

ELECTRONIC TUBE REFERENCE

53HK7

Rectifier - Damper Diode electronic tube

CONSOLIDATED TECHNICAL DATA

2 SECTIONS

CONSTRUCTION

BEAMPOWER-DIODE

Combined damper and beam-power horizontal-deflection tube intended for television line-output service, integrating sweep amplification and recovery functions.

GENERAL CHARACTERISTICS

BASE DESIGNATION	12FS	BASE PINS	12
NOMINAL HEATER	53.2 V / 315 mA	PARALLEL HEATER	– / –
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Dissimilar

12FS - TERMINAL PINOUT

TERMINAL	SECTION	ELEMENT	STATUS
PIN1	–	H – Heater	CONNECTED
PIN2	A	P – Plate (Anode)	CONNECTED
PIN4	A	K – Cathode	CONNECTED
PIN5	A	P – Plate (Anode)	CONNECTED
PIN7	–	–	IC
PIN8	B	K – Cathode	CONNECTED
PIN8	–	G3 – Suppressor Grid	CONNECTED
PIN9	B	G1 – Control Grid	CONNECTED
PIN10	–	–	IC
PIN11	B	G2 – Screen Grid	CONNECTED
PIN12	–	H – Heater	CONNECTED

SECTION RATINGS

SECTION1 Diode	
PEAK INVERSE VOLTAGE	4200 V
NOMINAL OUTPUT CURRENT	200 mA
PEAK FORWARD CURRENT	1.2 A
FORWARD VOLTAGE DROP	16 V
<i>Reference/equivalence-only source: ratings/characteristics for this section are not reproduced; missing promoted values intentionally not inferred from the external 38HK7 datasheet.</i>	

SECTION2 Beam Power	
PLATE RESISTANCE	6200 Ω
TRANSCONDUCTANCE	0.0088 S
AMPLIFICATION FACTOR	4.2
MAXIMUM PLATE VOLTAGE	500 V
MAXIMUM SCREEN VOLTAGE	150 V
MAXIMUM PLATE DISSIPATION	10 W
MAXIMUM SCREEN DISSIPATION	3.5 W
MAXIMUM CATHODE CURRENT	230 mA
<i>Reference/equivalence-only source: ratings/characteristics for this section are not reproduced; missing promoted values intentionally not inferred from the external 38HK7 datasheet.</i>	

Duodecar television tube combining a damper diode with a beam-power horizontal-deflection section. Extracted from the supplied RCA Receiving Tube Manual excerpt.



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 · Diode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Voltage	53.2 V	—
Heater Current	315 mA	—



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 · Diode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Peak plate current	1200 mA	DamperService
Average plate current	200 mA	DamperService

1975 RCA RC30

Section 2 · Beam Power

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Peak positive-pulse plate voltage	5000 V	HorizontalDeflection
Peak cathode current	800 mA	HorizontalDeflection
Average cathode current	230 mA	HorizontalDeflection

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Class A plate voltage	130 V	ClassA PentodeConnection
Class A plate current	60 mA	ClassA PentodeConnection

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