VALVE ELECTRONIC **CV4053**

ADMIRALTY (A.S.R.E.)

Specification Adm/CV4053

Issue 1 Dated 24. 10. 55.

To be read in conjunction with K1001 and BS.1409

SECURITY	
Specification	Valve
Unclassified	Unclassified

TYPE OF VALVE - Reliable gas-filled voltage stabiliser with flexible leads.

CATHODE - Cold

ENVELOPE - Glass

PROTOTYPE - VX9133

MARKING

K1001/4

BASE

B7G/F

RATING

			Note
Max. Striking Voltage	(V)	180	
Nominal Stabilised Voltage	(V)	150	
Max. Anode Current	(mA)	15	
Min. Anode Current	(mA)	2	
Voltage Regulation over Current Range	(V)	4.5	
Max. Acceleration (Continuous Operation)	(g)	2.5	
Max. Shock (Short Duration)	(g)	500	

CONNECTIONS

Lead	Electrode	
1	Anode	a
2	Cathode	k
3	Internally Connected	
4	Cathode	k
5	Anode	a
6	Internally Connected	
7	Cathode	k

DIMENSIONS

K1001/A1/D11

Dimension (mm)	Min.	Max.
A. Seated height	-	47.5
B. Diameter	16	19
C. Lead length	38	—

MOUNTING POSITION

Any

NOTES

A. All limiting values are absolute.

To be performed in addition to those applicable in K1001

Tests are to be performed in the specified order unless otherwise agreed with the Inspecting Authority.

Test conditions, unless otherwise specified:-

Va (V)	R lim. (Ohms)	I_a (mA)
Adjusted	5 K	10.0

A D.C. voltage not exceeding 100 volts shall be applied between anode and cathode through a limiting resistance of 5 K ohms, and shall be increased steadily at a rate not exceeding 25V/Sec. until the valve strikes. The ripple content of the supply shall not exceed 0.25%.

After the valve has struck the supply voltage shall be further increased until the anode current is 10mA. It shall be maintained constant for 3 mins. before any characteristic other than striking voltage is measured.

K1001	Test	Test Conditions	AQL %	Insp. Level	Symbol	Limits Min.	Limits Max.	Units	Notes
~~11.1~~	~~Vibration~~	~~No voltages~~		~~100%~~					1
	Lead continuity	No voltages		100%					
7.1	Glass strain	No voltages	6.5	1					
	GROUP A								
	Leakage.	V_a = 50V		100%		-	20	/uA	
	Striking voltage.			100%	V_s	-	180	V	
	Maintaining voltage			100%	V_m	146	154	V	
	Regulation.	δV_m for change in I_a from 2 to 15 mA		100%	V_r	-	4.5	V	
	Electrical noise.	I_a varied over the range 2 to 15 mA		100%	Va A.C.	-	50	mV P/P	2
	Voltage jumps.	I_a varied over the range 2 to 15 mA		100%		-	1	V	2
	GROUP B								
	Lead fragility	No voltages	6.5	I_A					
	GROUP C	Combined AQL	6.5						
11.2	Resonance Search(1)	Frequency 25-500 c/s		1					
	Noise output due to resonance.		2.5		Va A.C.		25	mV P/P	
11.3	Fatigue Test.	No voltages Duration 3 x 23 hrs. Acceleration = 5g. Frequency = 170 c/s		I_A					
	Post Fatigue Test								
	Striking Voltage.		2.5		V_s		180	V	
	Change of maintaining voltage.		2.5		δV_m		±2.0	V	
11.4	Shock Test	No voltages Hammer angle = 30°		I_A					
	Post Shock Test								
	Striking Voltage.		2.5		V_s		180	V	
	Change of maintaining voltage.		2.5		δV_m		± 2.0	V	

/GROUP D .....

CV4053

K1001	Test	Test Conditions	AQL %	Insp. Level	Symbol	Limits Min.	Limits Max.	Units	Notes
AVI/5	GROUP D	Combined AQL	6.5						
	Life Test.			I_A					
	Intermediate point 200 hrs.								
	Maintaining Voltage change		2.5		δV_m		*2.0	V	
	End point 1000 hrs.								
	Inoperatives.		2.5						
	Striking Voltage.		2.5		V_s		181	V	
	Maintaining Voltage change from 200 hrs. to 1000 hrs.		2.5		δV_m		±1.5	V	
A1X/2.5	GROUP E	Combined AQL	2.5						
	Electrical re-test after 28 days holding period.			100%					
	Inoperatives.		0.5						
	Striking Voltage		0.5		V_s		181	V	
	Maintaining Voltage		0.5		V_m	145	155	V	

N O T E S

1. This test shall be performed only once and by the valve manufacturing department in order to remove catastrophic failures.

2. A calibrated amplifier detector having a substantially linear response over the range from 25 to 5000 c/s is to be connected between anode and cathode. The anode current is to be varied slowly from 2.0 to 15.0 mA at least three times, the rate of sweep being not more than 1 mA per second.