ADVANCE DATA

MECHANICAL DATA

Bulb	T-3
Base	E8-10, Subminiature Button Flexible Leads
Outline	3-1
Basing	8DC
Cathode	Coated Unipotential
Mounting Position	Any

RATINGS[1] (Absolute Maximum)

Bulb Temperature	180	°C	
Altitude[2]	80,000	Ft.	
Radiation[3]			
Total Dosage (Neutrons/sq. cm)	10^{16}	nvt	
Dose Rate (Neutrons/sq. cm/sec.)	10^{12}	nv	

DURABILITY CHARACTERISTICS[4]

Impact Acceleration (3/4 msec Duration)[5]	500	G	Max.
Fatigue (Vibrational Acceleration for Extended Periods)[6]	2.5	G	Max.
On-Off Heater Cycles[7]	2000		Min.

ELECTRICAL DATA

HEATER CHARACTERISTICS

Heater Voltage[8]	6.3	V
Heater Current	125	mA

DIRECT INTERELECTRODE CAPACITANCES (Shielded)[9]

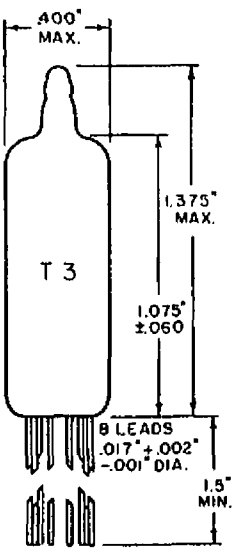
Grid No. 1 to Plate (Max.)	0.016	pf
Input	5.2	pf
Output	3.8	pf

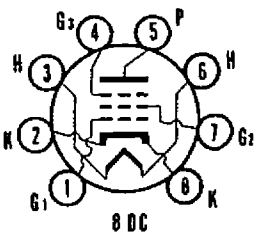
CONTROLLED DETRIMENTS

Interelectrode Insulation[10]	100	Meg.	Min.
Total Grid Current[11]	-0.3	µAdc	Max.
Grid Emission[12]	-0.5	µAdc	Max.
Vibration Output as Equivalent Eg[13]	1.2	mVac	Max.
Heater-Cathode Leakage[14]	20	µAdc	Max.

QUICK REFERENCE DATA

The Sylvania Type 8444 is a subminiature strap frame grid sharp cutoff pentode featuring high transconductance and low grid to plate capacitance. The 8444 is well suited to VHF, RF and IF amplifier and mixer service. It is designed to provide dependable operation under conditions of severe shock, vibration, high temperature and high altitude.





SYLVANIA
ELECTRONIC TUBES
A Division of
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RATINGS[1] (Absolute Maximum)

Heater Voltage[8]	6.3 (±10%)	V
Instantaneous Plate Voltage	330	V
Plate Voltage	165	Vdc
Grid No. 3 Voltage	22	Vdc
Grid No. 2 Voltage	155	Vdc
Plate Dissipation	1.1	W
Grid No. 2 Dissipation	0.55	W
Cathode Current	16.5	mAdc
Grid No. 1 Voltage		
Positive Value	0	Vdc
Negative Value	55	Vdc
Heater-Cathode Voltage		
Heater Positive with Respect to Cathode	100	v
Heater Negative with Respect to Cathode	100	v
Grid No. 1 Circuit Resistance	1.1	Meg.

The spacing between grid No. 1 and cathode is of such a low order of magnitude as to preclude the use of excessive voltages between these elements in commercial tube checkers and shorts indicating devices, particularly where the tube is mechanically excited. The DC or peak AC voltage applied must not exceed 50 volts.

CHARACTERISTICS

Plate Voltage	100	Vdc
Grid No. 3 Voltage	0	Vdc
Grid No. 2 Voltage	100	Vdc
Cathode Resistor (Bypassed)	100	Ohms
Plate Current	8.5	mAdc
Grid No. 2 Current	2.8	mAdc
Transconductance	9000	µmhos
Plate Resistance	260,000	Ohms
Grid No. 1 Voltage for Ib = 10 µAdc (Approx.)	-4.8	Vdc

NOTES:

1. Limitations beyond which normal tube performance and tube life may be impaired.

2. If altitude rating is exceeded, reduction of instantaneous voltage (Ef excluded) may be required.

3. The radiation ratings are confirmed by a qualification test. The test is conducted in a suitable reactor furnishing mixed pile radiation at no less than 90% of the specified neutron dose rate. The tubes are measured for electrical parameters both before and after irradiation.

4. Tests performed as a measure of the mechanical durability of the tube structure.

NOTES: (Cont'd)

5. Force as applied in any direction by the Navy Type High Impact (Fly-weight) Shock Machine for Electronic Devices. Shock duration = 3/4 milliseconds.

6. Vibrational forces applied in any direction for a period of 96 hours.

7. One cycle consists of the application of Ef = 7.0 V for one minute and interruption of the filament voltage for four minutes. A voltage of Ehk = 140 Vac is applied continuously.

8. Tube life and reliability of performance are directly related to the degree of regulation of the heater voltage to its center rated value of 6.3 volts.

9. External shield connected to cathode No. 318.

10. Measured with Ef = 6.3 V; Eg1-all = -100 Vdc; Ep-all = -300 Vdc; Cathode is positive so no cathode emission occurs.

11. Measured with Ef = 6.3 V; Eb = 125 Vdc; Ec2 = 125 Vdc; Rk = 160 ohms.

12. Preheated for five minutes with Ef = 7.5 V; Eb = 100 Vdc; Ec2 = 100 Vdc; Rk = 100 ohms; Rg1 = 1.0 Meg then tested with Ef = 7.5 V; Eb = 100 Vdc; Ec2 = 100 Vdc; Ec1 = -4.8 Vdc.

13. Test with Ef = 6.3 V; Eb = 100 Vdc; Ec2 = 100 Vdc; Rk = 100 ohms; Ck = 1000 µf; Rp = 10,000 ohms; F = 40 cps; Acc = 15 g.

14. Measure with Ef = 6.3 V; Ehk = ±100 Vdc.