

INCH-POUND

MIL-E-1/63C
17 September 2013
SUPERSEDING
MIL-E-1/63B
11 May 1970

MILITARY SPECIFICATION SHEET
ELECTRON TUBES, RECEIVING
TYPES 12SN7GT AND 12SX7GT

Inactive for new design
after 21 July 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 specification sheet and MIL-PRF-1.

DESCRIPTION: Twin triode, medium Mu

Outline: 9-11 or 9-41 (EIA)
Base: B8-6, B8-46, B8-58, or B8-251 6/
Envelope: T9
Cathode: Coated unipotential

Base connections:

Pin No.	1	2	3	4	5	6	7	8
Element	2g	2a	2k	1g	1a	1k	h	h

ABSOLUTE RATINGS:

Parameter:	Ef	Eb	Ec	Ik/k	Pp/a	Ehk	Alt
Unit:	V	Vdc	Vdc	mAdc	W	v	ft
Maximum:	13.8	330	---	20	2.75	100	(See note 4)
Minimum:	11.4	28	---	---	---	---	---
Test conditions:	12.6	250	-8	---	---	---	---

GENERAL:

Qualification – Required

This specification sheet uses accept on zero defect sampling in accordance with MIL-PRF-1, table III.

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TABLE I. Testing and inspection.

Requirement or test	MIL-STD-1311 Method	Conditions	Symbol	Limits		Unit
				Min	Max	
<u>Conformance inspection, part 1</u>						
Total grid current	1266	<u>1/</u> <u>2/</u>	Ic	0	-2.0	μA _{dc}
Transconductance (1)	1306	<u>3/</u>	Sm	2,075	3,125	μmhos
Transconductance (3) Type 12SX7GT	1306	E _b =28 V _{dc} ; E _c =0; R _g =0.05 MegΩ <u>3/</u> <u>5/</u>	Sm	1,400	2,200	μmhos
Audio frequency noise	1246	E _{sig} =70 mV _{ac} ; R _p =10,000 ohms <u>1/</u>	EB	---	17	vu
Emission	1231	E _b =E _c =30 V _{dc} <u>2/</u> <u>3/</u>	I _s	40	---	mA _{dc}
Short and discontinuity detection	1201		---	---	---	---
Electrode current (1) (anode)	1256	<u>3/</u>	I _b	5.5	12.5	mA _{dc}
<u>Conformance inspection, part 2</u>						
Low-frequency vibration	1031	R _p = 2,000 ohms <u>1/</u>	E _p	---	150	mV _{ac}
Heater current	1301		I _f	275	325	mA
Heater-cathode leakage	1336	<u>1/</u>	I _{hk}	0	30	μA _{dc}
Transconductance (2)	1306	E _b =90 V _{dc} ; E _c = 0 <u>3/</u>	Sm	2,400	3,600	μmhos
Electrode current (2) (anode)	1256	E _c = -24 V _{dc} <u>3/</u>	I _b	0	20	μA _{dc}
Amplification factor	1316	<u>3/</u>	μ _u	18	23	---
Secureness of base, cap, or insert	1101		---	---	---	---
Permanence of marking	1105		---	---	---	---
Insulation of electrodes	1211		R	10	---	MegΩ
<u>Conformance inspection, part 3</u>						
Life-test provisions	---	Group A: E _{hk} =100 V <u>1/</u>	---	---	---	---
Life-test end point (500 hours)	---	Transconductance (1)	Sm	1,550	---	μmhos

See notes at end of table.

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NOTES:

- 1/ Test units connected in parallel.
- 2/ This test to be performed at the conclusion of the holding period.
- 3/ Test each unit separately.
- 4/ See "Reduced pressure (altitude) rating", and altitude, maximum peak voltage.
- 5/ Grid resistor shall be properly by-passed.
- 6/ With the use of Base B8-251, paragraph 3.5.3 of MIL-PRF-1 shall not apply.

Referenced documents. In addition to MIL-PRF-1, this document references the following: MIL-STD-1311.

The margins of this specification are marked with vertical lines to indicate where changes from the previous issue were made. This was done as a convenience only and the Government assumes no liability whatsoever for any inaccuracies in these notations. Bidders and contractors are cautioned to evaluate the requirements of this document based on the entire content irrespective of the marginal notations and relationship to the last previous issue.

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

Preparing activity:
DLA - CC

(Project 5960-2013-022)

Review activities:
Army - AR, CR4, MI
Navy - AS, CG, MC, OS, SH
Air Force - 99

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