

INCH-POUND

MIL-PRF-1/30C
26 April 2013
SUPERSEDING
MIL-PRF-1/30B
22 January 2007

PERFORMANCE SPECIFICATION SHEET
ELECTRON TUBE, MICROWAVE, NEGATIVE GRID
TYPE 2C36

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: Triode, planar.

See figure 1.

Mounting position: Any.

Weight: 0.4 ounce nominal.

ABSOLUTE RATINGS: UHF oscillator, anode pulse modulated.

Parameter: Unit:	F1 MHz	Ef V	Eb V dc	Ib mA dc	eb v	Pp W	tk sec	T(seal) °C	Rk Ohms	Du ---	tp μs
Maximum:	1,200	6.6	350	16.0	1,500	5.0	---	175	---	0.004	2.0
Minimum:	---	6.0	---	---	---	---	---	---	---	---	---
Test conditions:	---	6.3	180	12.0	---	---	300	---	400	---	---

GENERAL:

Qualification - Not required.

Holding period (MIL-STD-1311): t = 168 hours.

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

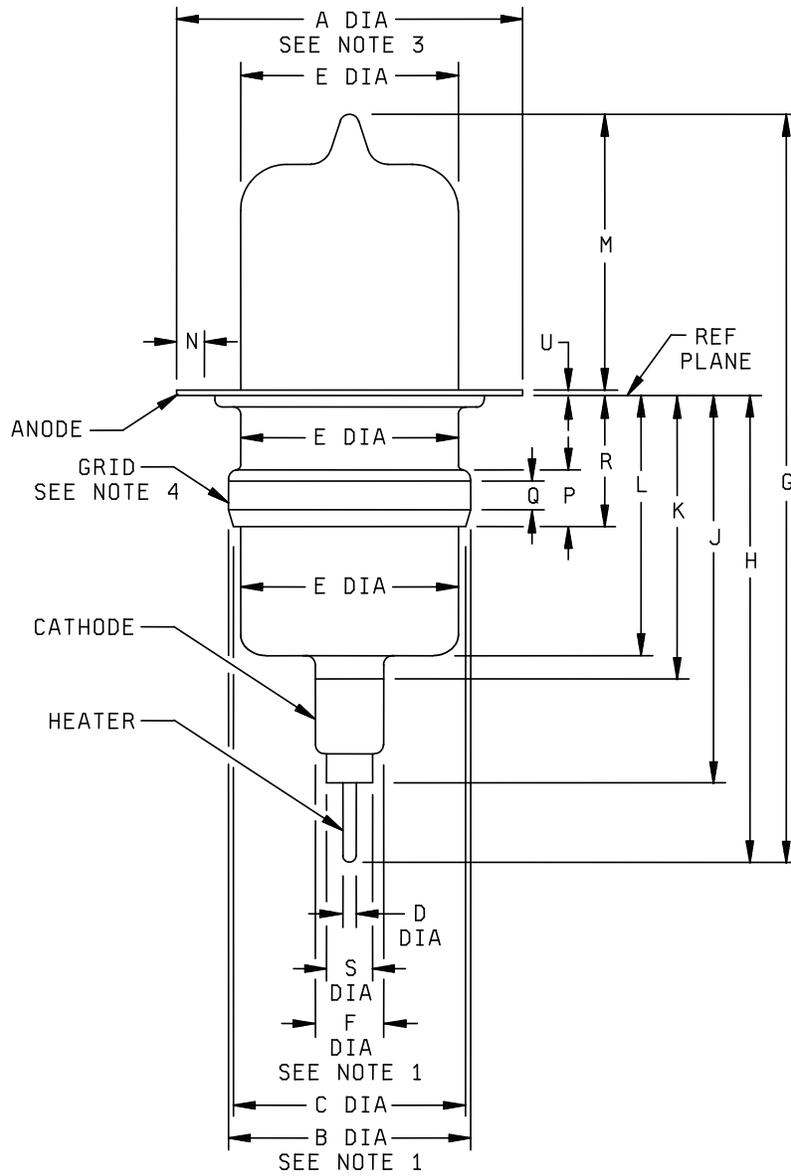


FIGURE 1. Outline drawing of electron tube type 2C36.

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Letter	Dimensions				Notes
	Minimum		Maximum		
	Inches	mm	Inches	mm	
Conformance inspection, part 2					
A	.995	25.27	1.005	25.53	1, 3
B	.740	18.80	.750	19.05	1, 3
C	.695	17.65	.725	18.42	---
D	.045	1.14	.055	1.40	1, 2
E	---	---	.660	16.76	1
F	.197	5.00	.207	5.26	1, 2
G	---	---	2.375	60.33	---
H	1.405	35.69	1.475	37.47	---
J	1.200	30.48	1.230	31.24	---
K	---	---	.900	22.86	---
L	---	---	.815	20.70	---
M	---	---	.887	22.53	---
N	.080	2.03	---	---	2
P	.175	4.45	.195	4.95	---
Q	.090	2.29	---	---	2
R	.375	9.53	.425	10.80	---
S	---	---	.190	4.83	---
U	.007	0.18	.013	0.33	---

NOTES:

1. Reference diameter "F" to be concentric with respective diameters as follows: Diameter "A" .040 (1.02 mm) FIR, diameter "B" .030 (0.76 mm) FIR, diameter "D" .030 (0.76 mm) FIR, diameter "E" .060 (1.52 mm) FIR. Full indicator reading includes out of roundness and tilt of components.
2. Areas designated by dimensions "D", "F", "N", and "Q" must be clean and free from glass.
3. Reference diameter "A" to be concentric with diameter "B" within .030 (0.76 mm) FIR.
4. This surface to be flat within .005 (0.13 mm).

FIGURE 1. Outline drawing of electron tube type 2C36 - Continued.

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TABLE I. Testing and inspection.

MIL-STD-1311 method	Requirement or test	Conditions	Symbol	Limits		Unit
				Min	Max	
	<u>Conformance inspection, part 1</u>					
1301	Heater current		If	380	420	mA
1256	Electrode current (1) (anode)		lb	8.0	16.0	mA dc
1256	Electrode current (2) (anode)	Ec = -28 V dc; Rk = 0	lb	---	10.0	μA dc
1306	Transconductance		Sm	3,350	5,650	μmhos
1231	Emission	(Eb = Ec)/Ik = 30 mA dc; Rk = 0 (see note 2)	Etd	---	10	V dc
1231	Peak emission	eb = ec = 100 v; tp = 3.0 μs; prr = 500	is	800	---	mA
	<u>Conformance inspection, part 2</u>					
---	Power output	F = 1,075 MHz ± 25 MHz; eb = 1,000 v; prr = 2,000; tp = 1.0 μs; cavity in accordance with 171-JAN	po	125	---	w
1031	Vibration	No voltages	---	---	---	---
1266	Total grid current		lc	0	-1.0	μA dc
1211	Insulation of electrodes	Ef = 6.3 V; Eg to all = 100 V dc	R	25	---	MegΩ
1316	Amplification factor		Mu	15	35	---
1331	Direct-interelectrode capacitance	Test in cavity in accordance with 170-JAN	{ Cgp Cgk Cpk	1.75	2.05	pF
				1.05	1.35	pF
				0.28	0.48	pF
---	Torque	Applied between anode and cathode without shock (see note 3)	---	10	---	lb-in.
---	Seal	T = 175°C (min); t = 16 hours (min) (see note 1)	---	---	---	---
	<u>Conformance inspection, part 3</u>					
---	Life-test provisions	Group C; power output t = 250 hours	---	---	---	---
---	Life-test end point	Power output	po	100	---	w

See notes at top of next page.

TABLE I. Testing and inspection - Continued.

NOTES:

1. This test shall consist of subjecting the tube to the temperature and minimum time specified, after which the tube shall be tested for heater current and the value shall be within 380 mA to 420 mA.
2. May be made at constant voltage as an alternate with $E_b/E_c = 10$ V dc; $R_k = 0$; $I_s = 35$ mA dc (min).
3. After subjection to the torque specified, the tube shall be tested for total grid current and the value shall not exceed $-1.2 \mu\text{A}$ dc.

Referenced documents. In addition to MIL-PRF-1, this document references the following:

MIL-STD-1311
170-JAN
171-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 5960-2013-006)

Review activities:

Army - CR4, MI
Navy - AS, CG, MC, OS
Air Force - 19, 99

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