

INCH-POUND

MIL-PRF-1/1617C
30 January 1998
SUPERSEDING
MIL-E-1/1617B
21 June 1983

PERFORMANCE SPECIFICATION SHEET

ELECTRON TUBE, RECEIVING
TYPE 5847A

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 the latest issue of MIL-PRF-1.

DESCRIPTION: Pentode, miniature, high gain.

Outline --- 6-1 (EIA)
Base --- E9-1
Envelope --- T6-1/2
Cathode --- Coated unipotential

Base connections:

Pin No.	1	2	3	4	5	6	7	8	9
Element	g1	nc	h, lower int sd	k, g3 upper int sd	nc	a	nc	g2	h

ABSOLUTE RATINGS: F1= 150 MHz

Parameter: Unit:	Ef V	Eb V dc	Ec1 V dc	Ec2 V dc	Rk ohms	Ik mA dc	Pp W	Pg2 W	Ehk V	TE °C	Alt ft
Maximum:	6.9	200	---	165	---	40	3.3	0.85	100	155	1/ ---
Minimum:	5.7	---	---	---	---	---	---	---	---	---	---
Test conditions:	6.3	150	0	150	110	---	---	---	---	---	---

See footnotes at end of table I.

GENERAL:

Qualifications: Required. 2/

TABLE I. Testing and inspection.

Inspection	Method	Conditions	Symbol	Limits		Unit
				min	max	
<u>Conformance inspection, part 1 3/</u>						
Total grid current <u>4/ 5/</u>	1266		Ic1	0	-0.2	μA dc
Electrode current (1) (anode)	1256		Ib	9.0	19.0	mA dc
Electrode current (2) (anode)	1256	Ec1 = -10 V dc	Ib	---	50	μA dc
Electrode current (screen)	1256		Ic2	---	6.0	mA dc
Transconductance (1)	1306		Sm	10,000	18,000	μmhos
Transconductance (2)	1306	Ef = 5.7 V	ΔSm Ef	---	15	%
Transconductance (3)	1306	Eb = Ec2 = 150 V; Rk = 4,000 ohms; Ec1 = +2.5 V dc	Sm	2,600	3,700	μmhos
Transconductance (4)	1306	Eb = Ec2 = 150 V; Rk = 4,000 ohms; Ec1 = +20 V dc	Sm	6,500	9,450	μmhos
Short and discontinuity detection	1201		---	---	---	---
<u>Conformance inspection, part 2</u>						
Low-frequency vibration	1031	Rp = 2,000 ohms	Ep	---	500	mV ac
Heater current	1301		If	280	320	mA
Heater-cathode leakage	1336		Ihk	---	20	μA dc
Direct-interelectrode capacitance	1331	Shield no. 315	Cgp Cin Cout	---	0.06 7.7 3.3	pF pF pF
Insulation of electrodes	1211		R	200	---	Meg
Base strain	1121		---	---	---	---
Envelope strain <u>6/</u>	2125		---	---	---	---
Permanence of marking	1105		---	---	---	---

See footnotes at end of table.

TABLE I. Testing and inspection - Continued.

Inspection	Method	Conditions	Symbol	Limits		Unit
				min	max	
<u>Conformance inspection, part 3</u>						
Intermittent life	1501	Group A; Ehk = 100 V	---	---	---	---
Intermittent life-test end-points (500 hours):						
Transconductance (1)	1306		Sm	8,500	---	μ mhos
Total grid current <u>4/</u>	1266		Ic1	---	-0.25	μ A dc
Transconductance (3)	1306	Eb = Ec2 = 150 V; Rk = 4,000 ohms; Ec1 = +2.5 V dc	Δ Sm t	---	-5	%
Insulation of electrodes	1211		R	50	---	Meg

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

2/ In addition to the qualification requirements specified, tubes shall perform satisfactorily in Nike-Hercules Intermediate-Frequency (IF) Amplifier GS-19787 or equivalent. Twenty-five tubes will be furnished to the qualification approval authority for this test.

3/ The acceptance level shall be 0.65, inspection level II, except for method 1201 (short and discontinuity detection), where the acceptance level shall be 0.4, inspection level II.

4/ The following test is approved as an alternate for this test. The insertion of a 0.47 megohm resistor in the grid circuit shall not change the anode current by more than 0.5 mA dc.

5/ This test shall be performed at the conclusion of the holding period.

6/ The acceptance level shall be 2.5, inspection level I.

Custodians:
Army - CR
Navy - EC
Air Force - 85

Preparing activity:
DLA - CC
(Project 5960-3466-43)

Review activities:
Army - AR, MI
Navy - AS, CG, MC, OS, SH
Air Force - 11, 17, 99