

INCH-POUND

MIL-PRF-1/894G
17 January 2014
SUPERSEDING
MIL-PRF-1/894F
10 April 2007

PERFORMANCE SPECIFICATION SHEET
ELECTRON TUBE, THYRATRON
TYPE 884

INACTIVE FOR NEW DESIGN
AFTER 30 APRIL 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 and MIL-PRF-1.

DESCRIPTION: Triode.

- Mounting position: Any.
- Weight: 1.5 ounces (42.5 grams) nominal.
- Envelope: ST-12 (EIA).
- Base: B6-3 (EIA).
- Height: 4.125 inches (104.78 mm) maximum.
- Diameter: 1.563 inches (39.70 mm) maximum.
- Pin connections:
Pin no.: 1 2 3 5 7 8
Element: nc h a g h k

ABSOLUTE RATINGS:

Parameter: Unit:	Ef V	epx or epy v	Peak voltage between any two electrodes v	ib mA	Ib mA dc (Note 1)	Rg MegΩ (Note 2)	tk s	Ehk V dc (Note 3)	TA °C
Oscillator:									
Maximum:	6.93	300	350	300	2	0.5	30	-100	+85
Minimum:	5.67	---	---	---	---	---	---	---	-60
Rectifier:									
Maximum:	6.93	300	350	300	75	0.5	30	-100	+85
Minimum:	5.67	---	---	---	---	---	---	---	-60
Test conditions:	6.3	---	---	---	---	---	30	---	---

GENERAL:

Qualification - Not required.

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

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TABLE I. Requirements or tests.

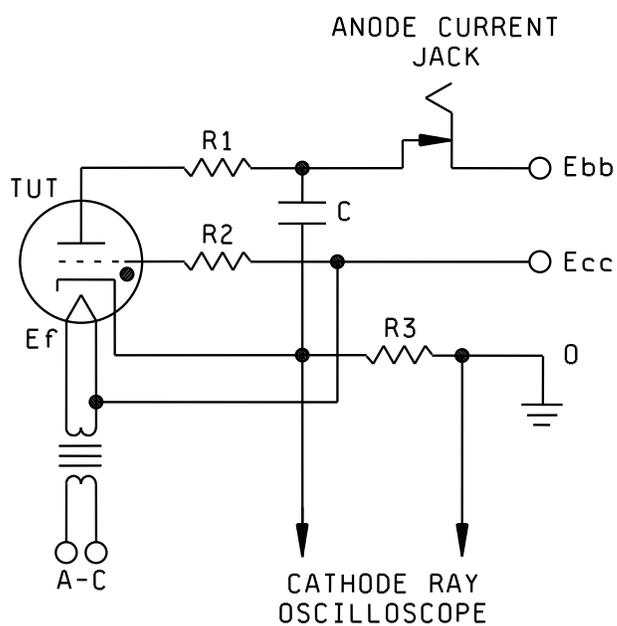
Requirement or test	MIL-STD-1311 Method	Notes	Conditions	Symbol	Limits		Unit
					Min	Max	
<u>Conformance inspection, part 1</u>							
Heater current	3241			If	540	660	mA
Critical grid voltage for conduction (1)	3201	4/	Eb = 110 V dc; Rp = 1,700 ohms; Rg = 0.1 Meg Ω	Ec(1)	-9	-16	V dc
Critical grid voltage for conduction (2)	3201		Eb = 250 V dc; Rp = 5,600 ohms; Rg = 0.1 Meg Ω	Ec(2)	-21	-31	V dc
Pulse emission	1231		epp = eogl = 180 \pm 9.0 v; pr = 100 \pm 5; tk = 5 (min); Ra = 10 ohms; Rp = 20 ohms; calibrating resistor = 10 ohms; Zm = 7.5; t = 3 (max)	etd	---	69	v
<u>Conformance inspection, part 2</u>							
Low frequency vibration	1031		No voltages applied	---	---	---	---
Heater-cathode leakage	1336			lhc	0	20	μ A dc
<u>Conformance inspection, part 3</u>							
Life test	---		Group B (see figure 1); t = 500 hours	---	---	---	---
Life-test end points:	---						
Critical grid voltage for conduction (1)	3201		Eb = 110 Vdc; Rp = 1,700 ohms; Rg = 0.1 Meg Ω	Ec(1)	-7.0	-18.0	V dc
Critical grid voltage for conduction (2)	3201		Eb = 250 Vdc; Rp = 5,600 ohms; Rg = 0.1 Meg Ω	Ec(2)	-19.0	-33.0	V dc
Pulse emission	1231		epp = eogl = 180 \pm 9.0 v; pr = 100 \pm 5; tk = 5 (min); Ra = 10 ohms; Rp = 20 ohms; calibrating resistor = 10 ohms; Zm = 7.5; t = 3 (max)	etd	---	110	v

See footnotes at top of next page.

TABLE I. Requirements or tests - Continued.

NOTES:

- 1/ Below 200 Hz, $I_b = 3$ mA dc (maximum).
- 2/ Grid resistance shall be not less than 1,000 ohms per volt (maximum instantaneous) applied to grid.
- 3/ Peak voltage between any electrode and heater shall not exceed 350 volts.
- 4/ This test shall be the first test performed at the conclusion of the holding period.



$E_{bb} = 300$ V dc	PEAK VOLTAGE - 136 VOLTS
$E_{cc} = 150$ V dc	PEAK CURRENT - 250 mA
$R_1 = 500$ OHMS	FREQUENCY - 1,000 Hz
$R_2 = 30,000$ OHMS	AVERAGE CURRENT - 0.7 mA dc
$R_3 = 330,000$ OHMS	
$C = 0.005$ μ F	

FIGURE 1. Relaxation oscillator test circuit.

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Referenced documents. In addition to MIL-PRF-1, this specification sheet references 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 5960-2013-044)

Review activities:

Navy - AS, CG, MC, OS, SH
Air Force - 99

NOTE: The activities listed above were interested in this document as of the date of this document. Since organizations and responsibilities can change, you should verify the currency of the information above using the ASSIST Online database at <https://assist.dla.mil/>.