

ELECTRONIC TUBE REFERENCE

50C5

Power - Beam Single (NOT sweep) (under 10W) electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION
CONSTRUCTION
BEAMPOWER

Miniature beam-power tube designed for the audio-output stage of compact AC/DC radio receivers, optimized for useful power from low supply voltage.

GENERAL CHARACTERISTICS

BASE DESIGNATION	7CV	BASE PINS	7
NOMINAL HEATER	50 V / 150 mA	PARALLEL HEATER	– / –
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

7CV - TERMINAL PINOUT

TERMINAL	SECTION	ELEMENT	STATUS
PIN1 – G3	A	G3 – Suppressor Grid	CONNECTED
PIN1 – K	A	K – Cathode	CONNECTED
PIN2 – G1	A	G1 – Control Grid	CONNECTED
PIN3 – H	–	H – Heater	CONNECTED
PIN4 – H	–	H – Heater	CONNECTED
PIN5 – G1	A	G1 – Control Grid	CONNECTED
PIN6 – G2	A	G2 – Screen Grid	CONNECTED
PIN7 – P	A	P – Plate (Anode)	CONNECTED

SECTION RATINGS

SECTION1 Beam Power	
PLATE RESISTANCE	10000 Ω
TRANSCONDUCTANCE	0.0075 S
MAXIMUM PLATE VOLTAGE	135 V
MAXIMUM SCREEN VOLTAGE	117 V
MAXIMUM PLATE DISSIPATION	5.5 W
MAXIMUM SCREEN DISSIPATION	1.25 W
<i>Shared family ratings and Class A characteristics promoted; heater-specific differences remain at tube level.</i>	

Beam power tube for the audio output stage of compact AC/DC radio receivers. It is an explicit heater variant/co-designation in 25C5.pdf.



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1958 Brimar Radio Valve No 7

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

1958 BRIMAR RADIO VALVE NO 7

Section 1 · Beam Power

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Anode Voltage	110 V	—
Anode Current	49 mA	—
Screen Voltage	110 V	—
Screen Current	4 mA	—
Control Grid Voltage	-7.5 V	—
Optimum Load	2500 ohm	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Power Output	1.9 W	ClassA



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

195X General Electric Essential Characteristics

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

195X GENERAL ELECTRIC ESSENTIAL CHARACTERISTICS

Section 1 · Beam Power

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum plate voltage	135 V	Published handbook rating

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum screen voltage	117 V	Published handbook rating
Plate voltage	110 V	ClassA
Screen voltage	110 V	ClassA
Control-grid bias	7.5 V	ClassA
Plate current	49 mA	ClassA
Screen current	4 mA	ClassA
Load resistance	2500 ohm	ClassA
Power output	1.9 W	ClassA

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate resistance	10000 ohm	Published handbook characteristic
Transconductance	7500 μ S	Published handbook characteristic
Heater/filament voltage	50 V	Published heater/filament rating
Heater/filament current	150 mA	Published heater/filament rating


SOURCE DATA APPENDIX

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 · Beam Power

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum Signal Plate Current	50 mA	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum Signal Power Output	2.3 W	—


SOURCE DATA APPENDIX

1965 Sylvania Electronic Tubes Vol3

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

1965 SYLVANIA ELECTRONIC TUBES VOL3

Section 1 · Beam Power

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	120 V	ClassA
Plate current	49 mA	ClassA

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate resistance	10000 Ohm	—
Transconductance	7500 uS	—



SOURCE DATA APPENDIX

1965 Westinghouse Data Book

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

1965 WESTINGHOUSE DATA BOOK

Section 1 · Beam Power

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Typical plate voltage	120 V	ClassA
Typical screen voltage	110 V	ClassA
Maximum signal power output	2.3 W	ClassA

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate resistance	10000 ohm	—

APPLICATION		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Application	Audio output amplifier	—



SOURCE DATA APPENDIX

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 · Beam Power

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Typical plate voltage	120 V	ClassA
Typical screen voltage	110 V	ClassA
Zero-signal plate current	49 mA	ClassA
Load resistance	2500 ohm	ClassA
Maximum-signal power output	2.3 W	ClassA
Maximum plate voltage	150 V	PromotedValue
Maximum screen voltage	130 V	PromotedValue
Maximum plate dissipation	5.5 W	PromotedValue
Maximum screen dissipation	1.5 W	PromotedValue
N+Aximum Plate Voltage	150 V	PublishedTable
Maximum Grid #2 Voltage	130 V	PublishedTable
Maximum Grid #2 Dissipation 1	4 W	PublishedTable
Zero- Signal Grid #2 Current	4 mA	PublishedTable
Maximum S16Mal Power Output	2.3 W	PublishedTable
~ ~ Eb	110 V	PublishedTable
Eoi =	-7.5 V	PublishedTable

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate resistance	10000 ohm	PromotedValue
Transconductance	0.0075 A/V	PromotedValue



SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

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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 · Beam Power

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Voltage	110 V	ClassA
Screen Voltage	110 V	ClassA
Plate Current	49 mA	ClassA
Screen Current	4 mA	ClassA
Load Resistance	2500 ohm	ClassA
Power Output	1.9 W	ClassA
Total Harmonic Distortion	9 %	ClassA



SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1971 RCA HB3 Binder 5 of 7

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

1971 RCA HB3 BINDER 5 OF 7

Section 1 · Beam Power

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum Plate Voltage	150 V	—

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum Screen Voltage	130 V	—
Plate Dissipation	7 W	—
Screen Input	1.4 W	—
Plate Voltage	120 V	—
Screen Voltage	110 V	—

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Resistance	10000 Ω	—
Transconductance	7500 μS	—



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 · Beam Power

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Peak value	200 V	MaximumRating;PublishedValue1
Peak value	200 V	MaximumRating;PublishedValue2
Average value	100 V	MaximumRating;PublishedValue1
Average value	100 V	MaximumRating;PublishedValue2
Plate Voltage	150 V	MaximumRating
Grid-No	2 V	MaximumRating;PublishedValue1
Grid-No	130 V	MaximumRating;PublishedValue2
Grid-No	1 V	MaximumRating;PublishedValue1
Grid-No	0 V	MaximumRating;PublishedValue2
Plate Dissipation	7 W	MaximumRating
Grid-No	2 W	MaximumRating;PublishedValue1
Grid-No	1.4 W	MaximumRating;PublishedValue2

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Voltage	120 V	TypicalOperation
Grid-No	2 V	TypicalOperation;PublishedValue1
Grid-No	110 V	TypicalOperation;PublishedValue2
Grid-No.1 (Control-Grid) Voltage	-8 V	TypicalOperation
PLATE	6603 V	TypicalOperation
Peak AF Grid-No.1 Voltage	8 V	TypicalOperation
Zero-Signal Plate Current	49 mA	TypicalOperation
Maximum-Signal Plate Current	50 mA	TypicalOperation
Zero-Signal Grid-No	2 mA	TypicalOperation;PublishedValue1
Zero-Signal Grid-No	4 mA	TypicalOperation;PublishedValue2
Maximum-Signal Grid-No	2 mA	TypicalOperation;PublishedValue1
Maximum-Signal Grid-No	8.5 mA	TypicalOperation;PublishedValue2
Plate Resistance (Approx.)	10000 ohm	TypicalOperation
Load Resistance	2500 ohm	TypicalOperation
Total Harmonic Distortion	10 %	TypicalOperation
Maximum-Signal Power Output	2.3 W	TypicalOperation
For fixed-bias operation	0.1 megohm	MaximumCircuitValue

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid No.] to Plate	0.6 pF	Capacitance
Grid No.1 to Cathode, Heater. Grid No	2 pF	Capacitance;PublishedValue1
Grid No.1 to Cathode, Heater. Grid No	3 pF	Capacitance;PublishedValue2
Grid No.1 to Cathode, Heater. Grid No	13 pF	Capacitance;PublishedValue3
Plate to Cathode, Heater, Grid No	2 pF	Capacitance;PublishedValue1
Plate to Cathode, Heater, Grid No	3 pF	Capacitance;PublishedValue2
Plate to Cathode, Heater, Grid No	8.5 pF	Capacitance;PublishedValue3



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