



ELECTRONIC TUBE REFERENCE

673

Rectifier - Half Wave electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION
CONSTRUCTION
RECTIFIER

Convection-cooled mercury-vapor half-wave rectifier for high-voltage, high-current power conversion. Its heavy filament and low mercury-arc voltage provide ampere-class industrial rectification.

GENERAL CHARACTERISTICS

BASE DESIGNATION	—	BASE PINS	4
NOMINAL HEATER	5 V / 11.5 A	PARALLEL HEATER	— / —
HEATING	Direct	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION 1 Rectifier	
PEAK INVERSE VOLTAGE	15000 V
NOMINAL OUTPUT CURRENT	2.5 A
PEAK FORWARD CURRENT	10 A
FORWARD VOLTAGE DROP	10 V
WARM-UP TIME	30 s
<i>Peak inverse rating is temperature-dependent; 15 kV is the highest printed maximum in the source table.</i>	

Convection-cooled mercury-vapor half-wave rectifier for high-voltage, high-current applications.

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

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

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heating time	30 s	Published datasheet value

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum frequency	150 Hz	Published datasheet value
Peak inverse anode voltage maximum	15000 V	Published datasheet value

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

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

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum Peak Inverse Voltage	15000 V	—
Maximum Average Anode Current	1.5 A	—



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1958 Amperex Industrial

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

1958 AMPEREX INDUSTRIAL

Section 1 · Rectifier

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Filament heating time	30 s	—
Tube voltage drop	10 V	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Peak inverse voltage	15000 V	—
Peak anode current	6 A	—
Average anode current	1.5 A	—
One-minute average current	60 A	—



SOURCE OPERATING CONDITIONS

1962 Eimac

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

1962 EIMAC

Section 1 · Rectifier

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Anode starting voltage	20 V	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Filament heating time	30 s	—


SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1963 Amperex Condensed

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

1963 AMPEREX CONDENSED

Section 1 · Rectifier

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Filament heating time	30 s	—
Tube voltage drop	10 V	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Peak inverse voltage	15000 V	—
Peak anode current	6 A	—
Average anode current	1.5 A	—
One-minute average current	60 A	—


SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1965 Eimac Tube Manual

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

1965 EIMAC TUBE MANUAL

Section 1 · Rectifier

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Filament Voltage	5 V	—
Filament Current	9.0-11.5 A	—
Filament Heating Time	30 s	—
Peak Inverse Anode Voltage	15000 V	—
Peak Anode Current - Quadrature	10 A	—
Peak Anode Current - In Phase	7 A	—
Average Anode Current - Quadrature	2.5 A	—
Average Anode Current - In Phase	1.75 A	—
Maximum AC Short-Circuit Current	100 A	—
Condensed Mercury Temperature Range	20-60 C	—



SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

1971 Machlette Laboratories

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

1971 MACHLETTE LABORATORIES

Section 1 · Rectifier

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum frequency	150 Hz	—



SOURCE DATA APPENDIX

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

Section 1 · Rectifier

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Voltage – published value 1	5	Published datasheet value
Voltage – published value 2	5	Published datasheet value
Current at 5 volts – published value 1	5 A	Published datasheet value
Current at 5 volts – published value 2	10 A	Published datasheet value
at rated voltage	30	Published datasheet value
P i n 1- No Connec – published value 1	1	Published datasheet value
P i n 1- No Connec – published value 2	3	Published datasheet value
Pin 2 -Filament,	2	Published datasheet value
No load*	12	Published datasheet value
Full load•	17.5	Published datasheet value
Filament Current – published value 1	1 A	Published datasheet value
Filament Current – published value 2	11.5 A	Published datasheet value
Critical Anode Voltage – published value 1	2	Published datasheet value
Critical Anode Voltage – published value 2	100	Published datasheet value
Peak Tube Voltage Drop – published value 1	3	Published datasheet value
Peak Tube Voltage Drop – published value 2	16	Published datasheet value
rote 1: Mlth 5 volts rms on filament – published value 1	1	Published datasheet value
rote 1: Mlth 5 volts rms on filament – published value 2	5	Published datasheet value

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Note 2: With a.75 dolts rms on filament, and condensed-mercury tempera	2	Published datasheet value
rote 3: With 5 volts rms on filament, condensed-mercury temperature of – published value 1	3	Published datasheet value
rote 3: With 5 volts rms on filament, condensed-mercury temperature of – published value 2	5	Published datasheet value
35° 15°C, peak anode current of zo amperes p.rov ided Dy nalf – published value 1	35 A	Published datasheet value
35° 15°C, peak anode current of zo amperes p.rov ided Dy nalf – published value 2	15 A	Published datasheet value
•• Filament voltage out oP phase (600 to 1200) with anode voltage – published value 1	600	Published datasheet value
•• Filament voltage out oP phase (600 to 1200) with anode voltage – published value 2	1200	Published datasheet value
mercury-temperature range of 20° to 500 C – published value 1	20	Published datasheet value
mercury-temperature range of 20° to 500 C – published value 2	500	Published datasheet value
rte` – published value 1	200	Published datasheet value
rte` – published value 2	600	Published datasheet value
673 if it is subjected to extraneous high-frequency fields	673	Published datasheet value

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
• With 5.25 volts rms on filament, quad rature operation, average anode	5.25	Published datasheet value

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum Ratings, Absolute Values: For supply frequency of 60 cps	6	Published datasheet value
ANODE VOLTAGE – published value 1	10 A	Published datasheet value
ANODE VOLTAGE – published value 2	15 A	Published datasheet value
Peak – published value 1	7 mA	Published datasheet value
Peak – published value 2	6 mA	Published datasheet value
Peak – published value 1	10 mA	Published datasheet value
Peak – published value 2	10 mA	Published datasheet value
~ For maximum peak inverse anode voltage of 15,000 volts, and condensed	15 A	Published datasheet value
• For maximum peak inverse anode voltage of 10,000 volts, and .condensed	10 A	Published datasheet value
Peak inverse anode voltage	15000 V	Published rectifier rating
Maximum average anode/DC output current	2.5 A	Published rectifier rating



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1975 Eimac Tube Manual

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

1975 EIMAC TUBE MANUAL

Section 1 · Rectifier

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Filament Current Range	9 A–11.5 A	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Anode Starting Voltage	20 V	—

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Condensed Mercury Temperature Range 15kV	20–50 C	—
Condensed Mercury Temperature Range 10kV	20–60 C	—
Peak Anode Current Quadrature	10 A	—
Peak Anode Current InPhase	7 A	—
Average Anode Current Quadrature	2.5 A	—
Average Anode Current InPhase	1.75 A	—
AC Short Circuit Current Maximum	100 A	—



SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1976 Eimac Tube Manual

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

1976 EIMAC TUBE MANUAL

Section 1 · Rectifier

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Filament Current Range	9 A–11.5 A	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Anode Starting Voltage	20 V	—
Condensed Mercury Temperature Range 15kV	20–50 C	—
Condensed Mercury Temperature Range 10kV	20–60 C	—
Peak Anode Current Quadrature	10 A	—
Peak Anode Current InPhase	7 A	—

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Average Anode Current Quadrature	2.5 A	—
Average Anode Current InPhase	1.75 A	—
AC Short Circuit Current Maximum	100 A	—