

## engineering data service

6DW5  
12DW5

### ADVANCE DATA MECHANICAL DATA

Bulb	T-6 1/2
Base	E9-1, Small Button 9-Pin
Outline	6-4
Basing	9CK
Cathode	Coated Unipotential
Mounting Position	Any

### ELECTRICAL DATA

HEATER CHARACTERISTICS	6DW5	12DW5		
Heater Voltage	6.3	12.6	Volts	
Heater Current	1200	600	Ma	
Heater Warm-up Time <sup>1</sup>		11	Seconds	
Heater- Cathode Voltage (Design Maximum Values)				
Heater Negative with Respect to Cathode Total DC and Peak	200	200	Volts	Max.
Heater Positive with Respect to Cathode DC	100	100	Volts	Max.
Total DC and Peak	200	200	Volts	Max.

### DIRECT INTERELECTRODE CAPACITANCES (Unshielded)

Grid to Plate: (g <sub>1</sub> to p)	0.5	μμf
Input: (g <sub>1</sub> to h+k)	14	μμf
Output: (p to h+k)	9	μμf

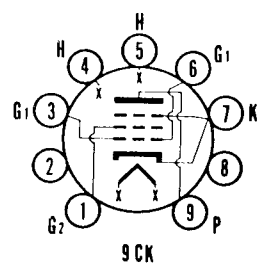
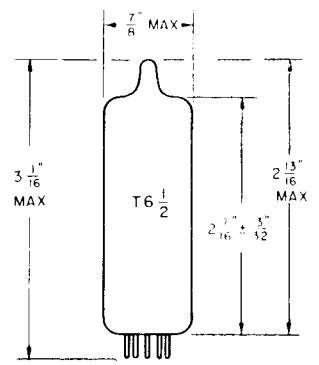
### RATINGS<sup>2</sup> (Design Maximum Values) Vertical Deflection Amplifier<sup>3</sup> (Pentode Connected)

DC Plate Voltage	330	Volts	Max.
DC Grid No. 2 Voltage	220	Volts	Max.
Peak Positive Pulse Plate Voltage (Abs. Max.)	2200	Volts	
Peak Negative Pulse Grid Voltage	250	Volts	Max.
Plate Dissipation <sup>4</sup>	11	Watts	Max.
Grid No. 2 Dissipation <sup>4</sup>	2.5	Watts	Max.
Average Cathode Current	65	Ma.	Max.
Peak Cathode Current	225	Ma.	Max.
Grid Circuit Resistance Self Bias	2.2	Megohms	Max.

### QUICK REFERENCE DATA

The Sylvania Types 6DW5 and 12DW5 are miniature beam power tubes designed primarily for vertical deflection amplifier service in television receivers employing 110° deflection systems. Both types feature high zero-bias plate current and are designed to operate at relatively low B supply voltages.

The 12DW5 features controlled heater warm-up-time for operation in receivers employing a series heater string.



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CHARACTERISTICS AND TYPICAL OPERATION

Vertical Deflection Amplifier (Pentode Connected)

Plate Voltage	200	Volts
Grid No. 1 Voltage	-22.5	Volts
Grid No. 2 Voltage	150	Volts
Plate Current	55	Ma.
Grid No. 2 Current	2.0	Ma.
Transconductance	5500	$\mu$ mhos
Plate Resistance (approx.)	15,000	Ohms
Grid Voltage for $I_b = 0.1$ Ma	-55	Volts
Zero Bias with $E_b = 60$ Vdc; $E_{c1} = 0$ ; $E_{c2} = 150$ Vdc (Instantaneous Values)		
Plate Current	260	Ma.
Grid No. 2 Current	20	Ma.
Triode Amplification Factor with $E_b = E_{c2} = 150$ V; $E_{c1} = -22.5$	4.3	

NOTES:

1. Heater warm-up time is defined as the time required for the voltage across the heater to reach 80% of the rated heater voltage after applying four (4) times rated heater voltage to a circuit consisting of the tube heater in series with a resistance equal to three (3) times the rated heater voltage divided by the rated heater current.
2. Design-maximum ratings are limiting values of operating and environmental conditions applicable to a bogey electron device of a specified type as defined by its published data, and should not be exceeded under the worst probable condition. These values are chosen by the device manufacturer to provide acceptable serviceability of the device, taking responsibility for the effects of changes in operating conditions due to variations in device characteristics. The equipment manufacturer should design so that initially and throughout life no design-maximum value for the intended service is exceeded with a bogey device under the worst probable operating conditions with respect to supply-voltage variation, equipment component variation, equipment control adjustment, load variation, signal variation, and environmental conditions.
3. For operation in a 525 line, 30 frame system as described in "Standards of Good Engineering Practice for Television Stations; Federal Communications Commission".
4. In stages operating with grid leak bias, an adequate bias resistor or other suitable means is required to protect the tube in the absence of excitation.