VALVE ELECTRONIC

ADMIRALTY SURFACE WEAPONS ESTABLISHMENT

CV2851

Specification AD/CV2851 incorporating MIL-E-1/798A Issue 1, Reprint A, Dated 17.8.1960 To be read in conjunction with K1006	SECURITY Specification: Unclassified Valve: Unclassified

TYPE OF VALVE:- Thyratron: Inert gas
CATHODE:- Coated: Indirectly-heated.
ENVELOPE:- Glass
PROTOTYPE:- 3D22A

MARKING
K1001/4
Additional Marking
3D22A

RATINGS			Note
Heater Voltage	(V)	6.3	
Heater Current	(A)	2.6	
Max. Peak Inverse Anode Voltage	(V)	1300	
Max. Peak Forward Anode Voltage	(V)	650	
Max. Peak Grid 1 Voltage	(V)	-200	
Max. Peak Grid 2 Voltage	(V)	-100	
Max. Grid 1 D.C. Current	(mA)	5	
Max. Peak Grid 1 Current	(mA)	20	
Max. Cathode D.C. Current	(mA)	750	
Max. Peak Cathode Current	(A)	6	
Max. Heater-Cathode Voltage (Heater negative to Cathode)	(V)	100	
Max. Heater-Cathode Voltage (Heater positive to Cathode)	(V)	25	
Max. Grid series Resistance (Megohms)		2.0	
Min. Cathode Heating Time (Secs)		30	
Max. Ambient Temperature Range	(°C)	-75 to +90	

BASE
B.S.448/B7D

CONNECTIONS

Pin	Electrode
1	h_2
2	g^2
3	k_1
4	g_1
5	g^2
6	a
7	h

DIMENSIONS
See drawing on Page 2

NOTE

A. All limiting values are absolute

CV2851

MIL-E-1/798A
14 May 1956
SUPERSEDING
MIL-E-1/798
26 October 1954

INDIVIDUAL MILITARY SPECIFICATION SHEET

ELECTRON TUBE, THYRATRON

JAN-3D22A

This specification sheet forms a part of the latest issue of Military Specification MIL-E-1.

Ratings:	Ef	epx	epy	eg2	eg1	ik	Ik	ig1	Ig1	-Ehk	ƒEhk	Rg	F1	TA	tk	Alt
Absolute	Vac	v	v	v	v	a	mAdc	ma	mAdc	V	V	Meg	cps	°C	sec(min)	ft
Maximum:	6.3±10%	1300	650	-100	-200	6	750	20	5	100	25	2.0	---	-75to+90	30	10,000
Test Cond.:	6.3	---	---	0	---	---	---	---	---	---	---	---	60	---	60	---

**Cathode: Coated Unipotential
**Base: Medium Metal Shell with Ceramic Insert, Giant 7-Pin Bayonet, A7-17

*Height: 4-5/8 in. maximum
*Diameter: 2-3/8 in. maximum

**Pin No.:	1	2	3	4	5	6	7
Element:	h	g2	k	g1	g2	a	h

**Envelope: Per Outline

The following tests shall be performed:
For miscellaneous requirements, see Paragraph 3.3, Inspection instructions for Electron Tubes.

Ref.	Test	Conditions	AQL(%)	Insp. Level or Code	Sym.	LIMITS Min.	LAL	Bogie	UAL	Max.	ALD	Units
	Qualification Approval Tests											
3.1	Qualification Approval:	Required for JAN Marking		---	---							
---	Cathode:	Coated Unipotential		---	---							
3.4.3	Base Connections:			---	---							
	Measurements Acceptance Tests, Part 1; Note 1											
4.5	Holding Period:	t=72 hours										
4.10.8	Heater Current:		0.65	II	If:	2.35	---	---	---	2.85	---	Aac
4.10.17.2	Anode Voltage:	Ecc=0;Rg=0.1Meg;Rp=2000	0.65	II	Epp:	---	---	---	---	60	---	Vdc
4.10.19	Grid Voltage (1):	Epp=500Vac;Rg=2.0Meg;Rp=2000	0.65	II	Ecc:	-4.4	---	---	---	-9.2	---	Vdc
4.10.1.2	†Peak Emission:	ib=12a; Note 2	0.65	II	etd:	---	---	---	---	12.0	---	v
4.9.1	Mechanical:											
	Measurements Acceptance Tests, Part 2											
4.9.19.3	Bump:	Angle = 20°	6.5	IA	---	---	---	---	---	---	---	
4.9.19.2	Vibration:	Note 3	6.5	IA	---	---	---	---	---	---	---	
4.10.19	Grid Voltage (2):	Epp=500Vac;Rg=0.1Meg;Rp=2000; Note 4	6.5	IA	Ecc:	---	---	---	---	1.5	---	Vdc
4.10.19	Grid Voltage (3):	Epp=500Vac; Rg=2.0Meg;Rp=2000; Note 5	6.5	IA	Ecc:	-4.4	---	---	---	-9.2	---	Vdc
4.10.19	Grid Voltage (4):	Epp=500Vac; Rg=2.0Meg;Rp=2000; Note 6	6.5	IA	Ecc:	-4.4	---	---	---	-9.2	---	Vdc
---	Grid Voltage Difference:	Note 7	6.5	IA	ΔEcc:	---	---	---	---	1.0	---	Vdc
4.10.13	Operation:	Epp=1000Vac;Rp/Ib=750 mAdc;Ecc=0;Rg=0.1Meg; t=30	6.5	IA	---	---	---	---	---	---	---	

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Ref.	Test	Conditions	AQL(%)	Insp. Level or Code	Allowable Defectives per Characteristic: 1st Sample	Allowable Defectives per Characteristic: Combined Samples	Sym.	Limits: Min.	Limits: Max.	Units
	Acceptance Life Tests									
4.11	Life Test:	Group C;Epp=460Vac; Ib=750mAdc;ik=4.7 a;Rg=.05Meg;Resistance Load					t:	500	---	hours
4.11.4	Life Test End Point:	ib=12a; Note 2					etd:	---	20.0	v
	Packaging Requirements									
4.9.18.1.6	Container Drop:	(d) Package Group 1; Container Size M								

Note 1: The AQL for the combined defectives for attributes in Measurements Acceptance Tests, Part 1, excluding Mechanical, shall be one percent. A tube having one or more defects shall be counted as one defective. MIL-STD-105, Inspection Level II, shall apply.

Note 2: Tube shall be operated as a diode rectifier, with g2 and g1 tied to anode.

Note 3: No voltages applied during vibration. Vibrate for 10 minutes. Tube to be vibrated so that the table motion is along the shortest line between anode and cathode.

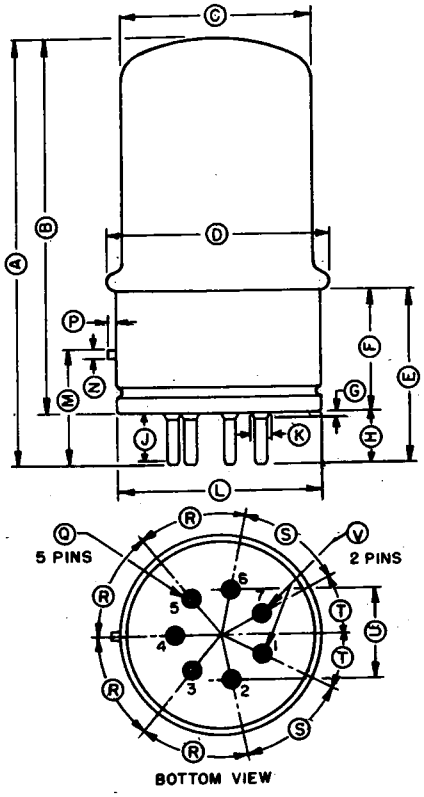
Note 4: The difference in value of Ecc in the first and second grid-voltage tests shall not exceed the specified value.

Note 5: Test to be made after two light taps with a standard No. 8 cork mallet in direction from cathode to anode.

Note 6: Test to be made after two light taps with a standard No. 8 cork mallet in direction from anode to cathode.

Note 7: The difference in value of Ecc in the third and fourth grid-voltage tests shall not exceed the specified value.

Note 8: Reference specification shall be of the issue in effect on the date of invitation for bid.



REF	DIMENSIONS MIN	MAX
*A		4 5/8
**B		4
**C		2 1/16
*D		2 3/8
**E	1.875 NOM	
**F	1.338 NOM	
**G		.065
**H		.562
**J	.450	
**K		195
**L	2.146	2.188
**M	1.210	1.250
**N		.082
**P	.079	.109
**Q	.122 DIA	.128 DIA
**R	51°	
**S	52°	
**T	26°	
**U	1.000 NOM	
**V	.153 DIA	.159 DIA