

MILITARY SPECIFICATION SHEET
 ELECTRON TUBE, RECEIVING
 TYPE 5726

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

The complete requirements for procuring the electron tube described herein shall consist of this document and the latest issue of Specification MIL-E-1.

DESCRIPTION: Twin diode, miniature

Outline --- 5-1 (EIA)
 Base --- E7-1
 Envelope --- T5-1/2
 Cathode -- Coated unipotential

Base connections:

Pin No.	---	1	2	3	4	5	6	7
Element	---	1k	2a	h	h	2k	sd	1a

ABSOLUTE-MAXIMUM RATINGS:

Parameter:	Ef	Epp/a	epx	Ehk	R1	C1	Io/a	1b/a	1 surge/a	TE	Alt
Unit:	V	Vac	v	v	Ohms	µF	mAdc	ma	ma	°C	ft
Maximum	6.9	---	360	360	---	---	9.0	54	320	+165	Note 2
Minimum:	5.7	---	---	---	---	---	---	---	---	---	---
<u>TEST CONDITIONS:</u>	6.3	165	---	---	11,000	8	---	---	---	---	---

GENERAL:

Qualification - Required

Reliable tube

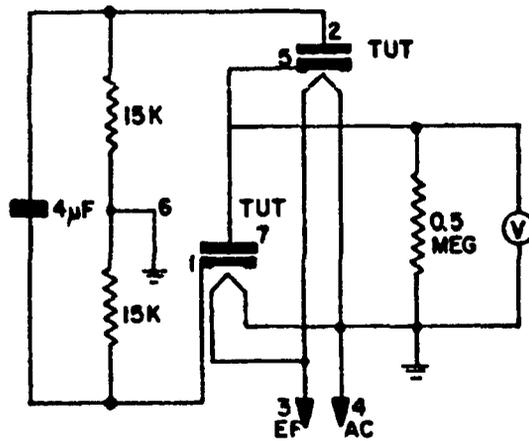
METHOD	REQUIREMENT OR TEST	CONDITIONS	AQL (PERCENT DEFECTIVE)	INSPECTION LEVEL OR CODE	SYMBOL	LIMITS		UNIT
						MIN	MAX	
	<u>Quality conformance inspection, part 1</u>							
1301	Heater current		0.4	II	I _f	275	325	mA
1336	Heater-cathode leakage	See note 3	0.4	II	I _{hk}	---	5	μAdc
1353	Operation of rectifiers	See notes 4 and 5	0.4	II	I _o	16.0	20.0	μAdc
1231	Emission (1)	E _b = 10 Vdc (see notes 3 and 5)	0.4	II	I _s	40	---	μAdc
1201	Short and discontinuity detection		0.4	II	---	---	---	---
	<u>Quality conformance inspection, part 2</u>							
1211	Insulation of electrodes	E(a-all) = -300 Vdc E(sd-all) = -300 Vdc (see note 3)	2.5	S3	R	200	---	Meg
1231	Emission (2)	See notes 3 and 6	2.5	S3	ΔI _s E _f	---	15	%
1256	Electrode current (anode)	E _{bb} = 0; R _p = 40,000 ohms (see note 3)	2.5	S3	I _b	2	20	μAdc
---	Electrode current (anode) (difference between diodes)	E _{bb} = 0; R _p = 40,000 ohms (see note 3)	2.5	S3	I _b	---	5	μAdc
---	Hum	E _f = 7.0 Vac (see note 7)	2.5	S3	E	---	10	mVac
1331	Direct-interelectrode capacitance	Shield No. 316 all measurements 1a to 2a 1a to h + 1k + shields 2a to h + 2k + shields 1k to h + 1a + shields 2k to h + 2a + shields	6.5	Code E	C C C C	---	0.026 4.0 4.0 4.7	pF pF pF pF
1031	High-frequency vibration	No voltages	6.5	Code E	---	---	---	---
1041	Shock	675 G; E _{pp/a} = 0	6.5	See note 8	---	---	---	---

METHOD	REQUIREMENT OR TEST	CONDITIONS	AQL (PERCENT DEFECTIVE)	INSPECTION LEVEL OR CODE	SYMBOL	LIMITS		UNIT
						MIN	MAX	
1031	<u>Quality conformance inspection, part 2</u> -Continued Vibration-fatigue		6.5	See note 8	---	---	---	---
---	Shock and vibration-fatigue test end points:							
1336	Heater-cathode leakage		---	---	Ihk	---	15	μ Adc
1353	Operation of rectifiers		---	---	Io	14	---	mAdc
1121	Base strain		---	---	---	---	---	---
2126	Envelope strain		2.5	I	---	---	---	---
1105	Permanence of marking		---	---	---	---	---	---

METHOD	REQUIREMENT OR TEST	CONDITIONS	SYMBOL	LIMITS		UNIT
				MIN	MAX	
1506	<u>Quality conformance inspection, part 3</u> Heater-cycling life	$E_f = 7.5 \text{ V}; E_{hk} = 135 \text{ Vdc}; E_b = 0$	---	---	---	---
---	Heater-cycling life-test end point:					
1336	Heater-cathode leakage		Ihk	---	20	μ Adc
1501	Intermittent life test	$TE = +165^\circ\text{C}$ (min) (see notes 9 and 10) Group E	---	---	---	---
---	Intermittent life-test end points (500 hours):	See note 11				
---	Inoperatives		---	---	---	---
1301	Heater current		If	275	330	mA
1231	Emission (1)		Is	35	---	mAdc
1231	Emission (2)		ΔI_s	---	20	%
1336	Heater-cathode leakage		Ef	---	---	---
1211	Insulation of electrodes		Ihk	---	10	μ Adc
---	Total defectives		R	100	---	Meg
---	Intermittent life-test end points (1,000 hours):	See note 11				
---	Inoperatives		---	---	---	---
1301	Heater current		If	275	333	mA
1231	Emission (1)		Is	30	---	mAdc
1231	Emission (2)		ΔI_s	---	25	%
1336	Heater-cathode leakage		Ef	---	---	---
1211	Insulation of electrodes		Ihk	---	10	μ Adc
---	Total defectives		R	75	---	Meg
---			---	---	---	---

NOTES:

1. The maximum voltage appearing between any pair of pins shall be no greater than the peak inverse anode voltage rating.
2. See "Reduced pressure (altitude) rating", and altitude, maximum peak voltage in the basic document.
3. Test each unit separately.
4. In a full-wave circuit, adjust Z_p/a so that a bogey tube gives $I_o = 18 \text{ mAdc}$. A bogey tube has a voltage drop of $E_{td} = 10 \text{ Vdc}$ at $I_s = 60 \text{ mAdc}$ per anode. $E_{hk} = E_o + 117 \text{ Vac}$.
5. This test shall be performed at the conclusion of the holding period.
6. Test at $E_b = 7.0 \text{ Vac}$ with readings at $E_f = 6.3 \text{ V}$ and $E_f = 5.7 \text{ V}$.
7. The test circuit to be used is shown in figure 1.

FIGURE 1. Test circuit.

NOTES: -Continued

8. This test shall be conducted on the initial lot and thereafter on a lot approximately every 12 months. When one lot has passed, the 12-month rule shall apply. In the event of lot failure, the lot shall be rejected and the succeeding lots shall be subjected to this test until a lot passes. MIL-STD-105, sample size code letter E, shall apply.
9. In a full-wave life-test circuit, the values specified for R1 and C1 may be considered as approximate and shall be adjusted initially to give not less than $I_0 = 18 \text{ mA dc}$ and $I_b = 50 \text{ ma}$ per anode with a bogey tube. $E_{hk} = E_0 + 117 \text{ Vac}$.
10. Envelope temperature (TE) requirements, when measured in accordance with the temperature by conduction-band measurement (method 1226), will be satisfied if a tube having $E_{td} = 10 \text{ Vdc}$ (+5 percent) at $I_s = 60 \text{ mA dc}$ per anode, under normal test conditions, is determined to operate at or above minimum specified temperature at any position in the life-test rack.
11. The allowable defectives per characteristic shall not be greater than 1 for the first sample and shall not be greater than 3 for combined samples.
12. Revision letters are not used in this revision to identify changes with respect to the previous issue, due to the extensiveness of the changes.

Custodians:

Army - ER
 Navy - EC
 Air Force - 85

Preparing activity:

Navy - EC

Agent:

DLA - ES

Review activities:

Army - AR
 Air Force - 99
 DLA - ES

(Project 5960-3232)

User activities:

Army - AL
 Navy - AS, OS, MC, CG
 Air Force - 11