

INCH-POUND

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SUPERSEDING
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MILITARY SPECIFICATION SHEET
ELECTRON TUBE, GAS SWITCHING
TYPE 6081

Inactive for new design
after 7 March 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: ATR, fixed frequency, $F_o = 5,640$ MHz

ABSOLUTE RATINGS:

Parameter:	Transmitter po	Du	tp	Alt
Unit:	kw	---	μ s	ft
Maximum:	---	0.001	1.0	10,000
Minimum:	10	---	---	---

PHYSICAL CHARACTERISTICS:

Dimensions: See figure 1.
Mounting position: Any (see table 1, note 2)

TEST CONDITIONS:

Parameter:	po	pr	tp	σ'
Unit:	kw	pps	μ s	---
Test 1:	20	1,000	1.0	---
Test 2:	70(min)	1,000	1.0	1.03 (max)
Test 3:	300 ± 10	1,000	1.0	1.2(max)

Frequencies		
F	MHz	\pm
F1	5,640	---
F2	5,640	0.1%
F3	5,640	4%

GENERAL:

Qualification – Required

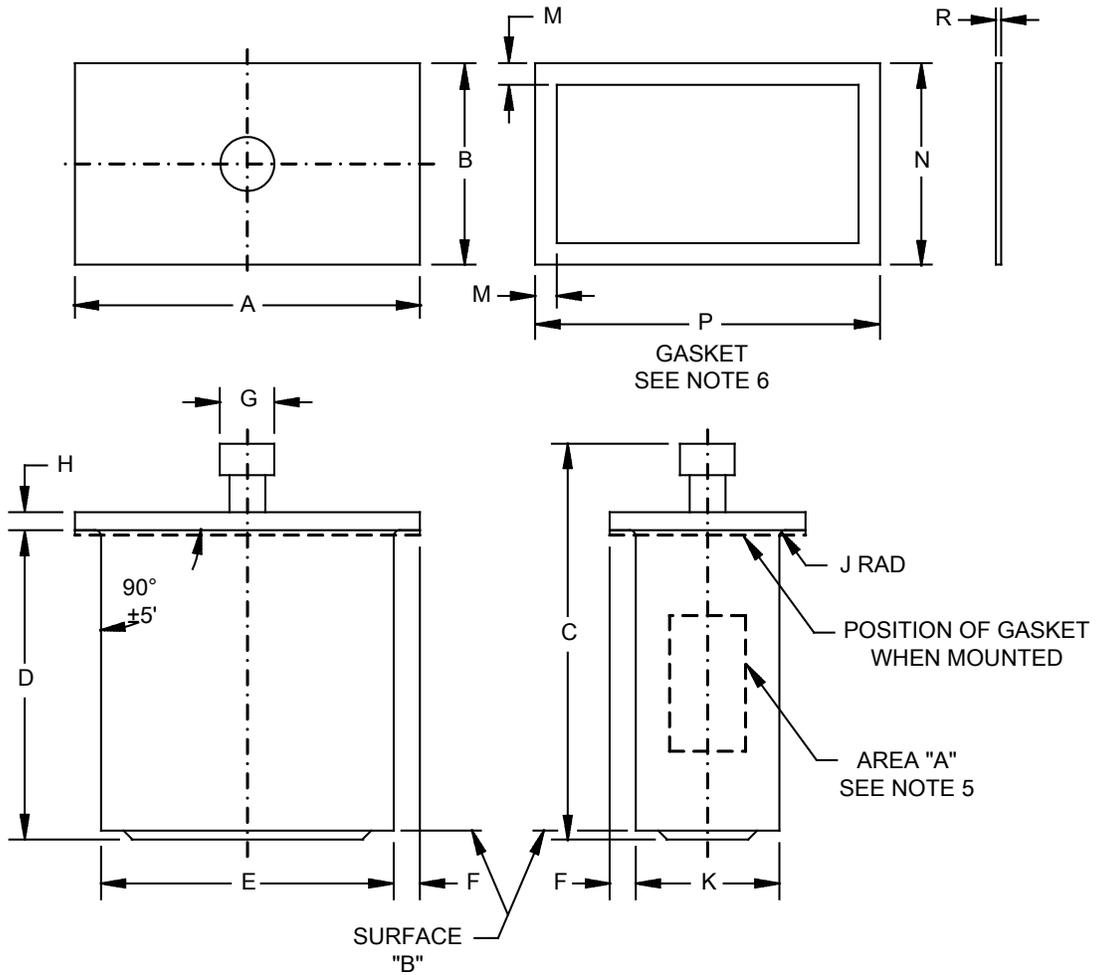
This specification sheet uses accept on zero defect sampling in accordance with MIL-PRF-1, table III.

TABLE I. Testing and inspection.

Requirement or test	Method MIL-STD-1311	Notes	Test	Conditions	Symbol	Limits		Unit
						Min	Max	
<u>Qualification inspection</u>								
Degradation due to vibration	4021	---	---	No voltages	---	---	---	---
Loaded Q	4461	---	---	Fo=F1	QL	---	7.0	---
High-level VSWR	4474	---	2	Fo=F1	σ'	---	1.10	---
<u>Conformance inspection, part 1</u>								
Tuning susceptance	4482	---	---	Fo=F2	B/Yo	-0.06	+0.06	---
Firing time	4486	1/	1	Fo=F3	t	---	10	sec
Arc loss	4488	3/	---		La	---	0.8	dB
Temperature cycling (nonoperating)	1027	4/	---		---	1	---	Cycle
Temperature cycling life test	1027	---	---	Group D	---	10	---	Cycles
<u>Conformance inspection, part 2</u>								
Normalized conductance	4484	---	---	Fo=F2	G/Yo	---	0.1	---
<u>Conformance inspection, part 3</u>								
Life-test provisions	---	---	3	Group D, Fo=F3	t	500	---	hrs
Life-test end points	---	---	---					
Arc loss	4488	---	1	Fo=F3	La	---	1.0	dB
Normalized conductance	4484	---	---	Fo=F2	G/Yo	---	0.1	---

NOTES:

- 1/ This test to be performed at the conclusion of the holding period.
- 2/ The tube mount shall be designed to avoid interference from a toroidal mode over the operating range of the tube. For this purpose a shorting contact or capacitive shunt may be included in the mount centered in area "A" as shown on figure 1.
- 3/ This test shall be performed at least 7 days after pumping and at least 24 hours after any previous discharge.
- 4/ This test may be conducted during the holding period but not less than 24 hours before the arc-loss test.



NOTES:

1. The tabulation shall fall within a circle of .500 in. (12.70 mm) dia max located about the center of the flange.
2. Silver plate 100 msi min. or equivalent.
3. Applies at all edges of window face of tube at surface B.
4. Centerlines of window shall coincide with corresponding centerlines of the body within .015 in. (.38 mm) measured in plane of window.
5. Area A centrally located on barrel (see table 1, note 2).
6. Gasket is soft temper nickel or copper, two supplied with tube but not mounted.

Ltr	Minimum		Maximum		Notes
	in	mm	in	mm	
Conformance inspection, part 1					
A	2.395	60.83	2.405	61.09	
B	1.395	35.43	1.405	35.69	
D	2.074	52.68	2.102	53.39	
E	1.985	50.42	2.015	51.18	
F	.182	4.62			3
K	.985	25.02	1.015	25.78	
P	2.395	60.83	2.405	61.09	
Conformance inspection, part 2					
C			2.750	69.85	
G			.375	9.53	
H	.117	2.97	.133	3.38	
J			.040	1.02	All sides
M	.145	3.68	.155	3.94	
N	1.395	35.43	1.405	35.69	

FIGURE 1. Outline drawing of electron tube type 6081.

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:

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Navy - AS, CG, MC, OS
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/>.