

**ADVANCE DATA**

**MECHANICAL DATA**

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

**RATINGS<sup>1</sup> (Absolute Maximum)**

Bulb Temperature (per JEDEC JO-H1)	220°	C
Altitude <sup>2</sup>	80,000	Ft.
Radiation		
Total Dosage ( $\int$ neutrons/sq. cm/sec.)	10 <sup>16</sup>	nvt
Dose Rate (neutrons/sq. cm/sec.)	10 <sup>12</sup>	nv

**DURABILITY CHARACTERISTICS<sup>4</sup>**

Impact Acceleration (3/4 msec Duration) <sup>5</sup>	450	G	Max.
Fatigue (Vibrational Acceleration for Extended Periods) <sup>6</sup>	2.5	G	Max.
On-Off Heater Cycles <sup>7</sup>	2000		Min.

**ELECTRICAL DATA**

**HEATER CHARACTERISTICS**

Heater Voltage <sup>3</sup>	26.5	V
Heater Current	110	mA

**DIRECT INTERELECTRODE CAPACITANCES**

	Shielded <sup>8</sup>	Unshielded	
Grid No. 1 to Plate	0.18	0.20	$\mu$ f Max.
Input	8.50	8.00	$\mu$ f
Output	8.00	4.60	$\mu$ f

**CONTROLLED DETRIMENTS**

Interelectrode Insulation <sup>9</sup>	100	Meg	Min.
Total Grid Current <sup>10</sup>	-1.0	$\mu$ A dc	Max.
Grid Emission <sup>11</sup>	-2.0	$\mu$ A dc	Max.
Vibration Output <sup>12</sup> as equivalent Ecl)	2.4	mVac	Max.
Heater-Cathode Leakage <sup>13</sup>	25	$\mu$ A dc	Max.

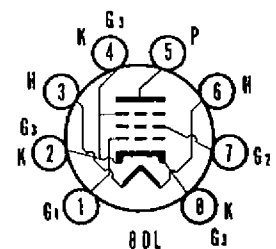
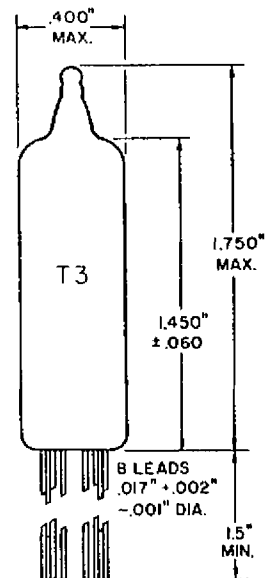
**RATINGS<sup>1</sup> (Absolute Maximum)**

Heater Voltage <sup>3</sup>	26.5 ( $\pm 10\%$ )	V
Plate Voltage	165	V dc
Peak Plate Forward Voltage <sup>14</sup>	330	v
Grid No. 2 Voltage	155	V dc

**QUICK REFERENCE DATA**

The Premium Subminiature Type 7761 is a high gm video pentode intended for operation under conditions of severe shock, vibration, high temperature and high altitude.

The Sylvania Type 7761 is manufactured and inspected to meet the applicable MIL-E-1 specification for reliable operation.



**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

**July 6, 1960**  
**Page 1 of 3**

<sup>146</sup> (10-1-58)

SYLVANIA

7761

Page 2

RATINGS<sup>1</sup> (Absolute Maximum) (Cont'd)

Plate Dissipation	4.0	W
Grid No. 2 Dissipation	1.0	W
Cathode Current	40	mA <sub>dc</sub>
Grid No. 1 Voltage		
Positive Value	0	V <sub>dc</sub>
Negative Value	55	V <sub>dc</sub>
Heater-Cathode Voltage		
Heater Negative with Respect to Cathode	200	v
Heater Positive with Respect to Cathode	200	v
Grid No. 1 Circuit Resistance		
Self Bias	500,000	Ohms
Fixed Bias	100,000	Ohms

CHARACTERISTICS

Plate Voltage	150	V <sub>dc</sub>
Grid No. 2 Voltage	100	V <sub>dc</sub>
Cathode Resistor	100	Ohms
Plate Current	21	mA <sub>dc</sub>
Grid No. 2 Current	4.0	mA <sub>dc</sub>
Transconductance	9000	μmhos
Plate Resistance	50,000	Ohms
Grid No. 1 Voltage for I <sub>b</sub> = 75 μA <sub>dc</sub>	-14	V <sub>dc</sub>

NOTES:

1. Limitations beyond which normal tube performance and tube life may be impaired.
2. If altitude rating is exceeded, reduction of instantaneous voltages (E<sub>f</sub> excluded) may be required.
3. Tube life and reliability of performance are directly related to the degree of regulation of the heater voltage to its center rated value of 26.5 volts.
4. Tests performed as a measure of the mechanical durability of the tube structure.
5. Force as applied in any direction by the Navy Type High Impact (Flyweight) 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 E<sub>f</sub> = 29.0 V for one minute and interruption of the filament voltage for four minutes. A voltage of E<sub>hk</sub> = 140 Vac is applied continuously.
8. External shield No. 318 connected to cathode.
9. Measured with E<sub>f</sub> = 26.5 V; E<sub>g1-all</sub> = -100 V<sub>dc</sub>; E<sub>p-all</sub> = -300 V<sub>dc</sub>; Cathode is positive so no cathode emission occurs.

## NOTES: (Cont'd)

10. Measured with  $E_f = 26.5$  V;  $E_b = 150$  Vdc;  $E_{c2} = 100$  Vdc;  $R_k = 100$  ohms.
11. Preheated for five minutes with  $E_f = 31.5$  V;  $E_b = 150$  Vdc;  $E_{c2} = 100$  Vdc;  $R_k = 100$  ohms;  $R_{g1} = 1.0$  Meg then tested with  $E_f = 31.5$  V;  $E_b = 150$ ;  $E_{c2} = 100$  Vdc;  $E_{c1} = -14$  Vdc;  $R_{g1} = 1.0$  Meg.
12. Test with  $E_f = 26.5$  V;  $E_b = 150$  Vdc;  $E_{c2} = 100$  Vdc;  $R_k = 100$  ohms;  $C_K = 1000$   $\mu$ f;  $R_p = 2000$  ohms;  $F = 40$  cps;  $Acc = 15$  g.
13. Measured with  $E_f = 26.5$  V;  $E_{hk} = \pm 100$  Vdc.
14. Per MIL-E-1 Par. 6.5 and General Section of this Manual titled Specifications and Ratings.