

ADVANCE DATA

MECHANICAL DATA

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

RATINGS¹ (Absolute Maximum)

Bulb Temperature (Per JEDEC JO-H1)	220 °C
Altitude	80,000 Ft.
Radiation	
Total Dosage (\sqrt neutrons/sq. cm/sec.)	10 ¹⁶ nvt
Dose Rate (neutrons/sq. cm/sec.)	10 ¹² nv

DURABILITY CHARACTERISTICS²

Impact Acceleration (3/4 msec Duration) ³	750 G	Max.
Fatigue (Vibrational Acceleration for Extended Periods) ⁴	2.5 G	Max.
On-Off Heater Cycles ⁵	2000	Min.

ELECTRICAL DATA

HEATER CHARACTERISTICS

Heater Voltage	26.5 V
Heater Current	90 mA

DIRECT INTERELECTRODE CAPACITANCES

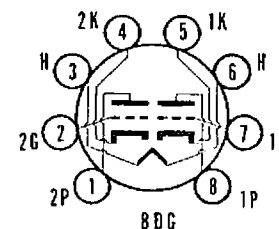
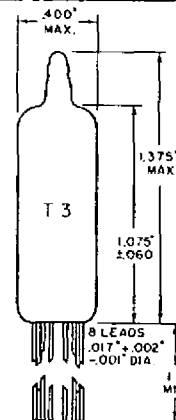
	Shielded ⁶	Unshielded	
Grid to Plate (Each Section)	1.0	1.0 μ f	
Input (Each Section)	1.9	1.7 μ f	
Output			
Section No. 1	1.5	0.23 μ f	
Section No. 2	1.5	0.28 μ f	
Grid to Grid	0.011	0.014 μ f	Max.
Plate to Plate	0.60	0.80 μ f	Max.

CONTROLLED DETRIMENTS

Interelectrode Insulation ⁷	100 Meg. Min.
Total Grid Current ⁸	-0.3 μ Adc Max.
Grid Emission ⁹	-0.5 μ Adc Max.
Vibration Output as Equivalent Ecl ¹⁰	2.5 mVac Max.
Heater-Cathode Leakage	5.0 μ Adc Max.

QUICK REFERENCE DATA

The Premium Subminiature Type 7889 is a general purpose, medium μ , double triode having separate cathode connections for each section. It is particularly useful in low level audio applications. The 7889 is designed to provide dependable operation under conditions of severe shock, vibration, high temperature and high altitude and is manufactured and inspected to meet the applicable MIL-E-1 specification for reliability.



SYLVANIA ELECTRONIC TUBES

A Division of
Sylvania Electric Products Inc.

RECEIVING TUBE OPERATIONS EMPORIUM, PA.

Prepared and Released By The
TECHNICAL PUBLICATIONS SECTION
EMPORIUM, PENNSYLVANIA

December 28, 1960
Page 1 of 3

RATINGS¹ (Absolute Maximum)

Heater Voltage	26.5 (±10%) V
Plate Voltage	165 Vdc
Peak Plate Forward Voltage	330 v
Plate Dissipation (Each Section)	0.55 W
Plate Current (Each Section)	3.3 mAdc
DC Grid Voltage	
Positive Value	0 Vdc
Negative Value	55 Vdc
Heater-Cathode Voltage	
Heater Positive with Respect to Cathode	200 v
Heater Negative with Respect to Cathode	200 v
Grid Circuit Resistance	1.1 Meg

CHARACTERISTICS (Each Section)

Plate Voltage	100	150 Vdc
Cathode Resistor	1500	820 Ohms
Plate Current	0.8	1.75 mAdc
Transconductance	1800	2500 μmhos
Amplification Factor	70	70
Grid Voltage for Ib = 50 μA _{dc}	-2.8	-3.7 Vdc

NOTES:

1. Limiting values beyond which normal tube life and normal tube performance may be impaired.
2. Tests performed as a measure of the mechanical durability of the tube structure.
3. Force as applied in any direction by the Navy Type High Impact (Flyweight) Shock Machine for Electronic Devices. Shock duration = 3/4 milliseconds.
4. Vibrational forces applied in any direction for a period of 96 hours.
5. One cycle consists of the application of Ef = 29.0 V for one minute and interruption of the filament voltage for four minutes. A voltage of E_{hk} = 140 Vac is applied continuously.
6. Capacitances are measured with an external shield No. 318.
7. Measure each section separately with Ef = 26.5 V Eg-all = -100 Vdc; Ep-all = -300 Vdc; cathode is positive so that no cathode emission occurs.
8. Measure each section separately with Ef = 26.5 V; Eb = 150 Vdc; R_k = 820 ohms; R_g = 1.0 Meg.

NOTES: (Cont'd)

9. Each section preheated for five minutes with $E_f = 31.5 \text{ V}$; $E_b = 150 \text{ Vdc}$; $R_k = 820 \text{ ohms}$; $R_g = 1.0 \text{ Meg}$; then each section tested separately with $E_f = 31.5 \text{ V}$; $E_b = 150 \text{ Vdc}$; $E_{c1} = -4.0 \text{ Vdc}$; $R_g = 1.0 \text{ Meg}$.
10. Test each section separately with $E_f = 26.5 \text{ V}$; $E_b = 100 \text{ Vdc}$; $R_k = 1500 \text{ ohms}$; $C_k = 1000 \mu\text{f}$; $R_p = 10,000 \text{ ohms}$; $F = 40 \text{ cps}$; $\text{Acc} = 15 \text{ g}$.
11. Measure each section separately with $E_f = 26.5 \text{ V}$; $E_{hk} = \pm 100 \text{ Vdc}$.