



engineering data service

SYLVANIA

7137

ADVANCE DATA

MECHANICAL DATA

Bulb	T-5 1/2
Outline	5-2
Base	E7-1, Miniature Button 7-Pin
Basing	7BQ
Cathode	Coated Unipotential
Mounting Position	Any

RATINGS 1

Bulb Temperature (at hottest point)	1200	C
Operational Altitude	60,000	Ft.

DURABILITY CHARACTERISTICS 2

Impact Acceleration 3	450	G
Vibrational Acceleration for an Extended Period 4	2.5	G
On - Off Heater Cycles 5	2000	

ELECTRICAL DATA

HEATER CHARACTERISTICS

Heater Voltage ($\pm 10\%$)	6.3	Volts
Heater Current	225	mA

CONTROLLED DETRIMENTS

Interelectrode Insulation 6	200	Megohms	Min.
Total Grid Current 7	-1.0	μ A dc	Max.
Heater-Cathode Leakage 8	15	μ A dc	Max.
Vibration Output 9	50	mVac	Max.

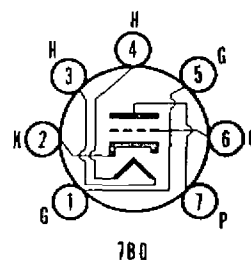
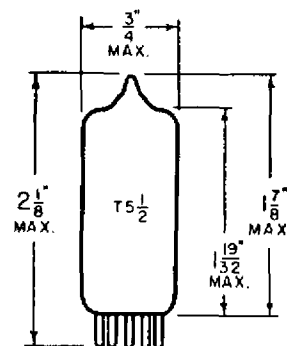
DIRECT INTERELECTRODE CAPACITANCES (Shield No. 316)

Grid to Plate 10	1.7	μ f	
Input: k to (h+g+ext.shd.) 11	6.0	μ f	
Output: p to (h+g+ext.shd.) 11	4.5	μ f	Max.
Heater to Cathode: 10	3.0	μ f	
Plate to Cathode: 10	0.34	μ f	Max.

QUICK REFERENCE DATA

The Sylvania Type 7137 is a miniature medium mu triode designed primarily for use as a grounded grid amplifier at frequencies up to approximately 500 mc. The 7137 is electrically similar to the Type 6J4WA.

The 7137 is characterized by long life and stable performance under conditions of severe shock, vibration, high temperature and high altitude.



SYLVANIA ELECTRIC
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Page 1 of 3

RATINGS ¹ (Design Maximum System)

UHF Amplifier Service

Plate Voltage	150 Vdc Max.
Plate Dissipation	2.25 Watts Max.
Cathode Current	20 mAdc Max.
Negative Grid Voltage	50 Vdc Max.
External Grid Circuit Resistance	
Fixed Bias	0.1 Megohm Max.
Self Bias	0.5 Megohm Max.
Heater-Cathode Voltage	
Heater Negative with respect to Cathode	
Total DC plus peak	200 Volts
Heater Positive with respect to Cathode:	
Total DC plus peak	200 Volts
Total DC	100 Volts

AVERAGE CHARACTERISTICS (each section)

Plate Voltage	150 Vdc
Cathode Bias Resistor	100 Ohms
Plate Current	13.5 mAdc
Transconductance	8500 μ mhos
Amplification Factor	40
Grid No. 1 Voltage for $I_b = 40 \mu A$ Max.	-15 Vdc

NOTES:

- 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 conditions. 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 values 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.
- Test performed as a measure of the mechanical durability of the tube structure.
- Force as applied in any direction by the Navy Type High Impact (Flyweight) Shock Machine for Electronic Devices.
- Vibrational forces applied in any direction for a period of 96 hours.
- One cycle consists of the application of $E_f = 7.0$ V for one minute and interruption of the filament voltage for four minutes. A voltage of $E_{hk} = 140$ Vac is applied continuously.

NOTES: (Continued)

6. Measured with $E_f = 6.3$ V; $E_{g-all} = -100$ Vdc; $E_{p-all} = -300$ Vdc; Cathode is positive so that no cathode emission occurs.
7. Measured with $E_f = 6.3$ V; $E_b = 175$ Vdc; $R_k = 150$ ohms; $R_g = 0.25$ Meg;
8. Measured with $E_f = 6.3$ V; $E_{hk} = \pm 100$ Vdc;
9. Measured with $E_f = 6.3$ V; $E_b = 150$ Vdc; $E_c = 0$; $R_k = 100$ ohms; $C_k = 1000$ μ f; $R_p = 2000$ ohms; $F = 25$ cps; $Acc = 2.5$ G.
10. Shield tied to ground.
11. Shield tied to Grid.