

INCH-POUND

MIL-PRF-1/796C
23 July 1999
SUPERSEDING
MIL-E-1/796B
8 July 1977

PERFORMANCE SPECIFICATION SHEET

ELECTRON TUBE, GAS SWITCHING
TYPE 6024

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: ATR, waveguide type, F = 2,800 MHz, peak incident power 1.0 kw.

ABSOLUTE RATINGS:

Parameter:	Transmitter Po	TA	Alt
Unit:	kw	°C	ft
Maximum:	1,000	+100	10,000
Minimum:	20	-40	---

PHYSICAL CHARACTERISTICS:

Dimensions: See figure 1
Mounting position: Any 2

TEST CONDITIONS:

Parameter:	Transmitter Po	tp	Du	VSWR
Unit:	kw	μs	---	---
Test 1:	20	1.0 ±10%	0.001	1.05
Test 2:	750	1.0 ±10%	0.001	1.20
Test frequency:	F = 2,800 ± 5.0%			

See footnotes at end of table I.

GENERAL:

Qualification: Required.

TABLE I. Testing and inspection.

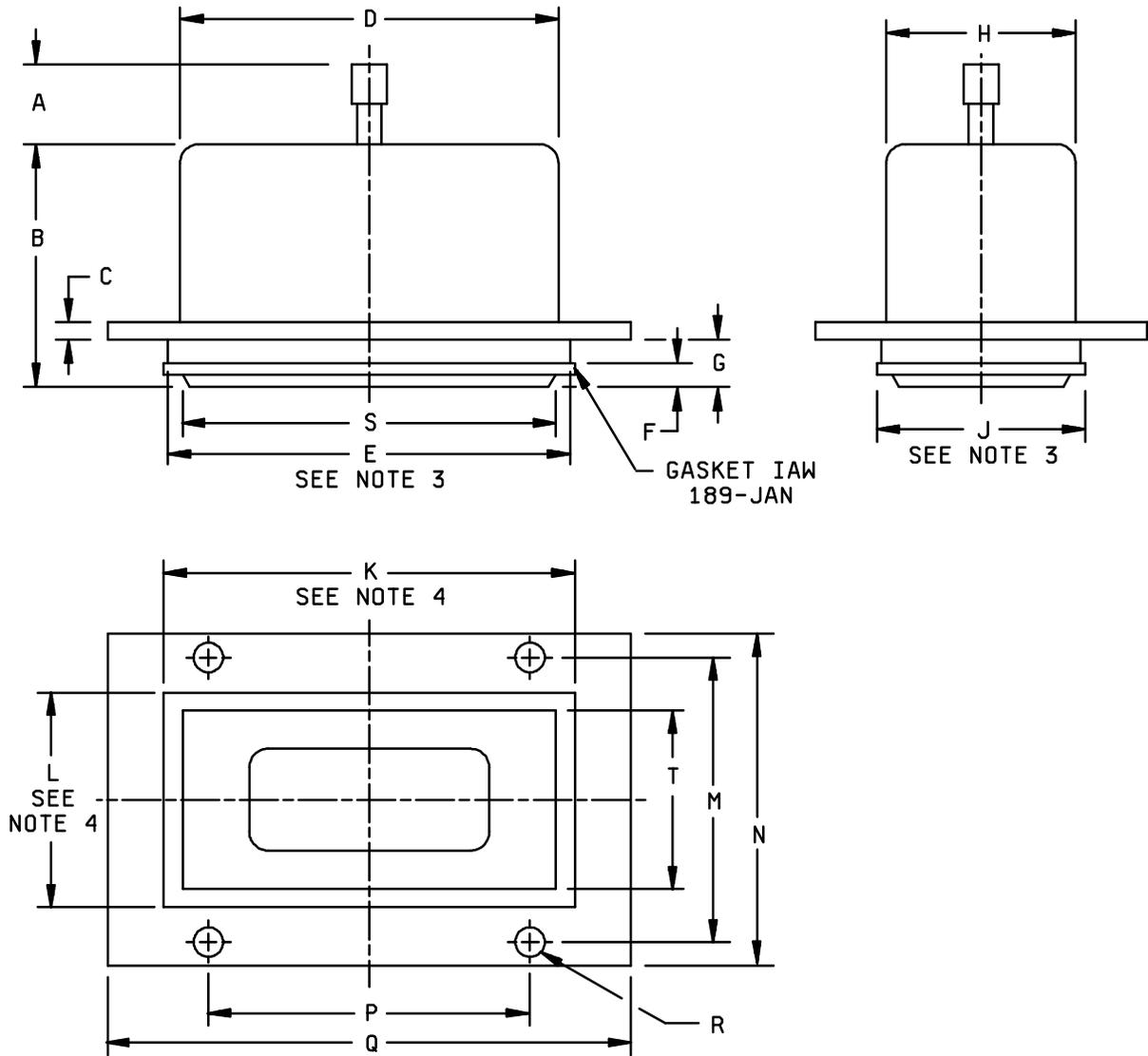
Inspection	Method	Test	Conditions	Symbol	Limits		Unit
					Min	Max	
<u>Qualification inspection</u>							
Degradation due to vibration	4021	---		---	---	---	---
Loaded Q	4461	---	<u>2/</u>	QL	---	5.5	---
<u>Conformance inspection, part 1</u>							
Tuning susceptance	4482	----	<u>2/</u>	b	-0.05	+0.05	---
Firing time	4486	1	<u>2/ 3/</u>	t	---	10	sec
Arc loss	4488	1	<u>2/ 3/</u>	La	---	0.8	dB
Temperature cycling (nonoperating)	1027	---	<u>1/</u>	---	---	---	---
Temperature cycling life test	1027	---	Group C <u>1/</u>	---	50	---	Hz
<u>Conformance inspection, part 2</u>							
High-level VSWR	4474	1		---	---	1.15	---
Normalized conductance	4484	---	<u>2/</u>	g	---	0.05	---
<u>Conformance inspection, part 3</u>							
Life test	4551	2	Group D <u>2/</u>	t	1,000	---	hrs
Life-test end points:	---	---					
Tuning susceptance	4482	---	<u>2/</u>	b	-0.05	+0.05	---
Normalized conductance	4484	---	<u>2/</u>	g	---	0.1	---
Firing time	4486	1	<u>2/ 3/</u>	t	---	10	sec

1/ Satisfactory test on any one of 1B44, 1B52, 1B53, 1B56, 1B57, 5921, or 5922 ATR tube types made during the same two week period, shall be evidence that all of the group meet this test requirement.

2/ Mount in accordance with Drawing 153-JAN.

3/ The tube shall be mounted as in 2/ and followed by a matched load. The tube shall fire within the limits specified after application of rf power. This test shall be performed at least 7 days after pumping and at least 24 hours after any previous discharge.

4/ Unless otherwise specified, the acceptance level for all tests listed under conformance inspection, part 1, shall be 1.0 percent, inspection level II.



NOTES:

1. Dimensions are in inches.
2. Metric equivalents (to the nearest 0.01 mm) are given for general information only and are based upon 1 inch = 25.4 mm.
3. Dimensions "E" and "J" pertain to flange.
4. Dimensions "K" and "L" pertain to outside of gasket.
5. Dimension "F" shall be measured prior to attachment of gasket.
6. Gasket to be securely mounted to tube.

FIGURE 1. Outline drawing of electron tube type 6024.

MIL-PRF-1/796C

Ltr	Dimensions			
	Inches		Millimeters	
	Min	Max	Min	Max
Conformance inspection, part 1				
A	---	.625	---	15.88
B	---	1.875	---	47.62
C	.109	.141	2.77	3.58
D	2.985	3.015	75.82	76.58
F	.165 (see note 5)	.195 (see note 5)	4.19	4.95
G	.347	.377	8.81	9.58
H	1.486	1.516	37.74	38.51
K	---	3.223	---	81.86
L	---	1.725	---	43.82
N	2.609	2.641	66.27	67.08
Q	4.109	4.141	104.37	105.18
R	.203 DIA (4 holes)	.245 DIA (4 holes)	5.16 DIA (4 holes)	6.22 DIA (4 holes)
S	2.990	3.010	75.95	76.45
T	1.490	1.510	37.85	38.35
Conformance inspection, part 2				
E	3.203	3.233	81.36	82.12
J	1.703	1.733	43.26	44.02
M	2.150	2.350	50.60	59.69
P	2.400	2.600	61.06	66.04

FIGURE 1. Outline drawing of electron tube type 6024 - Continued.

MIL-PRF-1/796C

Custodians:

Army - CR
Navy - EC
Air Force - 11
DLA - CC

Preparing activity:

DLA - CC

Project (5960-3551-08)

Review activities:

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