

VALVE ELECTRONIC **CV3789**

Specification MOA/CV3789	<u>SECURITY</u>	
Issue 1 dated 25. 7. 61.	<u>Specification</u> Unclassified	<u>Valve</u> Unclassified
To be read in conjunction with K1006, MIL-E-1/466 as amended by Page B.		

indicates a change

TYPE OF VALVE - Triode ENVELOPE - Glass CATHODE - Indirectly heated PROTOTYPE - 5842,417A/5842 (Note A)				<u>MARKING</u> See K1001/4																														
<u>RATING</u> All limiting values are absolute				<u>BASE</u> See BS448/B9A/1.1																														
<table><tr><td colspan="2"></td><td colspan="2">Notes</td></tr><tr><td>Heater Voltage</td><td>(V)</td><td>6.3</td><td rowspan="9"></td></tr><tr><td>Heater Current</td><td>(A)</td><td>0.3</td></tr><tr><td>Max.Anode Voltage</td><td>(V)</td><td>200</td></tr><tr><td>Max.Negative Grid Voltage</td><td>(V)</td><td>20</td></tr><tr><td>Max.Anode dissipation</td><td>(W)</td><td>4.5</td></tr><tr><td>Max.Cathode Current</td><td>(mA)</td><td>38</td></tr><tr><td>Max.Heater cathode voltage</td><td>(V)</td><td>55</td></tr><tr><td>Max.Bulb Temperature</td><td>(°C)</td><td>160</td></tr></table>						Notes		Heater Voltage	(V)	6.3		Heater Current	(A)	0.3	Max.Anode Voltage	(V)	200	Max.Negative Grid Voltage	(V)	20	Max.Anode dissipation	(W)	4.5	Max.Cathode Current	(mA)	38	Max.Heater cathode voltage	(V)	55	Max.Bulb Temperature	(°C)	160	<u>DIMENSIONS</u> See BS448/B9A/2.1.1.	
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<u>CHARACTERISTICS</u> <table><tr><td>gm</td><td>(mA/V)</td><td>25</td><td>B</td></tr><tr><td>Noise Factor at 45 Mc/s</td><td>(db)</td><td>2</td><td>B</td></tr><tr><td>at 400Mc/s</td><td>(db)</td><td>8</td><td>B</td></tr></table>				gm	(mA/V)	25	B	Noise Factor at 45 Mc/s	(db)	2	B	at 400Mc/s	(db)	8	B	<u>MOUNTING POSITION</u> Any																		
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				<u>CONNECTIONS</u> Pin																														
				1	Anode																													
				2	I.C.																													
				3	Heater																													
				4	Grid																													
				5	Grid																													
				6	Cathode																													
				7	Grid																													
				8	Grid																													
				9	Heater																													

<u>NOTES</u>	
A.	This should not be confused with the Klystron 417A
B.	At Va = 150v Vg1 = -1.5v (approx) Rk = 60 ohm. Ia = 25mA.

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- 4.9.19.1 This test to be performed at a frequency of 50c/s instead of 25c/s. Acceleration 2.5.g.
- 4.10.3.1. This test may be performed using any other approved equipment.
- 4.10.8. These two tests shall be performed at Inspection Level 100%
- 4.10.15.
- 4.10.11.1 ~~These two tests shall be performed at Inspection Level 1A, AQL 6.5% For the lot size see K1001.~~
- 4.10.14 ~~Appendix XI 3.2.~~
- 4.10.11.1 This test shall be performed at Inspection Level 1A, AQL 6.5%.
- For the lot size see K1001 / Appendix XI / 3.2
- 4.10.14 This test shall be performed at Inspection Level 1A, AQL 6.5%.
- For the lot size see K1001 / Appendix XI / 3.2
- The following limits shall apply
- | | min | max | |
|-------|-----|------|----|
| Ck-gl | 7 | 10 | PF |
| Cp-kh | - | 0.55 | PF |
| Cp-gl | 1.5 | 1.95 | PF |
| | | 2.15 | |
- (Amend 2)

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NOTICE: When Government drawings, specifications, or other data are used for any purpose other than in connection with a definitely related Government procurement operation, the United States Government thereby incurs no obligation whatsoever, and the fact that the Government may have formulated, furnished, or in any way supplied the said drawings, specifications, or other data is not to be regarded by implication or otherwise as in any manner licensing the holder or any other person or corporation, or conveying any rights or permission to manufacture, use, or sell any patented invention that may in any way be related thereto.

JAN-5842										
Ratings:	Ef	Eb	Ec	Rk	Ik	Pp	Ehk	Ck	Bulb Temp.	Alt
Absolute	V	Vdc	Vdc	ohms	mAdc	W	V	uf	°C	ft
Maximum:	6.3/10%	200	—	—	38	4.5	55	—	160	10,000
Test Cond.:	6.3	150	0	60	—	—	—	Note 1	—	—
*Height:	1-3/4 in. Max.					*Diameter: 7/8 in. Max.				
**Base: Miniature Button 9-Pin, E9-1										
**Pin No.:	1	2	3	4	5	6	7	8	9	**Cathode: Coated Unipotential
Element:	p	nc	h	g	g	k	g	g	h	**Envelope: T-6-1/2 (6-6)
Ref.	Test	Conditions				Min. Max.				
3.1	Qualification Approval:	Required for JAN Marking								
4.9.18.1.1	Carton Drop:	(d) Package Group 1; Carton Size B								
4.8	#Insulation of Electrodes:	Note 3								
4.9.19.1	*Vibration:	Rp=2000; Rk=0; Ec=-2.0Vdc				Ep: —		500 mVac		
4.10.8	*Heater Current:					If: 280		320 mA		
4.10.15	*Heater-Cathode Leakage:					Ihk: 0		20 uAdc		
4.10.6.1	Grid Current:	Note 2				Ic: 0		-0.5 uAdc		
4.10.4.1	Plate Current (1):					Ib: 16.0		30.0 mAdc		
4.10.4.1	Plate Current (2):	Ec=-10Vdc				Ib: —		100 uAdc		
4.10.9	Transconductance (1):					Sm: 20000		30000 umhos		
4.10.9	Transconductance (2):	Ef=5.7V				Δ Sm: —		12 %		
4.10.3.1	RF Noise:	Esig=30mVac								
4.10.11.1	*Amplification Factor:					Mu: 35		55		
4.10.14	*Capacitance:	Without Shield				Ck-gh: 8.0		10.0 uuf		
		Without Shield				Cp-kh: —		0.55 uuf		
		Without Shield				Cp-gh: 1.5		1.95 uuf		
4.11	Life Test:	Group D; Ef=6.3V; Eb=150Vdc; Ec=0; Rk=60; Ehk=55V				t: 500		— hrs		
4.11.4	Life Test End Point:	Transconductance (1) and Grid Current				Sm: 16000		— umhos		
						Ic: —		-1.0 uAdc		
Note 1:	The reactance of the cathode by-pass capacitor shall be 0.5 ohms maximum at the test frequency.									
Note 2:	Approved Alternate Test: The insertion of a 0.47 megohm resistor in series with the grid shall not change the plate current by more than 3.0 mAdc.									
Note 3:	Cathode plus heater to all insulation resistance shall be measured with a potential of 100 Vdc. Plate to all insulation resistance shall be measured with a potential of 300 Vdc.									
Note 4:	Reference specification shall be of the issue in effect on the date of invitation for bid.									
CUSTODIANS:		SPECIFICATION SHEET						MIL-E-1/466		
Army-Signal Corps Navy-Bureau of Ships Air Force										
PROCUREMENT SPECIFICATION MIL-E-1		ELECTRON TUBE, RECEIVING, TRIODE, MEDIUM-MU, GROUNDED GRID						5842		
								SHEET 1 OF 1		

APPROVED 7 JANUARY 1954 (REVISED)

Other interest: Army - CHOT, Navy - AMCMdOrS

ELECTRONIC VALVE SPECIFICATIONS
SPECIFICATION MOA/CV3789 ISSUE 1 DATED 25.7.61
AMENDMENT NO. 1

Page B

4.10.11.1 and 4.10.14. Delete these requirements in their entirety and substitute the following:-

4.10.11.1. This test, shall be performed at Inspection Level IA, A.Q.L. 6.5%. For the Lot Size, see K.1001/Appendix XI/3.2.

4.10.14. This test shall be performed at Inspection Level IA, A.Q.L. 6.5%. For the Lot Size, see K.1001/Appendix XI/3.2. The following limits shall apply:-

	Min.	Max.
Ck-gh	7	10 pF.
Cp-kh	-	0.55 pF.
Cp-gh	1.5	1.95 pF.
		<i>2.15</i> <i>Amell. 2</i>

January, 1963.
N.152465

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

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ELECTRONIC VALVE SPECIFICATIONS

SPECIFICATION MOA/CV 3789 ISSUE NO.1 DATED 25.7.61
AMENDMENT NO.2

Foot of Amendment No.1.

Amend the Cp-gh limits of "1.5 to 1.95 pF" to read
"1.5 to 2.15 pF".

March, 1963.

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

N.175381

✓AAR
28/63