



ELECTRONIC TUBE REFERENCE

3B28

Rectifier - Half Wave electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION

CONSTRUCTION

RECTIFIER

Rugged xenon-filled high-voltage half-wave rectifier for military and industrial supplies over a wide temperature range. Gas-assisted conduction provides substantial current with reliable severe-environment operation.

GENERAL CHARACTERISTICS

BASE DESIGNATION	—	BASE PINS	4
NOMINAL HEATER	2.5 V / 5 A	PARALLEL HEATER	— / —
HEATING	Direct	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION 1 Rectifier	
MAXIMUM CATHODE CURRENT	500 mA
PEAK INVERSE VOLTAGE	10000 V
NOMINAL OUTPUT CURRENT	250 mA
PEAK FORWARD CURRENT	2 A
FORWARD VOLTAGE DROP	14 V
WARM-UP TIME	5 s
<i>Published ratings/characteristics promoted where semantically applicable; supplemental values retained in parameter table.</i>	

The 3B28 is a xenon-filled half-wave rectifier for high-voltage circuits, designed for operation over a wide temperature range and rugged military or industrial use.

SOURCE OPERATING CONDITIONS

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	10 s	—

SOURCE OPERATING CONDITIONS

1953 RFT Rundfunk Technik

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

1953 RFT RUNDFUNK TECHNIK

Section 1 · Rectifier

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Inverse voltage maximum	10 kV	—
Peak plate current maximum	1 A	—
Average plate current maximum	250 mA	—

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Warm-up time	30 s	—
Arc voltage at 0.5 A	12 V	—



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

CHARACTERISTICS

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Gas filling	Xenon	—

OTHER

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Power-supply frequency maximum	500 Hz	—



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	5 s	—
Tube voltage drop	10 V	—

OTHER

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Peak inverse anode voltage	10000 V	—
Peak anode current	1 A	—
Average anode current	250 mA	—



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1961 Tung Sol

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

1961 TUNG SOL

Section 1 · Rectifier

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Filament Voltage	2.5 V	—
Filament Current	5 A	—
MaximumSurgeCathodeCurrent	20 A	—



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	5 s	HalfWave;Xenon
Tube voltage drop	10 V	HalfWave;Xenon

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Peak inverse anode voltage maximum	10000 V	HalfWave;Xenon
Peak anode current maximum	1 A	HalfWave;Xenon
Average anode current maximum	250 mA	HalfWave;Xenon

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1966 Tung Sol Electronic Tubes 3 of 4

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

1966 TUNG SOL ELECTRONIC TUBES 3 OF 4

Section 1 · Rectifier

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum peak inverse voltage high-voltage service	10000 V	HalfWaveRectifier
Maximum peak cathode current	5 A	HalfWaveRectifier
Maximum average cathode current	250 mA	HalfWaveRectifier
Maximum surge cathode current	20 A	HalfWaveRectifier
Rectifier maximum peak inverse voltage	10000 V	PromotedValue
Rectifier nominal output current	250 mA	PromotedValue
Rectifier peak forward current	5 A	PromotedValue
Maximum Average Cathode Current 0.5	250 mA	PublishedTable

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Average anode voltage drop	10 V	HalfWaveRectifier
Critical anode voltage	50 V	HalfWaveRectifier
Rectifier forward voltage drop	10 V	PromotedValue
Rectifier warmup time	5 s	PromotedValue
2.5F 5`B Volts	5 A	PublishedTable



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1971 English Electric Valve

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

1971 ENGLISH ELECTRIC VALVE

Section 1 · Rectifier

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Filament voltage	2.5 V	—
Filament current	5 A	—
Peak current	1 A	10 kV PIV
Mean current	250 mA	10 kV PIV
Peak current	2 A	5 kV PIV
Mean current	500 mA	5 kV PIV
Fault current	20 A	0.1 s maximum



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

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

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater/filament voltage	2.5 V	—
Heater/filament current	5 A	—
Peak inverse voltage	15000 V	—
Peak anode current	2 A	—
Average anode current	250 mA	—

CONSTRUCTION		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Gas fill	Mercury vapor / inert gas rectifier class	—

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

APPLICATION		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Application	High-current half-wave gas rectifier	—