

ELECTRONIC TUBE REFERENCE

6B10

Voltage - Triode (with diode, heptode or hexode) electronic tube

CONSOLIDATED TECHNICAL DATA
4 SECTIONS
CONSTRUCTION

DIODE-DIODE-TRIODE-TRIODE

Twin-diode twin-triode Compactron designed for television horizontal phase-detector and horizontal-oscillator circuits, integrating phase comparison and sweep-control functions.

GENERAL CHARACTERISTICS

BASE DESIGNATION	12BF	BASE PINS	12
NOMINAL HEATER	6.3 V / 600 mA	PARALLEL HEATER	– / –
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Common cathode	SECTION CONSTRUCTION	Dissimilar

12BF - TERMINAL PINOUT

TERMINAL	SECTION	ELEMENT	STATUS
PIN1	–	H – Heater	CONNECTED
PIN2	C	K – Cathode	CONNECTED
PIN3	C	G1 – Control Grid	CONNECTED
PIN4	C	P – Plate (Anode)	CONNECTED
PIN5	B	G1 – Control Grid	CONNECTED
PIN6	B	P – Plate (Anode)	CONNECTED
PIN7	B	K – Cathode	CONNECTED
PIN8	A	P – Plate (Anode)	CONNECTED
PIN9	A	K – Cathode	CONNECTED
PIN10	A	P – Plate (Anode)	CONNECTED
PIN11	–	IS – Internal Screen	CONNECTED
PIN12	–	H – Heater	CONNECTED

SECTION RATINGS

SECTION1 Triode	
PLATE RESISTANCE	7200 Ω
TRANSCONDUCTANCE	0.0025 S
AMPLIFICATION FACTOR	18
MAXIMUM PLATE VOLTAGE	330 V
MAXIMUM PLATE DISSIPATION	3 W
MAXIMUM CATHODE CURRENT	20 mA
Representative row for the two electrically identical triode sections.	

SECTION2 Triode	
No fixed ratings recorded.	
Second physical triode section added to match documented twin-triode/twin-diode construction.	

SECTION3 Diode	
MAXIMUM CATHODE CURRENT	5 mA
FORWARD VOLTAGE DROP	5 V
Representative row for the two identical phase-detector diode sections.	

SECTION4 Diode	
No fixed ratings recorded.	
Second physical diode section added to match documented twin-triode/twin-diode construction.	

Twin-diode, medium-mu twin-triode tube for television horizontal phase-detector and horizontal-oscillator circuits.

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 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Voltage	250 V	EachTriode
Grid Voltage	-8 V	EachTriode
Plate Current	10 mA	EachTriode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
GridVoltageAtPlateCurrent50uA	-20 V	EachTriode

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid To Plate Capacitance	1.5 pF	Section1
Input Capacitance	1.7 pF	Section1
Output Capacitance	1.6 pF	Section1
Grid To Plate Capacitance	1.5 pF	Section2
Input Capacitance	1.8 pF	Section2
Output Capacitance	0.6 pF	Section2
TriodeGridToDiode1PlateCapacitance	0.015 pF	TriodeSection1
TriodeGridToDiode1PlateCapacitance	0.005 pF	TriodeSection2
TriodeGridToDiode2PlateCapacitance	0.02 pF	TriodeSection1
TriodeGridToDiode2PlateCapacitance	0.005 pF	TriodeSection2

1968 GENERAL ELECTRIC CO

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum Continuous Diode Current	5 mA	EachDiode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Average Diode Current	20 mA	EachDiode; AppliedDC=5V

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
DiodePlateToCathodeHeaterShieldCapacitance	1.9 pF	Diode1
DiodePlateToCathodeHeaterShieldCapacitance	1.8 pF	Diode2
DiodePlateToDiodePlateCapacitance	0.7 pF	CrossSection



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
Section 1 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Voltage (ac/dc) 6.3	8.5 V	Published in approved 8B10 target datasheet entry; Section1
Heater Current 0.6	450 mA	Published in approved 8B10 target datasheet entry; Section1
Heater Warm-up Time (Average) 11	11 seconds	Published in approved 8B10 target datasheet entry; Section1
Plate Voltage	330 V	Published in approved 8B10 target datasheet entry; Section1
Average Cathode Current	20 mA	Published in approved 8B10 target datasheet entry; Section1

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Dissipation	3 W	Published in approved 8B10 target datasheet entry; Section1
Plate Voltage	250 V	Published in approved 8B10 target datasheet entry; Section1
Grid Voltage	-8 V	Published in approved 8B10 target datasheet entry; Section1
Plate Resistance (Approx.)	7200 Ω	Published in approved 8B10 target datasheet entry; Section1
Transconductance	2500 μS	Published in approved 8B10 target datasheet entry; Section1
Plate Current	10 mA	Published in approved 8B10 target datasheet entry; Section1
Grid Voltage (Approx.) for plate current of 50 μA	20 V	Published in approved 8B10 target datasheet entry; Section1
For fixed-bias operation	0.25 M Ω	Published in approved 8B10 target datasheet entry; Section1
For cathode-bias operation	1 M Ω	Published in approved 8B10 target datasheet entry; Section1
Plate Current	5 mA	Published in approved 8B10 target datasheet entry; Section1
Tube Voltage Drop for plate current of	20 mA	Published in approved 8B10 target datasheet entry; Section1
Tube Voltage Drop for plate current of 20 mA	5 V	Published in approved 8B10 target datasheet entry; Section1

1975 RCA RC30

Section 3 · Diode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Voltage (ac/dc) 6.3	8.5 V	Published in approved 8B10 target datasheet entry; Section2
Heater Current 0.6	450 mA	Published in approved 8B10 target datasheet entry; Section2
Heater Warm-up Time (Average) 11	11 seconds	Published in approved 8B10 target datasheet entry; Section2
Plate Voltage	330 V	Published in approved 8B10 target datasheet entry; Section2
Average Cathode Current	20 mA	Published in approved 8B10 target datasheet entry; Section2

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Dissipation	3 W	Published in approved 8B10 target datasheet entry; Section2
Plate Voltage	250 V	Published in approved 8B10 target datasheet entry; Section2
Grid Voltage	-8 V	Published in approved 8B10 target datasheet entry; Section2
Plate Resistance (Approx.)	7200 Ω	Published in approved 8B10 target datasheet entry; Section2
Transconductance	2500 μS	Published in approved 8B10 target datasheet entry; Section2
Plate Current	10 mA	Published in approved 8B10 target datasheet entry; Section2
Grid Voltage (Approx.) for plate current of 50 μA	20 V	Published in approved 8B10 target datasheet entry; Section2
For fixed-bias operation	0.25 MΩ	Published in approved 8B10 target datasheet entry; Section2
For cathode-bias operation	1 MΩ	Published in approved 8B10 target datasheet entry; Section2
Plate Current	5 mA	Published in approved 8B10 target datasheet entry; Section2
Tube Voltage Drop for plate current of	20 mA	Published in approved 8B10 target datasheet entry; Section2
Tube Voltage Drop for plate current of 20 mA	5 V	Published in approved 8B10 target datasheet entry; Section2

TUBE TINKER

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