



ELECTRONIC TUBE REFERENCE

3BN6

Voltage - Radio Detector Converter electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION

CONSTRUCTION

OTHER

Gated-beam tube combining limiting, FM discrimination, and audio amplification, particularly for television intercarrier-sound and FM receiver service.

GENERAL CHARACTERISTICS

BASE DESIGNATION	70F	BASE PINS	7
NOMINAL HEATER	3.15 V / 600 mA	PARALLEL HEATER	– / –
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION 1 Other	
PLATE RESISTANCE	5400 Ω
MAXIMUM PLATE VOLTAGE	300 V
MAXIMUM SCREEN VOLTAGE	100 V
MAXIMUM PLATE DISSIPATION	1.8 W
MAXIMUM SCREEN DISSIPATION	0.7 W
MAXIMUM CATHODE CURRENT	11.5 mA
WARM-UP TIME	11 s
<i>Published ratings/characteristics promoted where semantically applicable; supplemental values retained in parameter table.</i>	

Beam tube used as a combined limiter, discriminator, and audio-voltage amplifier in intercarrier television and FM receivers.



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 · Other

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate supply voltage	285 V	FMLimiterDiscriminator
Screen-grid voltage	100 V	FMLimiterDiscriminator
Cathode resistor	330 ohm	FMLimiterDiscriminator
Input signal	1.25 V RMS	FMLimiterDiscriminator



SOURCE OPERATING CONDITIONS

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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 · Other

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Warmup Time	11 s	—



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 · Other

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Voltage	3.15 V	—
Heater Current	600 mA	—
ControlledWarmupHeater	1 boolean	—
Heater Warmup Time	11 s	—
Grid2 To All Capacitance	3.3 pF	—
DeviceFunction	Gated-beam limiter discriminator and audio amplifier	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Supply Voltage Maximum	300 V	—
AcceleratorVoltageMaximum	100 V	—
PeakPositiveLimiterGridVoltageMaximum	55 V	—
Total Cathode Current Maximum	11.5 mA	—
HeaterCathodeVoltageMaximum	200 V	—
InputSignalForAMRejectionAdjustment	2 V	LimiterDiscriminator
AMRejection	29 dB	InputSignal=3Vrms
Total Harmonic Distortion	1.8 %	—
PeakAudioOutputVoltage	16.8 V	—



SOURCE DATA APPENDIX

1966 Tung Sol Electronic Tubes 1 of 4

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

1966 TUNG SOL ELECTRONIC TUBES 1 OF 4

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater voltage	3.15 V	Published heater rating
Heater current	600 mA	Published heater rating

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum plate voltage	330 V	GatedBeamService
Maximum screen voltage	250 V	GatedBeamService
Maximum plate dissipation	1.8 W	GatedBeamService
Maximum screen dissipation	0.7 W	GatedBeamService
Maximum cathode current	15 mA	GatedBeamService



SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

SOURCE PDF

1971 RCA HB3 Binder 4 of 7

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

1971 RCA HB3 BINDER 4 OF 7

Section 1 · Other

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Current – published value 1	0	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
Current – published value 2	600	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
Current – published value 3	0.04	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
Voltage (ac or dc) at 0.600 A – published value 1	0 V	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Voltage (ac or dc) at 0.600 A – published value 2	0.6 V	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
Voltage (ac or dc) at 0.600 A – published value 3	3.15 V	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
Warm-up Time (Average)	11	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.



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 · Other

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Current	9 mA	Published in approved 6KS6 target datasheet entry; Section1
Grid-Circuit Resistance	0.5 MΩ	Published in approved 6KS6 target datasheet entry; Section1
Heater Voltage (ac/dc) 3.15 4.2 6.3	12.6 V	Published in approved 6KS6 target datasheet entry; Section1
Heater Current 0.6 0.45 0.3	150 mA	Published in approved 6KS6 target datasheet entry; Section1
age) 11	11 seconds	Published in approved 6KS6 target datasheet entry; Section1
Plate-Supply Voltage	330 V	Published in approved 6KS6 target datasheet entry; Section1
Grid-No.2 Voltage	110 V	Published in approved 6KS6 target datasheet entry; Section1
Grid-No. 1 Voltage, Positive peak value	60 V	Published in approved 6KS6 target datasheet entry; Section1
Cathode Current	13 mA	Published in approved 6KS6 target datasheet entry; Section1

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Voltage (ac/dc) 6.3	8.4 V	Published in approved 6KS6 target datasheet entry; Section1
Heater Current 0.6	450 mA	Published in approved 6KS6 target datasheet entry; Section1
Heater Warm-up Time (Average) 11	11 seconds	Published in approved 6KS6 target datasheet entry; Section1
Plate Voltage	330 V	Published in approved 6KS6 target datasheet entry; Section1
Grid Voltage -1	-3 V	Published in approved 6KS6 target datasheet entry; Section1
Plate Resistance (Approx.) 21000	28000 Ω	Published in approved 6KS6 target datasheet entry; Section1
3600	2600 μS	Published in approved 6KS6 target datasheet entry; Section1
Plate Current 1.6	1.6 mA	Published in approved 6KS6 target datasheet entry; Section1
Grid Voltage (Approx.) for plate current of 10 /iA -2.6	-5.5 V	Published in approved 6KS6 target datasheet entry; Section1
Peak	54 mA	Published in approved 6KS6 target datasheet entry; Section1

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Internal Shield	3.3 pF	Published in approved 6KS6 target datasheet entry; Section1
Triode Grid to Triode Plate	2.6 pF	Published in approved 6KS6 target datasheet entry; Section1
Triode Grid to Cathode and Heater	3.6 pF	Published in approved 6KS6 target datasheet entry; Section1
Triode Plate to Cathode and Heater	0.26 pF	Published in approved 6KS6 target datasheet entry; Section1
Diode Cathode to All Other Electrodes (Each Diode Unit)	5 pF	Published in approved 6KS6 target datasheet entry; Section1
Diode Plate to Diode Cathode and Heater (Each Diode Unit)	1.9 pF	Published in approved 6KS6 target datasheet entry; Section1
Diode Cathode to Diode Plate and Heater (Each Diode Unit)	4.8 pF	Published in approved 6KS6 target datasheet entry; Section1
Diode Plate to All Other Electrodes (Each Diode Unit)	3 pF	Published in approved 6KS6 target datasheet entry; Section1



TUBE TINKER

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and their source documents.

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