



ELECTRONIC TUBE REFERENCE

12HE7

Power - TV Horizontal Output (sweep) electronic tube

CONSOLIDATED TECHNICAL DATA

2 SECTIONS

CONSTRUCTION

BEAMPOWER-DAMPERDIODE

A 12-pin Compactron combining a beam-power pentode horizontal-deflection amplifier and high-perveance damper diode in one envelope. Designed for television sweep applications, it uses a 12.6-volt, 1.35-ampere heater and provides high-voltage pulse handling with separate output and energy-recovery sections.

GENERAL CHARACTERISTICS

BASE DESIGNATION	12FS	BASE PINS	12
NOMINAL HEATER	12.6 V / 1.35 A	PARALLEL HEATER	– / –
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

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 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	800 mA

SECTION2 DamperDiode	
PEAK INVERSE VOLTAGE	4200 V
NOMINAL OUTPUT CURRENT	200 mA
PEAK FORWARD CURRENT	1.2 A
FORWARD VOLTAGE DROP	21 V

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1970 Sylvania Technical Manual

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

1970 SYLVANIA TECHNICAL MANUAL

Section 1 · Beam Power

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Voltage	130 V	—
Screen Voltage	130 V	—
Grid Voltage	-22 V	—
Plate Current	60 mA	—
Screen Current	2.8 mA	—
Grid To Plate Capacitance	0.38 pF	—
Input Capacitance	19 pF	—
Output Capacitance	8 pF	—
Peak positive pulse plate voltage	5000 V	peak positive plate pulse; Sylvania 1970
Peak negative pulse plate voltage	0 V	peak negative plate pulse; Sylvania 1970
Average cathode current	230 mA	DC cathode current maximum; Sylvania 1970
Peak cathode current	800 mA	peak cathode current; Sylvania 1970
Plate current	60 mA	typical plate current at Eb130 Ec2 130 Ec1 -22; Sylvania 1970
Grid #2 current	2.8 mA	typical screen current; Sylvania 1970
Grid #1 voltage	-39 V	cutoff at Ib 1mA; Sylvania 1970
Peak Heater-Cathode Voltage	200 V	pentode heater negative total DC+peak; Sylvania 1970
Peak Heater-Cathode Voltage	100 V	pentode heater positive DC; Sylvania 1970
Peak Heater-Cathode Voltage	200 V	pentode heater positive DC+peak; Sylvania 1970

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-to-plate capacitance	0.38 pF	grid-to-plate unshielded; Sylvania 1970
Input capacitance	19 pF	input unshielded; Sylvania 1970
Output capacitance	8 pF	output unshielded; Sylvania 1970

1970 SYLVANIA TECHNICAL MANUAL

Section 2 · DamperDiode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Tube Voltage Drop	21 V	DC diode current 250 mA
Peak Cathode Current	1200 mA	damper steady-state peak plate current; Sylvania 1970
Average cathode current	200 mA	damper DC output current; Sylvania 1970
Peak Heater-Cathode Voltage	4200 V	diode heater negative total DC+peak; Sylvania 1970
Peak Heater-Cathode Voltage	500 V	diode heater negative DC; Sylvania 1970
Peak Heater-Cathode Voltage	100 V	diode heater positive DC; Sylvania 1970
Peak Heater-Cathode Voltage	200 V	diode heater positive DC+peak; Sylvania 1970

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-to-plate capacitance	8 pF	diode cathode-to-plate and heater capacitance; Sylvania 1970
Output capacitance	7 pF	diode plate-to-cathode and heater capacitance; Sylvania 1970
Input capacitance	1.6 pF	diode heater-to-cathode capacitance; Sylvania 1970

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Tube voltage drop	21 V	Diode tube voltage drop at DC plate current 250 mA; Sylvania 1970

TUBE TINKER

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

