

ELECTRONIC TUBE REFERENCE

22BW3

Rectifier - Damper Diode electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION
CONSTRUCTION
RECTIFIER

Compactron heater-cathode diode designed specifically for television horizontal-deflection damping service.

GENERAL CHARACTERISTICS

BASE DESIGNATION	12FX	BASE PINS	12
NOMINAL HEATER	22.4 V / 460 mA	PARALLEL HEATER	– / –
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

12FX - TERMINAL PINOUT

TERMINAL	SECTION	ELEMENT	STATUS
PIN1	–	H – Heater	CONNECTED
PIN4	–	P – Plate (Anode)	CONNECTED
PIN5	–	–	IC
PIN6	–	–	IC
PIN7	–	K – Cathode	CONNECTED
PIN8	–	–	IC
PIN9	–	–	IC
PIN10	–	P – Plate (Anode)	CONNECTED
PIN12	–	H – Heater	CONNECTED

SECTION RATINGS

SECTION1 Rectifier	
MAXIMUM PLATE DISSIPATION	6.5 W
PEAK INVERSE VOLTAGE	5000 V
NOMINAL OUTPUT CURRENT	175 mA
PEAK FORWARD CURRENT	1.1 A
FORWARD VOLTAGE DROP	32 V
MAXIMUM HEATER-CATHODE VOLTAGE	5000 V
WARM-UP TIME	11 s
<i>Peak forward current uses published steady-state peak plate current. Heater-cathode field records largest published total DC-and-peak magnitude; polarity-specific limits are parameters.</i>	

22BW3 is a damper diode for television horizontal-deflection service. The supplied RCA manual excerpt was reviewed for heater data, physical sections, maximum ratings, electrical characteristics, capacitances, and stated operating conditions.



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
Steady State Peak Plate Current	1100 mA	TVDamperService

CHARACTERISTIC

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Tube Voltage Drop	32 V	PlateCurrent=350mA



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
Peak inverse plate voltage	5000 V	DamperService
Steady state peak plate current	1000 mA	DamperService
DC output current	165 mA	DamperService
Peak heater-cathode voltage	5000 V	HeaterNegative
Heater warm-up time	11 s	—

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Cathode-to-plate-and-heater capacitance	8.5 pF	—
Plate-to-cathode-and-heater capacitance	6 pF	—
Heater-to-cathode capacitance	3.8 pF	—


SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1968 General Electric Co

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

1968 GENERAL ELECTRIC CO Section 1 · Rectifier

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Warm-up Time	11 s	—
Heater-Cathode Voltage	100 V	HeaterPositive;DCComponent
Heater-Cathode Voltage	300 V	HeaterPositive;TotalDCAndPeak
Heater-Cathode Voltage	900 V	HeaterNegative;DCComponent
Heater-Cathode Voltage	5000 V	HeaterNegative;TotalDCAndPeak

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Tube Voltage Drop	32 V	PlateCurrent=0.35A


SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1975 RCA RC30

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

1975 RCA RC30

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Voltage (ac/dc) 16.8	22.4 V	Heater Voltage (ac/dc) 16.8 22.4 volts
Heater Current 0.6	460 mA	Heater Current 0.6 0.46 ampere
Heater Warm-up Time 11	11 s	Heater Warm-up Time 11 11 seconds
Peak Inverse Plate Voltage#	5000 V	Peak Inverse Plate Voltage# 5000 volts
Peak Plate Current	1100 mA	Peak Plate Current 1100 mA
Average Plate Current	175 mA	Average Plate Current 175 mA
Plate Dissipation	6.5 W	Plate Dissipation 6.5 watts
Peak inverse/negative-pulse plate voltage	5000 V	Published section value
Average output/plate current	175 mA	Published section value

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Tube Voltage Drop for plate current of	350 mA	Tube Voltage Drop for plate current of 350 mA 32 volts
# Pulse duration must not exceed 15% of one horizontal scanning cycle (	10 us	# Pulse duration must not exceed 15% of one horizontal scanning cycle (10 microseconds).

TUBE TINKER

An independent reference for electronic tubes, vacuum tubes, and their source documents.

[Catalog](#) [Tube types](#) [Full books](#) [Blog](#) [Feedback & corrections](#)

© 2026 Tube Tinker