INCH-POUND

MIL-PRF-1/607D
29 August 2011
SUPERSEDING
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31 March 1999

PERFORMANCE SPECIFICATION SHEET

ELECTRON TUBES, GAS SWITCHING
TYPES 5921 AND 5922

This specification is approved for use by all Departments and Agencies of the Department of Defense.

The requirements for acquiring the electron tubes described herein shall consist of this document and the latest issue of MIL-PRF-1.

DESCRIPTION: ATR, transmitter peak power output = 1,000 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: See note 2

TEST CONDITIONS:

Parameter:	Transmitter po	tp	Du	Prr	VSWR	F
Unit:	kw	µs	- - -	pps	- - -	MHz
Test 1: Maximum:	- - -	- - -	- - -	- - -	- - -	- - -
	20	- - -	0.001	- - -	- - -	F2
Minimum :	- - -	- - -	- - -	- - -	- - -	- - -
Test 2: Maximum:	- - -	1.10	- - -	1,100	1.05	- - -
	20	1.00	- - -	1,000	- - -	F1
Minimum :	- - -	0.90	- - -	900	- - -	- - -
Test 3: Maximum:	- - -	- - -	- - -	- - -	1.20	- - -
	- - -	- - -	0.001	- - -	- - -	F3
Minimum:	750	- - -	- - -	- - -	- - -	- - -

Frequency			
	MHz		
F	Type 5921	Type 5922	±
F0	3,200	3,400	3.5
F1	3,300	3,300	33
F2	3,350	3,350	100
F3	3,425	3,425	25

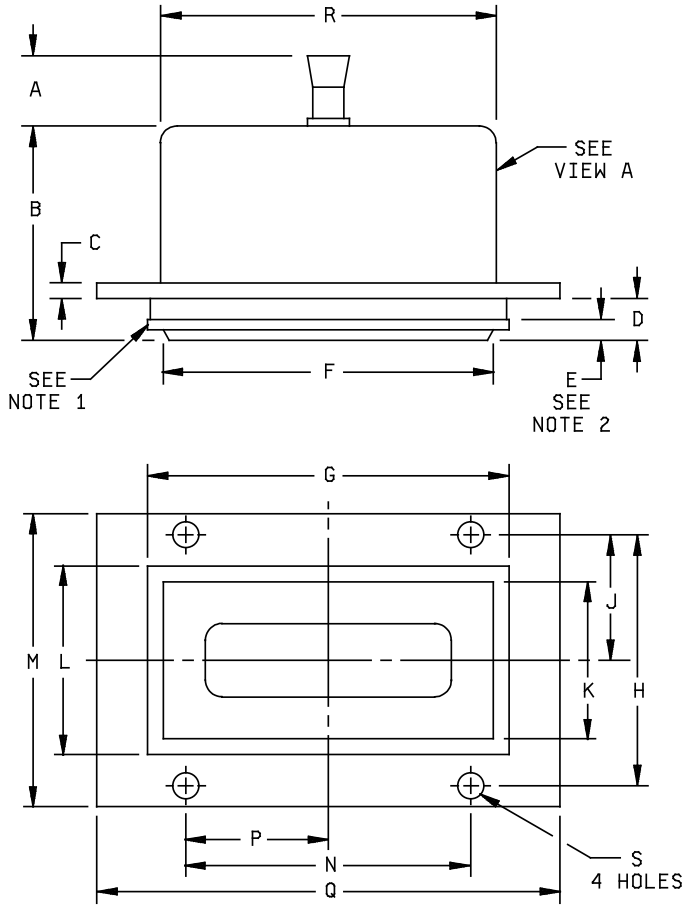
GENERAL:
Qualification - Required.

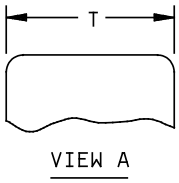
TABLE I. Testing and inspection.

Inspection	Method MIL-STD-1311	Notes	Test	Conditions	Symbol	Limits Min	Limits Max	Units
Qualification inspection								
Degradation due to vibration	4021	- - -	- - -		- - -	- - -	- - -	- - -
Loaded Q	4461	2	- - -		QL	- - -	5.5	- - -
High-level VSWR	4474	- - -	2		- - -	- - -	1.15	- - -
Conformance inspection, part 1		4	- - -					
Tuning susceptance	4482	2	- - -	$F = F_o$	b	-0.05	+0.05	- - -
Firing time	4486	2, 3	1		t	- - -	10	sec
Arc loss	4488	2, 3	1		La	- - -	0.8	dB
Temperature cycling (nonoperating)	1027	- - -	- - -		- - -	- - -	- - -	- - -
Temperature cycling life test	1027	- - -	- - -	Group C	- - -	50	- - -	Cycles
Conformance inspection, part 2								
Dielectric material strain	4101	- - -	- - -		- - -	- - -	- - -	- - -
Bump	1036	1	- - -	Hammer angle 25°	- - -	- - -	- - -	- - -
Normalized conductance	4484	2	- - -	$F = F_o$	g	- - -	0.05	- - -
Conformance inspection, part 3								
Life test	4551	- - -	3	Group D	t	1,000	- - -	hrs
Life-test end points	- - -	- - -	- - -					
Tuning susceptance	4482	2	- - -	$F = F_o$	b	-0.05	+0.05	- - -
Normalized conductance	4484	2	- - -	$F = F_o$	g	- - -	0.1	- - -
Firing time	4486	2, 3	1		t	- - -	10	sec

NOTES:

1. The tube should not be hit directly with the hammer. An anvil as shown on Drawing 188-JAN may be used.
2. Mount in accordance with Drawing 153-JAN, or equivalent.
3. The tube shall be mounted as in note 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. This specification sheet uses accept on zero defect sampling in accordance with MIL-PRF-1, table III.





Dimensions				
Ltr	Inches		Millimeters	
	in	Max	Min	Max
Conformance inspection, part 1 (See note 4)				
A		.625		15.88
B		1.875		47.63
C	.109	.141	2.77	3.58
D	.347	.377	8.81	9.58
E	.165	.195	4.19	4.95
F	2.990	3.010	75.95	76.45
G	3.203	3.233	81.36	82.14
H	2.240	2.260	56.90	57.40
J	1.120	1.130	28.45	28.70
K	1.490	1.510	37.85	38.35
L	1.703	1.733	43.26	44.02
M	2.609	2.641	66.27	67.08
N	2.490	2.510	63.25	63.75
P	1.245	1.255	31.62	31.88
Q	4.109	4.141	104.37	105.18
R	2.985	3.015	75.82	76.58
S	.203 Dia	.234 Dia	5.16 Dia	5.94 Dia
T	1.484	1.516	37.69	38.51

NOTES:

1. Gasket in accordance with drawing 189-JAN. Gasket to be firmly attached for a minimum of 75 percent of contact area.
2. Dimension E shall be measured prior to the attachment of the gasket to the tube.

FIGURE 1. Outline of electron tube types 5921 and 5922.

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

MIL-STD-1311 Drawing 153-JAN Drawing 188-JAN Drawing 189-JAN

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:
DLA - CC

(Project 5960-2010-014)

Review activities:
Navy - AS, CG, MC, OS, SA
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.daps.dla.mil/.

NOTE: To obtain copies of JAN drawings, please send a request via email to DSCC.TubesAmps@dla.mil.