MINISTRY OF SUPPLY - DLRD(A)/RRE (South)

VALVE ELECTRONIC **CV4047**

Specification MOS(A)/CV4047
Issue 2. Dated 4.10.55.
To be read in conjunction with K1001

SECURITY	
Specification	Valve
UNCLASSIFIED	UNCLASSIFIED

← indicates a change

TYPE OF VALVE - Reliable Gas-filled Voltage Stabilisor with flexible leads

CATHODE - Cold

ENVELOPE - Glass

PROTOTYPE - VX7127

MARKING

See K1001/4

RATING

			Note
Max. Striking Voltage	(V)	400	
→ Nom. Stabilised Voltage	(V)	304	
Max. Cathode Current	(mA)	4.0	
Min. Cathode Current	(mA)	2.0	
Voltage stability over current range	(V)	±1.0	
Max. Shock (short duration)	(g)	500	
Max. Acceleration (continuous operation)	(g)	2.5	

BASE

B7G/F ←

CONNECTIONS

Lead	Electrode
1	Internally connected
2	Cathode
3	Internally connected
4	Anode
5	Internally connected
6	Anode
7	Internally connected

DIMENSIONS

See K1001/AI/D11

Dimension (mm)	Min.	Max.
A. Overall length	-	54.5
B. Diameter	16.0	19.0
L. Seated height	-	47.5
D. Lead length	38	-

MOUNTING POSITION

Any

NOTES

A. All limiting values are absolute

B. The valve shall be operated with lead 4 and lead 6 connected together externally

To be performed in addition to those applicable in K1001

K1001	Test	Test Conditions	AQL %	Insp. Level	Symbol	Limits Min.	Limits Max.	Units
~~11.1~~	Vibration	No voltages		100%	-			
	GROUP A							
	Striking Voltage	Note 1		100%	Vs	-	400	V
	Maintaining Voltage	Ia = 3.0 mA Note 2		100%	Vm	294	314	V
	Regulation	Ia changed from 2.0 mA to 4.0 mA Note 2.		100%	Vr	-	±1.0	V
	Anode-cathode Leakage Current	Vak = 50V		100%	Iak		10.0	uA
	GROUP B							-
	Voltage stability over 200 hrs.	Ia = 3.0 mA Notes 1 & 2	1.0	I		-	± 2.0	V
5.12	Lead Fragility	No voltages	6.5	IA				
	GROUP C	Combined AQL	6.5					
11.2	Resonance Search	Ia = 3.0 mA; RL=5k; frequency range : 25 to 500c/s		IA I<				
	Vibrational Noise Output Voltage		2.5		Va AC	-	10.0	mV r.m.s
	Resonant Frequency		2.5		f	200	-	c/s
11.3	Fatigue	No voltages Min pk accel = 5g Duration = ~~3 x 23~~ 30+30+39 hrs Frequency = 170 c/s		IA				
	Post Fatigue Tests							
	Striking Voltage	Note 1	2.5		Vs	-	400	V
	Maintaining Voltage	Ia = 3.0 mA Note 2	2.5		Vm	294	314	V

K1001	Test	Test Conditions	AQL %	Insp. Level	Symbol	Limits Min.	Limits Max.	Units
	GROUP C (Cont'd)							
	Shock	No voltages Hammer angle = 30°		IA				
	Post Shock Tests							
	Striking Voltage	Note 1	2.5		Vs	-	400	V
	Maintaining Voltage	Ia = 3.0 mA Note 2	2.5		Vm	294	314	V
	GROUP D							
AVI/5	Life	Ia = 3.0 mA Notes 1 & 2						
AVI/5.3	Intermittent Life Test	Ia = 3.0 mA Notes 1 & 2		IA				
	Life Test End-point (500 hrs)							
AVI/5.6	Inoperatives		2.5					
	Striking Voltage	Note 1	2.5		Vs	-	400	V
	Maintaining Voltage	Ia = 3.0 mA; Note 2	2.5		Vm	292	317	V
	Regulation	Ia changed from 2.0 mA to 4.0 mA	2.5		Vr	-	±1.5	V
	Anode-cathode Leakage Current	Vak = 50V	2.5	I	Iak	-	15	uA
	Life Test End-point (1000 hrs)							
AVI/5.6	Inoperatives		4.0					
	Striking Voltage	Note 1	4.0		Vs	-	400	V
	Maintaining Voltage	Ia = 3.0 mA; Note 2	4.0		Vm	290	320	V
	Regulation	Ia changed from 2.0 mA to 4.0 mA	4.0		Vr	-	±2.0	V
	Anode-cathode Leakage Current	Vak = 50V	4.0		Iak	-	20	uA
	GROUP E							
AIX/2.5	Electrical re-test after 28-day holding period.							
AVI/5.6	Inoperatives		0.5	100%				
	Striking Voltage	Note 1	0.5	100%	Vs	-	410	V

NOTES

1. A voltage not exceeding 300 volts shall be applied between anode and cathode and shall be increased steadily at a rate not exceeding 25 volts per second until the valve strikes. The ripple content of the D.C. supply shall not exceed 0.5%. A protective resistance of at least 5000 ohms shall be included in the circuit for all electrical tests.

2. The applied voltage, see Note 1, shall be adjusted until the cathode current reaches the test figure.