

MINISTRY OF SUPPLY - DLRD(A)/RRE(South)VALVE ELECTRONIC**CV4030**

Specification MOS(A)/CV4030	<u>SECURITY</u>	
Issue 3 Dated 16. 6. 55	<u>Specification</u>	<u>Valve</u>
To be read in conjunction with K1001	UNCLASSIFIED	INCLASSIFIED

→ Indicates a change

TYPE OF VALVE - Reliable Voltage Stabiliser with flexible loads.			MARKING	
CATHODE - Cold			See K1001/4	
ENVELOPE - Glass - Unmetallised				
PROTOTYPE - CV434				
<u>RATING</u>			<u>BASE</u>	
			B8G/F	
			<u>CONNECTIONS</u>	
			Lead	Electrode
Max. Striking Voltage	(V)	115	1	No connection
Nom. Operating Voltage	(V)	75	2	Anode
Max. Anode Current	(mA)	60	3	Priming Anode
Max. Shock (short duration)	(g)	500	4	No connection
Max. Acceleration (continuous operation)	(g)	2.5	5	No connection
			6	No connection
			7	No connection
			8	Cathode
			<u>DIMENSIONS</u>	
			See Drawing on Page 4	
			<u>MOUNTING POSITION</u>	
			Any	
<u>NOTE</u>				
A. All limiting values are absolute.				

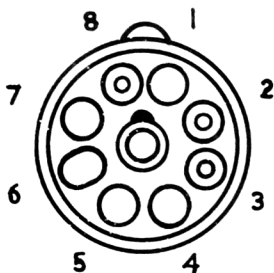
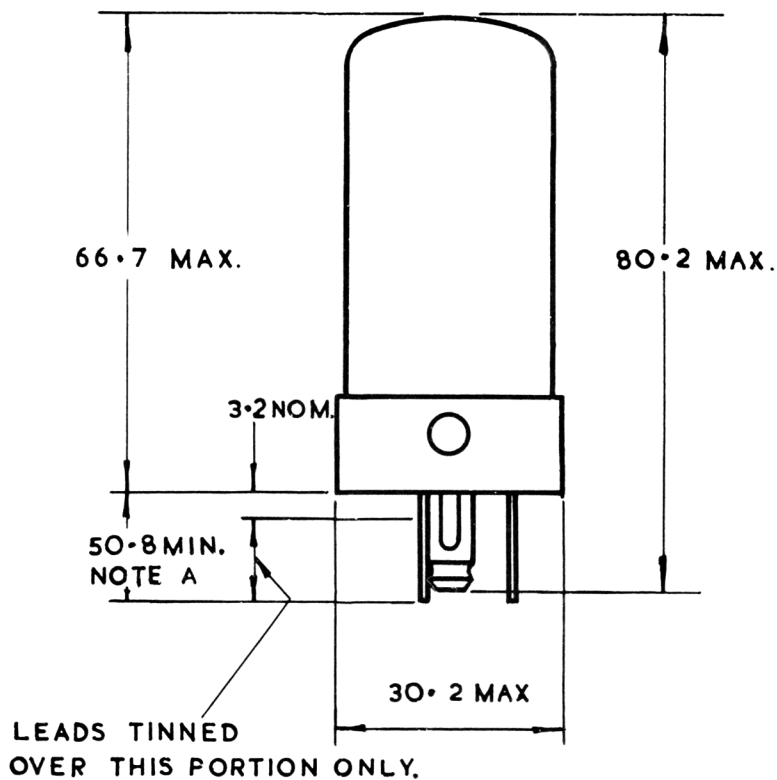
To be performed in addition to those applicable in K1001

K1001	Test	Test Conditions	AQL %	Insp. Level	Sym-bol	Limits		Units
						Min	Max	
11.1 7.1	Vibration Glass Strain	No voltages No voltages	6.5	100% I				
Ampl	<u>GROUP A</u>							
	Striking Voltage	Note 1		100%	Vs	-	115	V
	Transfer Voltage	Note 2		100%	Vt	-	90	V
	Maintaining Voltage	Notes 2 and 3 Ia = 30mA		100%	Vm	70	80	V
	Regulation (1)	Ia changed from 5mA to 60mA		100%	Vr	-	6.5	V
	Regulation (2)	Ia changed from 5mA to 30mA		100%	Vr	-	3.5	V
	Leakage Current (1)	V (anode + primer to cathode) = 50V		100%	I	-	10	μ A
	Leakage Current (2)	V (primer to anode) = 50V		100%	I	-	10	μ A
	Noise Output	Notes 2, 3 and 4.		100%	Va AC	-	10	mV
	Voltage Jumps	Ia varied from 60mA to 5mA and back. Time of sweeps not to exceed 1mA per second. Notes 2, 3 and 4	-	100%	Va	-	250	mV p.p. r.m.s.
5.12	<u>GROUP B</u> Lead Fragility	No voltages	6.5	IA				
11.2	<u>GROUP C</u> Resonance Search	Combined AQL Note 4 Ia = 30mA Frequency = 25-500c/s	6.5 2.5	IA EAC	Va AC f	- 200	25 -	mV r.m.s. c/s
11.3	Fatigue	Acceleration = 5g Duration = 3 x 23 hrs 30420+29		IA				
11.4	<u>Post Fatigue Tests</u>							
	Striking Voltage	Note 1	2.5		Vs	-	115	V
	Maintaining Voltage	Notes 2 and 3 Ia = 30mA	2.5		Vm	70	80	V
	Shock	Hammer angle = 30° No voltages		IA				
	<u>Post Shock Tests</u>							
	Striking Voltage	Note 1	2.5		Vs	-	115	V
	Maintaining Voltage	Notes 2 and 3 Ia = 30mA	2.5		Vm	70	80	V

K1001	Test	Test Conditions	AQL %	Insp. Level	Symbol	Limits		Units
						Min	Max	
	GROUP D							
AVI /5	Life Test	Notes 2 and 3 Ia = 30mA		IA				
AVI /5.3	Intermittent Life Test	Notes 2 and 3 Ia = 30mA						
	Life Test End-point (500 hours)		6.5					
AVI /5.6	Incorporatives		2.5					
	Striking Voltage	Note 1	2.5		Vs	-	115	V
	Transfer Voltage	Note 2	2.5		Vt	-	90	V
	Maintaining Voltage	Notes 2 and 3 Ia = 30mA	2.5		Vm	68	83	V
	Regulation (1)	Ia changed from 5mA to 60mA	2.5		Vr	-	7.0	V
	Regulation (2)	Ia changed from 5mA to 30mA	2.5		Vr	-	4.0	V
	Leakage Current (1)	V (anode + primer to cathode) = 50V	2.5		I	-	15	μA
	Leakage Current (2)	V (primer to anode) = 50V	2.5		I	-	15	μA
	Noise Output	Notes 2, 3 and 4.	4.0		Va AC	-	15	mV r.m.s.
	GROUP E							
AIX /2.5	Electrical retest after 28-day holding period		0.5	100%				
AVI /5.6	Incorporatives		0.5	100%				
	Striking Voltage				Vs	-	120	V

NOTES

1. A DC voltage shall be applied between the priming anode (positive) and the cathode, with the main anode floating. The voltage shall be increased steadily until the valve strikes, from an initial value of not more than 65V and at a rate not exceeding 25V/sec.
2. 115V DC, having not more than a 0.5% ripple content shall be applied to the priming anode through a limiting resistance of 100k. A DC voltage shall be applied to the main anode and shall be increased steadily until transfer of conduction to the main anode occurs, at a rate not exceeding 25V/sec, and from an initial value of not more than 65V.
3. A limiting resistance of at least 5000 ohms shall be connected between the supply voltage and the main anode.
4. A calibrated detector, having substantially uniform response over the frequency range 50-5000 c/s shall be connected between anode and cathode. At no point in the range of cathode current (60-5mA) shall the noise input voltage exceed the specified limit.



NOTE A. LEADS SHALL BE FLEXIBLE 25-27 S.W.G
TINNED COPPER WIRE

ALL DIMENSIONS IN MILLIMETRES.

ELECTRONIC VALVE SPECIFICATIONS

SPECIFICATION MOS(A)/CV4030 ISSUE 3 DATED 16.6.55

AMENDMENT NO.1

Page 2 Group A.

Below the Noise Output test insert "Voltage Jumps" test as follows:-

K1001	TEST	TEST CONDITIONS	AQL.	INSP. LEVEL	SYM- BOL.	LIMITS		UNITS
			%			MIN.	MAX.	
	Voltage Jumps	Ia varied from 60mA to 5mA and back. Time of sweeps not to exceed 1mA per second. Notes 2, 3 and 4.	-	100%	Va	-	250	mVpk.

May 1963

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

(163732)

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5/6/63