INCH-POUND

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SUPERSEDING
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PERFORMANCE SPECIFICATION SHEET

ELECTRON TUBE, POWER
TYPE 6303A

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: Diode, rectifier.
Outline - See figure 1.
Base - A4-18.
Cap - See figure 1.
Cathode - Bonded thoria tungsten filament.

Pin Number:	1	2	3	4	Cap
Element:	nc	f	f	nc	a

ABSOLUTE-MAXIMUM RATINGS:

Parameter: Unit:	Ef V ac	epx kv	ib a	Ib mA dc	Ieff A ac	Pp W	Alt ft
Maximum: Rectifier	11.5 + 2.5%	40	2.5	700	---	550	10,000
Test condition:	11.5	---	---	---	---	---	---

GENERAL: First Article Inspection - Required. 5/

TABLE I. Testing and inspection.

Inspection	Method MIL-STD-1311	Condition	Acceptance Level 6/	Symbol	Limits		Unit
					Min	Max	
Conformance inspection, part 1							
Peak emission	1231	eb = 8.0 kv; Ef = 12.2 V ac	0.65	is	30	---	a
Electrode current (anode)	1256	Eb = 500 V dc	0.65	Ib	750	---	mA dc
Filament current	1301		0.65	If	14.00	16.25	A ac
Operation of rectifiers (1)	1353	epx = 40 kv; Ib = 700 mA dc; ib = 2.5 a 1/	0.65	---	---	---	---
Conformance inspection, part 2							
Low-frequency vibration	1031	No voltage	6.5	---	---	---	---
Shock test	1041	300 G	6.5	---	---	---	---
Operation of rectifiers (2)	---	Ef = 12.2 V ac 1/ 2/	6.5	---	---	---	---
Slap on voltage	---	3/	---	---	---	---	---
Crowbar test	---	4/	---	---	---	---	---
Conformance inspection, part 3							
Life test	---	Group D; operation of rectifiers (1)	---	t	500	---	hr
Life-test end point	---	Peak emission	---	is	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: epx = 33 kv; ib = 50 a; and effective current (Ieff) = 1.25 A ac.

3/ A slap-on voltage shall be applied to the tube under the following load condition: epx = 30 kv; Ib = 700 mA dc; ib = 6.0 a minimum for a minimum duration of 16 milliseconds. The slap-on voltage shall be applied as often as necessary during a test interval not to exceed 5 minutes until the tube hold-off is five times without kicking out the overcurrent relay.

4/ While operating at full load as a rectifier under the following conditions, epx = 40 kv; Ib = 700 mA dc; ib = 2.5 a, the tube shall be subjected to a simulated crowbar test by drawing a 12.5 a short 20 times. These crowbars shall not result in damage to the cathode coating. Minimum of crowbar shall be 32 milliseconds. Following this test the tube shall meet operation (1) requirements.

5/ First article inspection shall consist of performing all tests listed on this tube specification sheet. The sample size and allowable defects shall be in accordance with MIL-PRF-1. Three copies of the test report shall be forwarded to the purchasing activity for evaluation by the preparing activitiy.

Invitation for bids should provide that the preparing activity reserves the right to waive the requirements for first article samples as to those bidders offering a product which has been previously acquired or tested by the Government, and that bidders offering such products who wish to rely on such production or test, must furnish evidence with the bid that prior Government approval is presently appropriate for the pending acquisition.

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

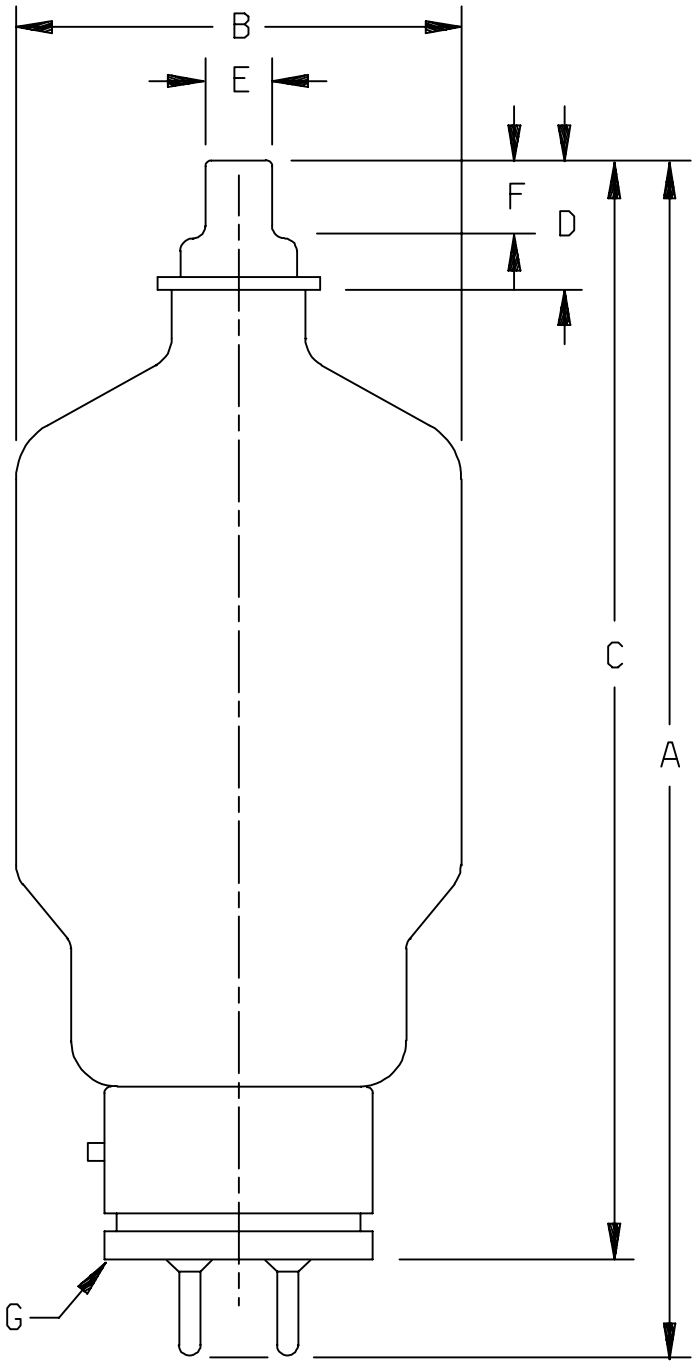

FIGURE 1. Outline drawing of tube type 6303A.

Ltr	Acceptance Level (see 6/)		Limits			
			Inches		Millimeters	
			Min	Max	Min	Max
First Article Inspection						
D	---		.969	1.031	24.61	26.19
E	---		.559 dia	.573 dia	14.20 dia	14.55 dia
F	---		.594	.656	15.09	16.66
G	Base: A4-18 (see note 2)		---	---	---	---
Conformance Inspection, part 2						
A	6.5		9.250	9.750	234.95	247.65
B	6.5		---	3.625 dia	---	92.08 dia
C	6.5		8.472	9.032	215.19	229.41

NOTES
1. All dimensions in inches, with millimeter equivalents based upon 1.00 inch = 25.4 mm.
2. For pin alignment use gag GA4-7 or equivalent.

FIGURE 1. Outline drawing of tube type 6303A - Continued.

NOTES

Referenced documents. In addition to MIL-PRF-1, this specification sheet 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:
Navy - EC
DLA - CC

Preparing activity:
DLA - CC

Review activities:
Navy - AS, CG, MC, OS

(Project 5960-3741)

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 www.dodssp.daps.mil.