

INCH POUND

MIL-PRF-1/211G
16 June 2003
SUPERSEDING
MIL-PRF-1/211F
26 June 1998

PERFORMANCE SPECIFICATION SHEET

ELECTRON TUBE, POWER TYPE 3C24

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: Triode.

See figure 1.

Mounting position: Vertical, base down or up.

Weight: 1.5-ounces nominal (42.5 grams).

ABSOLUTE RATINGS: C telegraphy.

Parameter:	F1	Ef	Eb	Ec	Ib	Ic	Pp
Unit:	MHz	V ac	kV dc	V dc	mA dc	mA dc	W
Maximum:	60	6.6	2.0	-500	75	25	25
Minimum:	---	6.0	---	---	---	---	---
Test conditions:	---	6.3	1.0	Adjust	35	---	---

GENERAL:

Qualification - required.

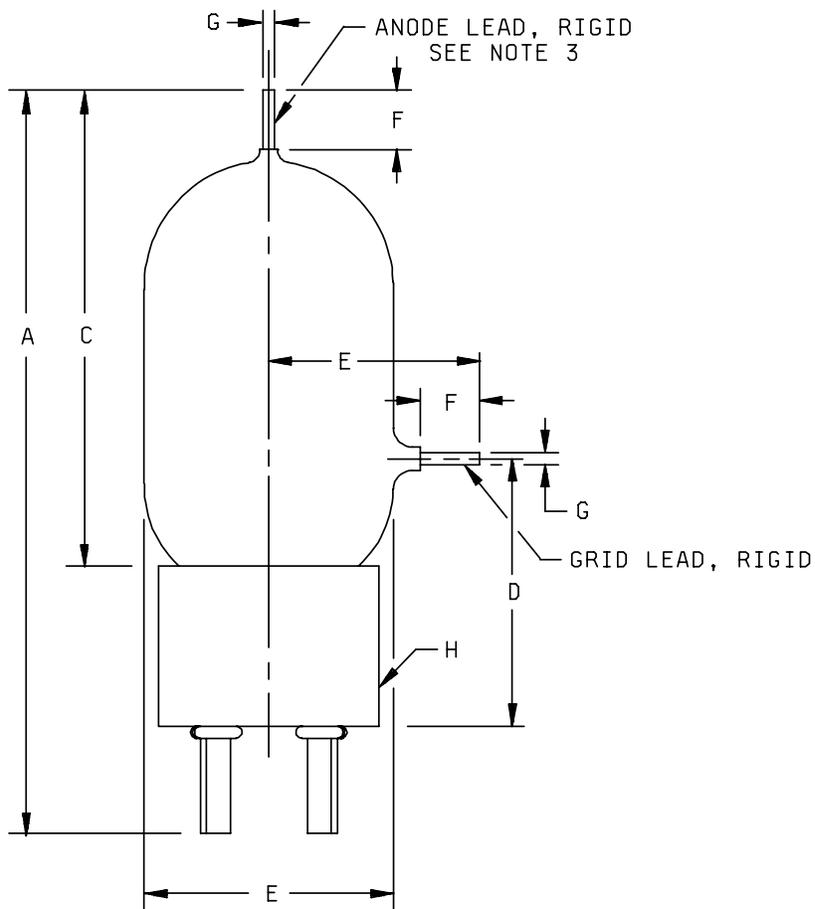
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TABLE I. Testing and inspection.

Inspection	Method	Conditions	Acceptance Level (see note 2)	Symbol	Limits Min	Limits Max	Unit
<u>Conformance inspection, part 1</u>							
Peak emission	1231	$e_b = e_c = 1,000 \text{ v}$	0.65	is	1.5	---	a
Electrode voltage (grid)	1261		0.65	E_c	-14	-24	V dc
Total grid current	1266	note 1	0.65	I_c	---	-5.0	μA dc
Filament current	1301		0.65	I_f	2.80	3.15	Aac
<u>Conformance inspection, part 2</u>							
Low-frequency vibration	1031	$R_p = 2,000 \Omega$; $E_b = 250 \text{ V dc}$; $E_c/I_b = 10 \text{ mA dc}$	---	E_p	---	500	mV ac
Bump	1036	Angle = 25°	---	---	---	---	---
Power oscillation	1236	$F = 100 \text{ MHz}$; $E_b = 1,000 \text{ V dc}$; $I_b = 80 \text{ mA dc}$; $I_c = 25 \text{ mA dc}$	---	P_o	45	---	W
Amplification factor	1316		---	μ	22	28	---
Direct-interelectrode capacitance	1331	No shield	---	$\left\{ \begin{array}{l} C_{gp} \\ C_{in} \\ C_{out} \end{array} \right.$	$\left. \begin{array}{l} 1.4 \\ 1.4 \\ 0.1 \end{array} \right\}$	$\left. \begin{array}{l} 1.8 \\ 2.2 \\ 0.3 \end{array} \right\}$	$\left. \begin{array}{l} \text{pF} \\ \text{pF} \\ \text{pF} \end{array} \right\}$
<u>Conformance inspection, part 3</u>							
Life test	---	Group C; $P_p = 25 \text{ W}$; $t = 500 \text{ hours}$	---	---	---	---	---
Life-test end point:	---						
Peak emission	1231		---	is	1.0	---	a

NOTE:

1. This test is to be the first test performed at the conclusion of the holding period.
2. This specification sheet uses accept on zero defect sampling plan, in accordance with MIL-PRF-1, table III.



Pin connections	
Pin no.	Elements
1	f
2	nc
3	nc
4	f
Anode lead	a
Grid lead	g

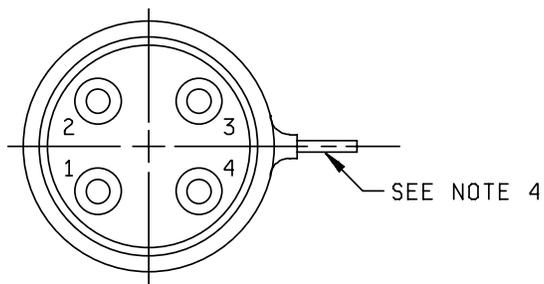
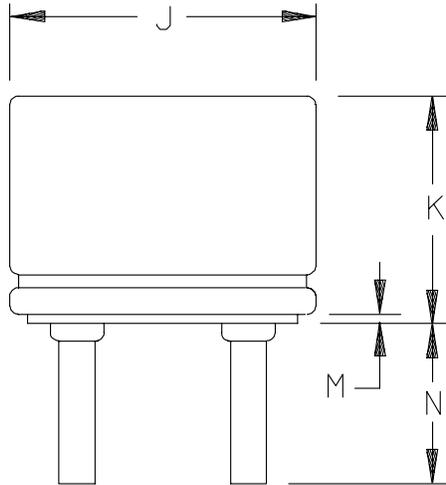


FIGURE 1. Outline drawing of electron tube type 3C24.

See notes at end of Figure I.

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Alternate base, 4 pin, metal shell with ceramic wafer insert.

Dimensions		
Ltr	Minimum	Maximum
Conformance inspection, part 2		
A	4.000 (101.60)	4.375 (111.13)
B	1.313 (33.35)	1.438 (36.53)
C	3.404 (86.46)	
D	1.437 (36.50)	1.687 (42.85)
E	1.100 (27.94)	1.300 (33.02)
F	0.310 (7.87)	0.440 (11.18)
G	0.045 (1.14)	0.051 (1.30)
Conformance inspection, part 3 (see note 5)		
H	Base: A4-5 (see note 2)	
J	1.137 (28.88)	1.165 (29.59)
K	0.820 (20.83)	0.850 (21.59)
Reference dimensions		
M	0.032 (0.81)	
N	0.563 (14.30)	

NOTES:

1. For pin alignment, use gage GA4-1.
2. A metal shell base with ceramic wafer insert may be used.
3. Deviation of centerline of anode lead from centerline of base shall not exceed 0.125 (3.18 mm).
4. Deviation of centerline of grid lead from centerline of base shall not exceed 3°.
5. These dimensions shall be tested annually.

FIGURE 1. Outline drawing of electron tube type 3C24 - Continued.

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Custodians:

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

Review activities:

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

Preparing activities:

DLA - CC

(Project 5960-3675)