

INCH-POUND

MIL-PRF-1/1174H
8 April 2016
SUPERSEDING
MIL-PRF-1/1174G
3 October 2005

PERFORMANCE SPECIFICATION SHEET

ELECTRON TUBE, POWER
TYPE 6303

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: Rectifier or shunt diode, high-vacuum.

Outline: See figure 1.

Mounting position: Vertical, base down.

Weight: 14.3 ounces (405 grams) nominal.

ABSOLUTE RATINGS:

Parameter: Unit:	Ef V ac	epx kv	ib a	Ib mA dc	Ieff A ac	Pp W
<u>Rectifier</u>						
Maximum:	11.8	40	2.5	700	---	550
Minimum:	11.2	---	---	---	---	---
<u>Shunt diode</u>						
Maximum:	12.5	33	50	---	1.25	500
Minimum:	11.9	---	---	---	---	---
Test conditions:	11.5	---	---	---	---	---

See footnotes at end of table I.

GENERAL:

Qualification - Required.

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



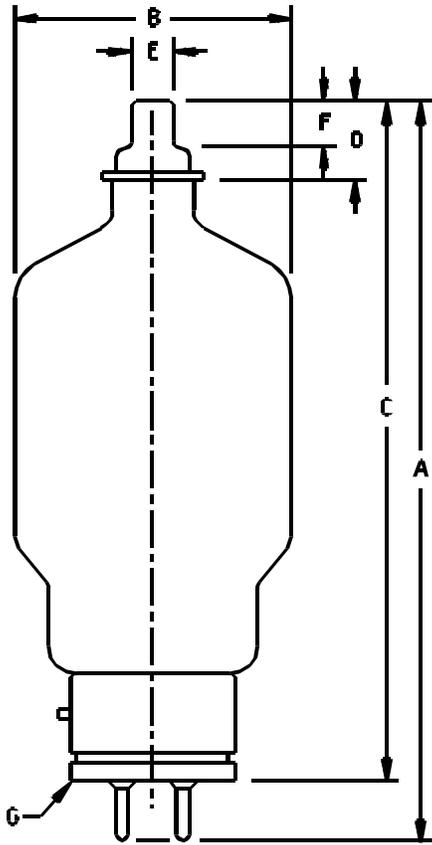
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TABLE I. Testing and inspection.

Inspection	Method MIL-STD-1311	Notes	Conditions	Symbol	Limits		Unit
					Min	Max	
<u>Conformance inspection, part 1</u>							
Filament current	1301	---		If	14.00	16.25	A ac
Electrode current (anode)	1256	---	E _b = 500 V dc	I _b	750	---	mA dc
Peak emission	1231	---	e _b = 8.0 kv; E _f = 12.2 V ac	i _s	25	---	a
Operation of rectifiers (1)	1353	<u>1/</u>	e _{px} = 40 kv; I _b = 700 mA dc; i _b = 2.5 a	---	---	---	---
<u>Conformance inspection, part 2</u>							
Low-frequency vibration	1031	---	No voltages applied	---	---	---	---
Shock	1041	---	Hammer angle = 20°	---	---	---	---
Operation of rectifiers (2)	1353	<u>1/ 2/</u>	E _f = 12.2 V ac	---	---	---	---
<u>Conformance inspection, part 3</u>							
Life test	---	---	Group C; operation of rectifiers (1); t = 500 hours	---	---	---	---
Life-test end point:	---	---					
Peak emission	1231	---		i _s	20	---	a

1/ The tube shall operate for 2 minutes without arcing or sign of gas during a test interval not to exceed 5 minutes.

2/ The tube shall be operated as a shunt diode in a thyratron modulator. The circuit constants shall be chosen to give the following diode operating conditions: e_{px} = 33 kv; i_b = 50 a; and effective current (I_{eff}) = 1.25 A ac.



Pin connections	
Pin No.	Element
1	nc
2	f
3	f
4	nc
Cap	a

Ltr	Dimensions			
	Inches		Millimeters	
	Min	Max	Min	Max
Conformance inspection, part 2				
A	9.250	9.750	234.95	247.65
B	---	3.625	---	92.08
C	8.472	9.032	215.19	229.41
Conformance inspection, part 3 (see note)				
D	.969	1.031	24.62	26.19
E	.559	.573	14.20	14.55
F	.594	.656	15.09	16.66
G	Base: A4-18 (EIA)			

NOTE: Dimensions shall be checked during the initial production and once each succeeding 12-calendar months in which there is production. In the event of failure, the test will be made as a part of conformance inspection, part 2. The "12-calendar month" sampling plan shall be reinstated after three consecutive samples have been accepted.

FIGURE 1. Outline drawing of electron tube type 6303.

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NOTES

Referenced documents. In addition to MIL-PRF-1, this specification sheet references MIL-STD-1311.

Changes from previous issue. 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 previous issue.

Custodians:

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

Preparing activity:

DLA - CC

(Project 5960-2016-014)

Review activities:

Army - MI
Navy - AS, CG, MC, OS
Air Force - 19, 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/>.