

SPECIFICATION CV.1759. ISSUE 1. dated 28-5-56

AMENDMENT NO. 1

PAGE A. - Top left-hand box

AMEND "Issue 1" to read "Issue 2".

(Specification MOS(A)/CV1759 incorporating MIL-E-1/630
Issue 2 (as amended) dated 28th May, 1956 supersedes
specification MAP/CY1759 Issue 1 (Tentative) dated
14th March, 1947).

April, 1957.

T.V.C. Office
for R.R.E.

MINISTRY OF SUPPLY - R.A.E. (South)

Specification MOS(A)/CVI759 incorporating MIL-E-1/630 Issue 1 Dated 28th May 1956 To be read in conjunction with K1006		<u>SECURITY</u> <u>Specification</u> Restricted		<u>Valve</u> Unclassified	
TYPE OF VALVE - Transmitting triode CATHODE - Indirectly heated ENVELOPE - Glass - Unmetallised PROTOTYPE - 2C26A		<u>MARKING</u> K 1001/4 <u>Additional Marking</u> 2C26A			
<u>RATING (See note D):</u>		<u>Note</u>		<u>BASE</u> 1.0	
Hester Voltage (V)	6.3	A	B	<u>Pin</u> 1 2 3 4 5 6 7 8 TC1 TC2	<u>Electrode</u> No connection Hester No connection No connection No connection No connection Hester Cathode Grid Anode
Hester Current (A)	1.1				
Max. Anode Voltage (KV)	3.5				
Max. Grid Voltage (V)	-700				
Max. Anode Dissipation (W)	10				
Max. Grid Dissipation (W)	2.5				
Max. Grid Circuit Resistance (MΩ)	0.05				
Max. Heater - Cathode Voltage (V)	100				
Max. Pulse Length (μsec)	10				
Max. Duty Cycle (%)	1.0				
Mutual Conductance (mA/V)	2.2	C			
Amplification Factor	16.25	C			
<u>CAPACITANCES (pF)</u>				<u>PLUG TOP CAPS and DIMENSIONS</u> See drawing on Page 3	
C _{eg}	2.75			<u>MOUNTING POSITION</u> Any	
C _{ae}	1.1				
C _{ge}	2.6				
<u>NOTES</u>					
A. The valve may be operated with V _h between 5.7 and 6.0 volts when I _a (peak) does not exceed 6.0 amps. With V _h less than 6.0 volts, full power output may not be obtained with I _a (peak) greater than 6.0 amps.					
B. The anode voltage source shall not have a regulation characteristic better than the equivalent of 0.1 μF capacitor charged by a source with an internal resistance of 10,000 ohms.					
C. Measured at V _h = 6.3V., V _a = 400V., V _g = (-15V).					
D. These ratings apply when the valve is used under pulse conditions and with anode modulation. With grid modulation V _a should not exceed 2.5KV at W _a = 10 watts max. or 2.8 KV with W _a = 5W max.					
E. Before applying high potential, the cathode should be pre-heated for at least 30 secs. when V _h = 6V min., and for at least 45 secs, when V _h is less than 6.0 volts.					
F. Under oscillation service, the valve should not be operated without load when V _a exceeds 85% of its maximum rating.					

Z.12275.R.

INDIVIDUAL MILITARY SPECIFICATION SHEET ELECTRON TUBE, TRANSMITTING, TRIODE, TYPE

JAN-2C28A

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

Description: UHF Triode, Transmitting

Ratings:	Ef	Eb	Ec	Pg	Pp	Rg	Ehk	Lgth.	Cycle	Cathode		Alt
										Pre-	Modulation	
Absolute	V(Note 1)	Vdc	Vdc	W	W	Meg	V	us	%	t (min)		ft
Maximum:	6.3/10%-5%	3500	-700	2.5	10	.05	100	10	1.0	30	Plate-Note 2	10,000
	6.3/10%-5%	2500	-700	2.5	10	.05	100	10	1.0	30	Grid-Notes	10,000
	6.3/10%-5%	2800	-700	2.5	5	.05	100	10	1.0	30	2 and 3	10,000

Test Cond.: 6.3 400 -15 --- --- --- --- --- --- --- --- ---

*Height: 3-7/16 in. min.; 3-11/16 in. max. *Diameter: 1-5/16 in. max.
 **Base: Intermediate Shell Octal 8-Pin, B8-6, Low-Loss Phenolic **Cap: As Per Outline
 **Pin No.: 1 2 3 4 5 6 7 8 Cap Cap **Cathode: Coated Unipotential
 Element: nc h nc nc nc nc h k g p **Envelope: T-9 As Per Outline

For miscellaneous requirements, see Paragraph 3.3, Inspection Instructions for Electron Tubes.

Ref.	Test	Conditions	Min.	Max.
3.1	Qualification Approval:	Required for JAN Marking		
4.9.18.1.7	Carton Drop:	(d) Package Group 1; Carton Size E		
4.9.19.1	*Vibration:	Eb=250Vdc; Kc=-7Vdc; Rp=2000	Ep: ---	150 mVac
---	Arc Discharge:	Eb=3000Vdc; Ec=-275Vdc; Rg=5000; Note 4		
---	*Altitude Test:	Ec=-300Vdc; Eb=3000Vdc; Pressure=70mm Hg Abs.; TA=18°C min.; t=180; Note 5		
4.10.8	*Heater Current:		Ib: 1.0	1.2 A
4.10.15	*Heater-Cathode Leakage:		Ihk: 0	100 uAdc
4.10.6.1	†Grid Current:		Ic: 0	-2.0 uAdc
4.10.4.1	Plate Current (1):		Ib: 10	22 mAdc
4.10.4.1	*Plate Current (2):	Ec=-35Vdc	Ib: ---	100 uAdc
4.10.9	*Transconductance:		Sm: 1700	2700 umhos
4.10.11.1	*Amplification Factor:		Mu: 15.0	17.5
4.10.7.1	†Oscillator Grid Current:	Eb=325Vdc; F=100Mc; Ib=26-34 mAdc; Rg=50,000/5%; Circuit as per diagram	Ic: 1.3	--- mAdc
4.10.1.1	Emission:	Eb=Ec=50Vdc	Is: 125	--- mAdc
---	Peak Emission:	eb=eg=2500v; Note 6	is: 15	--- a

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Ref.	Test	Conditions	Min.	Max.
4.10.14	*Capacitance:	Without Shield	C _{gp} : 2.3	3.2 uuf
		Without Shield	C _{in} : 2.2	3.0 uuf
		Without Shield	C _{out} : 0.6	1.6 uuf
4.11	Life Test:	Group A; E _c =12Vdc	t: 500	— hrs
4.11.4	Life Test End Point:	Peak Emission	i _s : 11	— a

Note 1: The tube may be operated with a filament potential between 6.0 and 5.7 when the peak plate current does not exceed 6.0 amperes. At a filament potential below 6.0 volts with peak plate currents greater than 6.0 amperes, the full power output capabilities of the tube may not be realized.

Note 2: For both grid and plate pulse service, cathode must be hot before applying high potential. The cathode should be preheated a minimum of 30 seconds with a minimum heater potential of 6 volts. Otherwise a 45 seconds preheat time should be allowed. Under oscillation service the tube should not be operated without load when the plate voltage exceeds 85% of its maximum rating.

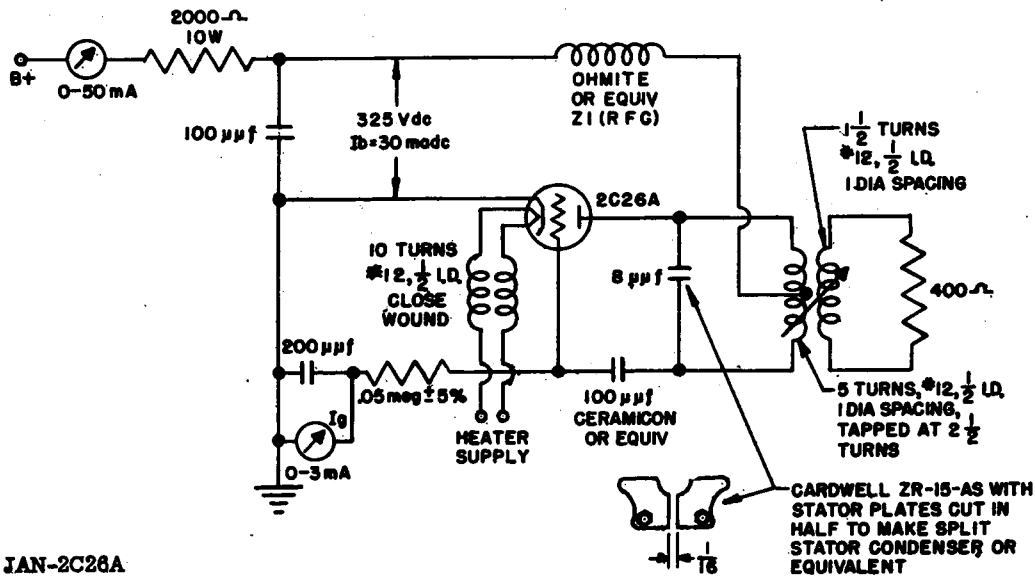
Note 3: The plate voltage source should not have a regulation characteristic better than the equivalent of a 0.1 uuf capacitor charged by a source with an internal resistor of 10,000 ohms.

Note 4: After a minimum preheat of one minute using E_f=6.3V only, the tube shall be gently tapped while being tested with a plate supply having a regulation characteristic simulating a charged capacitor of 0.1 uuf. The tube shall not exhibit sustained internal arcing when a 0.5 uuf capacitor charged to 350Vdc is discharged across the grid to cathode. Initial arcing may be tolerated but the tube shall be free of such arcing during the last 15 seconds of this test.

Note 5: Tubes showing evidence of sustained external arcing between any two terminals of the tube shall be rejected. The tubes may be dried before the test and corona is not considered cause for rejection. On evidence of satisfactory quality the test may be limited to 5 tubes-per month when the type is in continuous production.

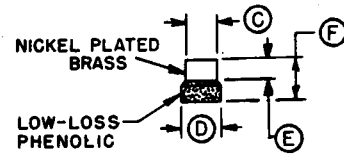
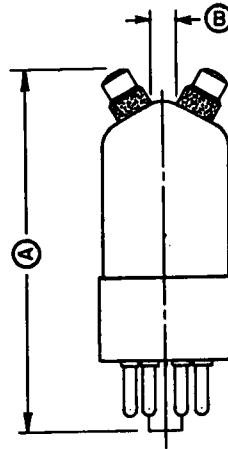
Note 6: After a minimum preheating of 30 sec. using E_f=6.3V only, a suitable pulse having the specified potential may be applied to the tube. Initial arcing may be tolerated, but tubes shall be free from such arcing at the completion of the test.

Note 7: Reference specification shall be of the issue in effect on the date of invitation for bid.

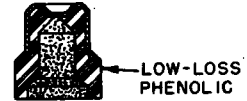
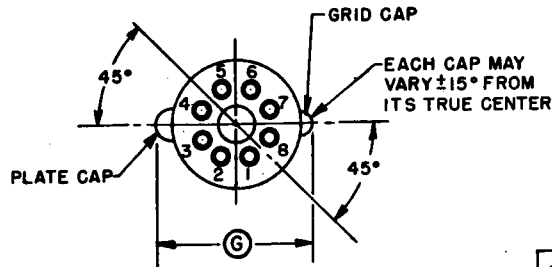


CVI759

MIL-E-1/630
4 March 1954



TOP CAP
SPECIAL INSULATED
MINIATURE



CROSS-SECTION VIEW
OF UNASSEMBLED CAP

DESIGN TEST MEASUREMENTS: ABG
QUALIFICATION APPROVAL TEST
MEASUREMENTS: CDEF

REF	DIMENSIONS
A	3-7/16 MIN 3-11/16 MAX
B	11 32 MIN
C	.250 ± .005
D	.360 ± .010
E	.210 ± .015
F	.350 ± .015
G	1 5/16 MAX

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