

INCH-POUND

MIL-PRF-1/1071D
14 July 2009
SUPERSEDING
MIL-PRF-1/1071C(CR)
25 June 1999

PERFORMANCE SPECIFICATION SHEET

ELECTRON TUBE, GAS SWITCHING
TYPE 6962

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, L-band, Fo = 1,285 MHz.

ABSOLUTE RATINGS:

Parameter:	Incident power	Du	Alt
Unit:	Mw	---	ft
Maximum:	2	0.001	10,000
Minimum:	---	---	---

PHYSICAL CHARACTERISTICS:

Dimensions: See figures 1 and 2.
Mounting: See figure 1 and 1/.
Weight: 6 pounds (approximate).

TEST CONDITIONS:

Parameter:	Incident power	tp	Du	VSWR	F
Unit:	kw	μ s	---	σ'	MHz
Test condition 1:					
Maximum	525	4.4	0.001	1.05	1,298
Minimum	475	3.6	---	---	1,272
Test condition 2:					
Maximum	2,100	4.4	0.001	---	1,298
Minimum	1,900	3.6	---	---	1,272

See footnotes at end of table I.

GENERAL:

Preproduction sample approval: Required. 2/

AMSC N/A

FSC 5960

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TABLE I. Testing and inspection.

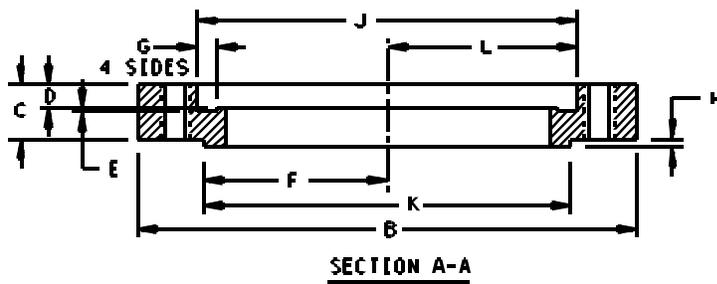
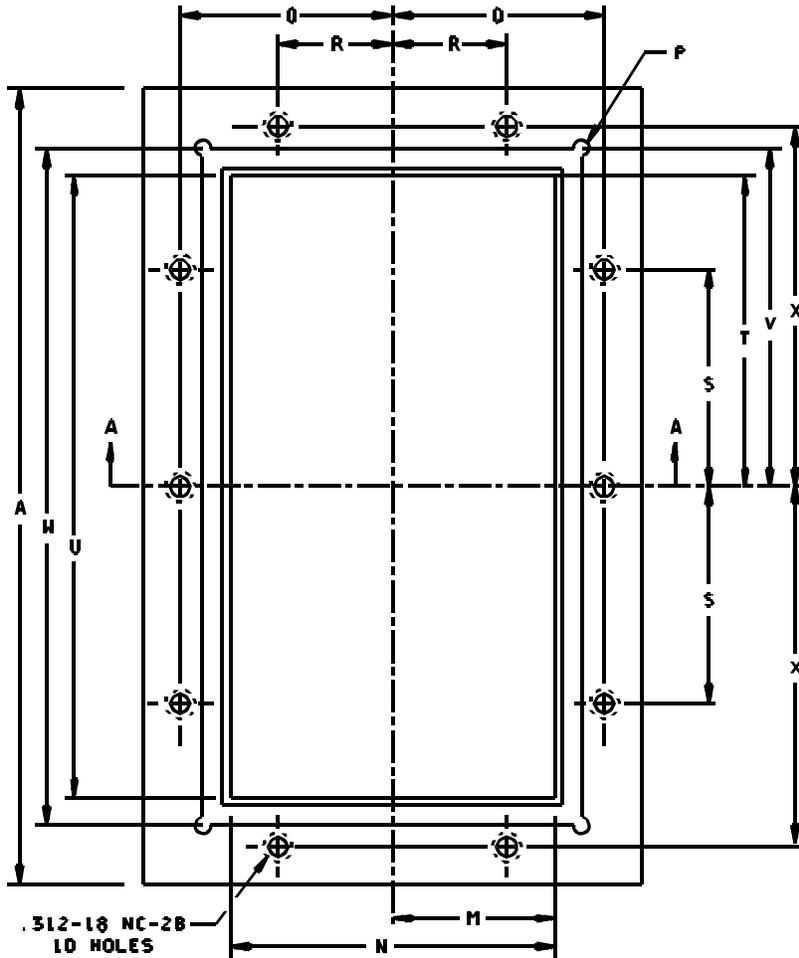
Inspection	Method MIL-STD-1311	Notes	Test	Conditions	Symbol	Limits		Unit
						Min	Max	
<u>First article inspection (Preproduction)</u>		<u>2/</u>	---					
Loaded Q	4461	<u>3/</u>	---		QL	---	2.5	---
High-level VSWR	4474	<u>3/</u>	1		VSWR	---	1.15	---
Degradation due to vibration	4021	---	---		---	---	---	---
<u>Conformance inspection, part 1</u>		<u>4/</u>	---					
Tuning susceptance	4482	<u>3/</u>	---	Method A	b	-0.03	+0.03	---
Firing time	4486	<u>3/</u>	1		t	---	5	sec
Arc loss	4488	<u>3/</u>	1		La	---	0.3	dB
Temperature cycling	1027	---	---	1 cycle	---	---	---	---
Temperature cycling life test	1027	---	---	Group D; 10 cycles (min)	---	---	---	---
<u>Conformance inspection, part 2</u>								
Dielectric material strain	4101	---	---		---	---	---	---
Normalized conductance	4484	<u>3/</u>	---		g	---	0.03	---
Variable-frequency vibration	1031	---	---	F = 50 to 500 Hz; 15 G; t = 30 minutes (min)	---	---	---	---
Insertion	---	<u>5/</u>	---		---	---	---	---
<u>Conformance inspection, part 3</u>								
Life test	---	<u>6/</u>	2	Group D	t	1,000	---	hours
Life-test end points:	---	---	---					
Tuning susceptance	4482	<u>3/</u>	---	Method A	b	-0.05	+0.05	---
Normalized conductance	4484	<u>3/</u>	---		g	---	0.05	---
Arc loss	4488	<u>3/</u>	1		La	---	0.4	dB

See footnotes at top of next page.

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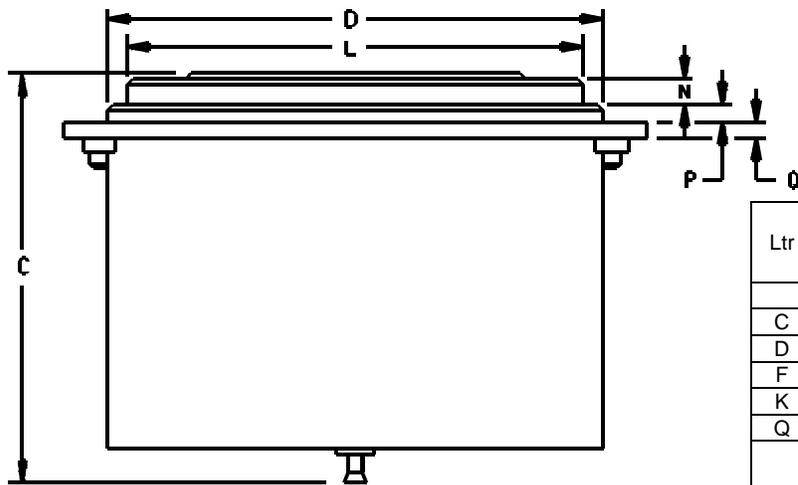
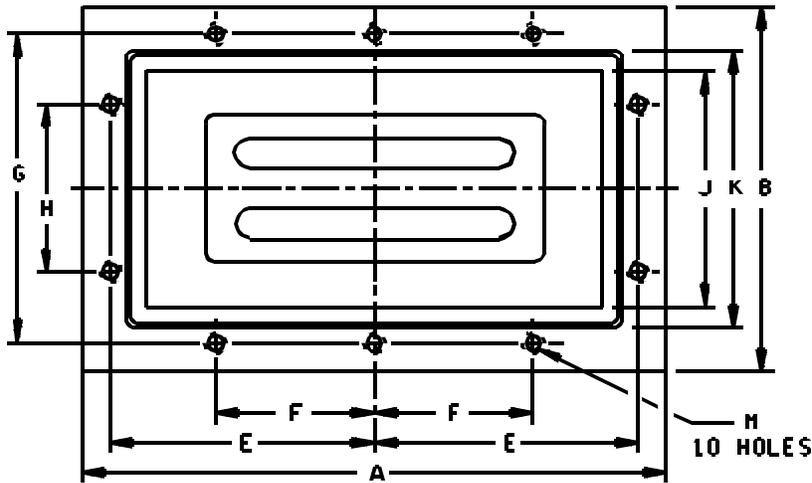
TABLE I. Testing and inspection - Continued.

- 1/ Suitable rf gaskets will be supplied with each tube.
- 2/ The number of first article (preproduction) samples required for inspection and the acceptance criteria shall be as specified for qualification testing in the basic document. All tests listed on the tube specification sheet are required for first article (preproduction) inspection; however, those tests grouped under this heading are to be performed during preproduction testing only.
- 3/ This test shall be performed in a half-height L-band waveguide (ID 6.500 inches (165.10 mm) x 1.625 inches (41.28 mm)).
- 4/ Unless otherwise specified, the acceptance level for all tests listed under conformance inspection, part 1, shall be 1.0 percent, inspection level II.
- 5/ The tube shall be capable of being inserted and removed from its seat a minimum of 15 times with no deterioration in the tube electrical characteristics.
- 6/ This test shall be performed in a full-height L-band waveguide (ID 6.500 inches (165.10 mm) x 3.250 inches (82.55 mm)).



Ltr	Dimensions			
	Inches		Millimeters	
	Min	Max	Min	Max
Conformance inspection, part 1				
Q	2.309	2.317	58.65	58.85
R	1.246	1.254	31.65	31.85
S	2.371	2.379	60.22	60.43
X	3.934	3.942	99.92	100.13
Reference dimensions				
A	8.690		220.73	
B	5.437		138.10	
C	.600		15.24	
D	.250		6.35	
E	.020		0.51	
F	2.000		50.80	
G	.220		5.59	
H	.080		2.03	
J	4.135		105.03	
K	4.000		101.60	
L	2.067		52.50	
M	1.768		44.91	
N	3.537		89.84	
P	.22 x .270 DP		5.59 x 6.86 DP	
T	3.393		86.18	
U	6.787		172.39	
V	3.692		93.78	
W	7.385		187.58	

FIGURE 1. Mounting seat.



Ltr	Dimensions			
	Inches		Millimeters	
	Min	Max	Min	Max
Preproduction inspection				
C	---	6.125	---	155.58
D	7.355	7.375	186.82	187.33
F	2.367	2.383	60.12	60.53
K	4.105	4.125	104.27	104.78
Q	.240	.260	6.10	6.60
Conformance inspection, part 1 4/				
E	3.930	3.946	99.82	100.23
J	---	3.475	---	88.27
L	----	6.725	---	170.82
Conformance inspection, part 2				
G	4.618	4.634	117.30	117.70
H	2.492	2.508	63.30	63.70
M	.348 Drill		8.84 Drill	
N	.370	.390	9.40	9.91
P	.240	.260	6.10	6.60
Reference dimensions				
A	8.69		220.73	
B	5.44		138.18	

FIGURE 2. Outline drawing.

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In addition to MIL-PRF-1, this document references the following:
MIL-STD-1311

Marginal notations are not used in this revision to identify changes with respect to the previous issue due to the extent of the changes.

Custodians:
Army - CR
DLA - CC

Preparing activity:
DLA - CC

Review activity:
Army – MI

(Project 5960-2009-016)

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 <http://assist.daps.dla.mil/>.