MINISTRY OF AVIATION, D.L.R.D./R.A.E.

VALVE ELECTRONIC **CV2975**

SPECIFICATION M.O.S./CV.2975

Issue No.1 Dated 1.1.60.

To be read in conjunction with K.1006 and BS.448.

SECURITY	
SPECIFICATION	VALVE
Unclassified	Unclassified

TYPE OF VALVE: Output Pentode.
CATHODE: Indirectly heated.
ENVELOPE: Glass.
PROTOTYPE: EL.84.

MARKING

K.1001/4

BASE

BS.448/B9A.
(E9-1, Miniature button 9 pin.)

RATINGS
(All limiting values are absolute)

Heater Volts	(V)	6.3
Heater Current	(A)	0.76
Max. Anode Voltage	(V)	330
Max. Anode Dissipation	(W)	13
Max. Screen Voltage	(V)	330
Max. Screen Dissipation (zero signal)	(W)	2.2
Max. Cathode Current	(mA)	72
Max. Heater Cathode Voltage	(V)	100

CONNECTIONS

Pin	Electrode	
1	Internal Connection	IC
2	Control Grid	g1
3	Cathode + Suppressor	k+g3
4	Heater	h
5	Heater	h
6	Internal Connection	IC
7	Anode	a
8	Internal Connection	IC
9	Screen Grid	g2

TYPICAL OPERATING CONDITIONS

	Single Valve Class "A" Amplifier		Two Valves Class "AB" Push-Pull		Notes
	Pentode Connections				
Va (V)	250	Va (V)	300		
Vg2 (V)	250	Vg2 (V)	300		
Vg1 (V)	-7.3	Rk (Ω)	130		
Ia (mA)	48	Ia (mA)	72		1,4
Ig2 (mA)	5.5	Ig2 (mA)	8		2,4
gm (mA/V)	11.3	RL (kΩ)	8		
RL (kΩ)	4.5	Pout (W)	17		
Pout (W)	4.7				
Esig (VAC)	4.4				

DIMENSIONS

See BS.448/B9A/2.1
Size Ref. No.4.

Dimensions mm	Min.	Max.
A Seated height	-	71.5
C Diameter	19.0	22.2
D Overall length	-	78.5

CAPACITANCE (pF) Note 3

Cag (max.)	0.5
Cin (nom.)	10.8
Cout (nom.)	6.5

MOUNTING POSITION

Any.

PACKAGING

See K.1005.

NOTES

1. Anode current = 36 mA per valve.
2. Screen current = 4 mA per valve.
3. Valve unscreened.
4. Zero signal value.

TESTS

TEST CONDITIONS	Ef (V)	Eb (V)	Ec2 (V)	Ec1 (V)
	6.3	250	250	-7.3

Height: $3\frac{3}{32}$" max. overall. **Diameter:** $\frac{7}{8}$" max.

Base: E9-1, miniature button 9-pin. **Cathode:** Coated unipotential.

Envelope: T6½/2-(6-4)

Pin No.	1	2	3	4	5	6	7	8	9
Element	i.c.	g1	kg3	h	h	i.c.	a	i.c.	g2.

K.1006 Ref.	Test	Test Conditions	AQL %	Insp. Level	Symbol	LIMITS Min.	LIMITS Max.	Units
	GROUP A							
4.10.6.1	Reverse Grid Current	Rg1 = 500kΩ max.	-	100%	-Ig1	-	1.5	μA
	Electrode Insulation	Ef = 6.3V. Note 2						
		Ec1-all = -100V.		100%	R	10	-	MΩ
		Ec2-all = -300V.		100%	R	10	-	MΩ
		Ea-all = -300V.		100%	R	10	-	MΩ
	GROUP B	Combined AQL	1.0					
4.10.8	Heater Current		0.65	II	If	690	830	mA
4.10.15	Heater-Cathode Leakage Current	Ehk = 100V. k positive. Note 1.	0.65	II	Ihk	-	40	μA
4.10.4.1	Plate Current	Note 3.	0.65	II	Ib	35	70	mA
4.10.4.3	Screen Current		0.65	II	Ic2	2.0	8.5	mA
4.10.9	Transconductance		0.65	II	Sm	8200	14400	μmhos
	GROUP C	Combined AQL	4.0					
4.10.1.1	Emission	Eb=Ec1=Ec2=40Vac.	2.5	I	Is	130	-	mA
4.10.16	Power Output	Esig = 4.7Vac. Rp = 5kΩ.	2.5	I	Po	4.4	-	W
	GROUP D							
4.10.14	Capacitance	Valve unscreened	6.5	IC	Cgp	-	0.5	pF
					Cin	9.7	11.9	pF
					Cout	5.5	7.5	pF
	GROUP F							
4.11.4	Life Test	Ehk = 100V.d.c. k positive. Rg1 47kΩ Rk = 150Ω		Group A				
4.11.4	Life Test End Point (500 hours)							
4.10.16	Power Output	As in Group C.	2.5	-	Po	3.0	-	W

NOTES

1. 1MΩ protective resistance in series.
2. Heater strapped to cathode and considered as a single electrode.
3. The limits for Ia are asymmetrical. Bogey Ia = 48mA.