INCH-POUND

MIL-E-1/197E
14 April 2003
SUPERSEDING
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15 April 1974

MILITARY SPECIFICATION SHEET

ELECTRON TUBE, RECEIVING
TYPE 6L6WGB

This specification sheet is inactive for new design after 7 March 1997.

This specification is approved for use by all Departments and Agencies of the Department of Defense.

The requirements for acquiring the electron tube described herein shall consist of this document and MIL-PRF-1.

DESCRIPTION: Pentode, rugged, beam-power amplifier.

Outline	---	11-2 (EIA) except for base
Base	---	B7-59 or B6-84 (phenolic)
Envelope	---	T11
Cathode	---	Coated unipotential

Base connections:

Pin no.		1	2	3	4	5	7	8
Element	---	nc	h	a	g2	g1	h	k, beam plates

ABSOLUTE RATINGS:

Parameter:	Ef	Eb	Ec1	Ec2	Ehk	Pp	Pg2	Alt
Unit:	V	V dc	V dc	V dc	v	W	W	ft
Maximum:	6.9	400	---	300	200	26	3.5	1/
Minimum:	5.7	---	---	---	---	---	---	---
Test conditions:	6.3	250	-14	250	---	---	---	---

GENERAL:

First Article test is required and shall consist of all tests in table I with a sample size of 2 for a lot size less than or equal to 150 units and a sample size of 4 units for a lot size greater than or equal to 151 units. All samples shall pass conformance Inspection part 1 of table I before continuing. Half of the samples shall then be subjected to conformance inspection, part 2, and the remaining samples shall be subjected to part 3, with no test failures permitted during any testing.

After First Article approval, acceptance testing shall consist of conformance inspection, part 1 of table I utilizing an accept on zero defects (c=0) sampling plan with sample size in accordance with table III, category XVI of MIL-PRF-1.

TABLE I. Testing and inspection.

MIL-STD-1311 Test method	Requirement or test	Conditions	Symbol	Limits		Units
				Min	Max	
	First Article inspection					
1216	Base material insulating quality	Zone 5 (min)	---	---	---	---
1031	Variable-frequency vibration	Rp = 2,000 ohms; Ec1 = -27 V dc	Ep	---	1,000	mV ac
	Conformance inspection, part 1					
1266	Total grid current	Eb = 400 V dc; Ec2 = 300 V dc; Ec1 = -22 V dc 2/	Ic1	0	-3.0	µA dc
1256	Electrode current (anode)	Eb = 400 V dc; Ec2 l= 300 V dc: Ec1 = -22 V dc	Ib	50	80	mA dc
1256	Electrode current (screen)	Eb = 400 V dc; Ec2 = 300 V dc: Ec1 = -22 V dc	Ic2	0	5.0	mA dc
1341	Power output	Esig = 9.8 V ac; Rp = 2,500 ohms	Po	5.4	---	W
1231	Emission	Eb = Ec1 = Ec2 = 50 V dc 2/	Is	275	---	mA dc
1201	Short and discontinuity detection		---	---	---	---
	Conformance inspection, part 2					
1211	Insulation of electrodes		---	---	---	---
1301	Heater current		If	840	960	mA
1336	Heater-cathode leakage		Ihk	---	75	µA dc
1306	Transconductance		Sm	5,200	6,800	µmhos
1246	Audio frequency noise	Ecal = 280 mV ac; Rp = 2,000 ohms	EB	---	17	vu
1031	Low-frequency vibration	Rp = 2,000 ohms; Ec1 = -27 V dc	Ep	---	1,000	mV ac
1041	Shock	450 G; Ehk = 100 V dc 3/	---	---	---	---
1031	Vibration-fatigue test	25 G; F = 25 min, 60 max; fixed frequency	---	---	---	---
---	Post shock and vibration-fatigue test end points	Low frequency vibration	Ep	---	1,000	mV ac
		Heater-cathode leakage	Ihk	---	100	µA dc
		Transconductance	Sm	4,500	---	µmhos

See footnotes at end of table.

TABLE I. Testing and inspection - Continued.

MIL-STD-1311 Test method	Requirement or test	Conditions	Symbol	Limits		Units
				Min	Max	
	Conformance inspection, part 2 - Continued					
1101	Secureness of base, cap, or insert		---	---	---	---
1126	Glass envelope strain		---	---	---	---
1111	Base pin solder depth		---	---	---	---
1105	Permanence of marking		---	---	---	---
	Conformance inspection, part 3					
1501	Intermittent life	Group B; Ehk = 200 V; Eb = 400 V dc; Ec2 = 300 V dc; Ec1 = -22 V dc	---	---	---	---
---	Intermittent life-test end points (500 hours)	Power output or Transconductance	Po Sm	4.0 4,500	--- ---	W µmhos

1/ See “Reduced pressure (altitude) rating”, and altitude, maximum peak voltage in the basic document.

2/ The following tests are to be the first tests performed after the holding period in the following sequence: Total grid current: Emission.

3/ A grid resistor of 0.1 megohm shall be added; however, this resistor shall not be used when a thyratron-type short indicator is used.

Custodians:
Army - CR
Navy - EC
Air Force - 11
DLA - CC

Review activities:
Army - AR
Navy - AS, CG, MC, OS
Air Force - 19, 99

Preparing activity:
DLA - CC

(Project 5960-3648)