwoTubes
Maximum DC output current	2.5 A	SinglePhaseFullWaveTwoTubes
RMS AC input voltage	7060 V	SinglePhaseBridgeFourTubes
Maximum DC output voltage	6360 V	SinglePhaseBridgeFourTubes
Maximum DC output current	2.5 A	SinglePhaseBridgeFourTubes
RMS AC input voltage	4080 V	ThreePhaseHalfWaveThreeTubes
Maximum DC output voltage	4780 V	ThreePhaseHalfWaveThreeTubes
Maximum DC output current	3.75 A	ThreePhaseHalfWaveThreeTubes
RMS AC input voltage	4080 V	ThreePhaseParallelDoubleYSixTubes
Maximum DC output voltage	4780 V	ThreePhaseParallelDoubleYSixTubes
Maximum DC output current	7.5 A	ThreePhaseParallelDoubleYSixTubes
RMS AC input voltage	4080 V	ThreePhaseFullWaveSixTubes
Maximum DC output voltage	4780 V	ThreePhaseFullWaveSixTubes
Maximum DC output current	3.75 A	ThreePhaseFullWaveSixTubes



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1945 United Electronics

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1945 UNITED ELECTRONICS

Section 1 · Rectifier

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Filament voltage	5 V	Nominal general rating
Filament current	6.75 A	Nominal general rating



SOURCE DATA APPENDIX

1946 Standard Telephone and Cables

Published test conditions and operating points. Values on this page are preserved as reported by this source.

1946 STANDARD TELEPHONE AND CABLES

Section 1 · Rectifier

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Supply frequency	50 Hz	ChokeInputFilter
Minimum cathode heating time	1 min	—



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1950 Eimac Tubes

Published test conditions and operating points. Values on this page are preserved as reported by this source.

1950 EIMAC TUBES

Section 1 · Rectifier

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Filament Voltage	5 V	—
Filament Current	7.5 A	—
Approximate Tube Voltage Drop	10 V	—
Recommended Condensed Mercury Temperature	40 C	±5 C
Initial Mercury Redistribution Heating Time	10 min	No plate voltage
Normal Filament Warm-up Before Plate Voltage	30 s	Approximate

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum Peak Inverse Anode Voltage	10000 V	At condensed-mercury temperature 20-60 C
Maximum Peak Anode Current	5 A	—
Maximum Average Anode Current	1.25 A	—
Maximum Supply Frequency	150 Hz	At 10 kV PIV
Condensed Mercury Temperature Range	20-60 C	—

APPLICATION		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Preferred Filter Type	Choke input	Greatest usable DC output current
Condenser-Input Filter Note	Peak current relatively high; capacitor voltage may approach 1.4× transformer RMS voltage	—



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1950 General Electric Transmitting Types

Published test conditions and operating points. Values on this page are preserved as reported by this source.

1950 GENERAL ELECTRIC TRANSMITTING TYPES

Section 1 · Rectifier

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum Cathode Current	8 A	—
Peak Inverse Voltage	10000 V	—
Surge Cathode Current	50 A	Maximum duration 0.2 second
Maximum Frequency	150 Hz	—

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Forward Voltage Drop	15 V	—



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1953 Amperex

Published test conditions and operating points. Values on this page are preserved as reported by this source.

1953 AMPEREX

Section 1 · Rectifier

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater/Filament Voltage	5 V	Published datasheet value
Heater/Filament Current	6.75 A	Published datasheet value
Maximum Peak Inverse Voltage	10000 V	Published datasheet value

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum Average/Output Current	1.25 A	Published datasheet value



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1956 RCA Transmitting Tubes

Published test conditions and operating points. Values on this page are preserved as reported by this source.

1956 RCA TRANSMITTING TUBES

Section 1 · Rectifier

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
HeaterOrFilamentVoltage	5 V	—
HeaterOrFilamentCurrent	7.5 A	—
WarmupTimeMinimum	30 s	Before anode voltage



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1962 Eimac

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1962 EIMAC

Section 1 · Rectifier

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Condensed Mercury Temperature Range	20–60 C	—
Supply Frequency Maximum	150 Hz	—



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1971 Machlette Laboratories

Published test conditions and operating points. Values on this page are preserved as reported by this source.

1971 MACHLETTE LABORATORIES

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum peak inverse anode voltage	10000 V	—
Maximum average anode current	1.25 A	—



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1971 RCA HB3 Binder 6 of 7

Published test conditions and operating points. Values on this page are preserved as reported by this source.

1971 RCA HB3 BINDER 6 OF 7

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater/filament voltage	5 V	—
Heater/filament current	7.5 A	—
Peak inverse anode voltage	10000 V	—
Peak anode current	5 A	—
Average anode current	1.25 A	—
Fault current	50 A	ShortDuration

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Peak tube voltage drop	15 V	Conducting

CONSTRUCTION		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Gas fill	Mercury vapor	—

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