MINISTRY OF SUPPLY - DIRD/RRE

VALVE ELECTRONIC **CV4073 CV4074**

Specification MOS/CV4073/CV4074	SECURITY	
	Specification	Valve
Issue 1 Dated 19th July, 1957.	UNCLASSIFIED	UNCLASSIFIED
To be read in conjunction with K1001		

⟶ Indicates a change

TYPE OF VALVE - Silicon Junction Diode

CONSTRUCTION - Per Outline on Page 4

POLARITY - Red marking corresponds to the cathode of a conventional diode

PROTOTYPES:- CV2384-4073; CV2413-4074.

MARKING

CV Numbers
Manufacturers Code and
Red dot denoting Cathode

RATINGS
All limiting values are absolute

		Note
Max. Reverse Voltage CV4073 (V)	60	
Max. Reverse Voltage CV4074 (V)	120	
Max. Dissipation at temperatures up to 75°C (mW)	150	
Derating above 75°C mW/°C)	2	
Max. Forward D.C. Current at 25°C (mA)	100	
Max. Forward D.C. Current at 100°C (mA)	60	
Max. rectified A.C. Current at 25°C (mA)	80	A
Max. rectified A.C. Current at 100°C (mA)	45	A
Max. reverse current at 25°C (μA)	0.1	B
Max. reverse current at 100°C (μA)	10	B
Max. Ambient Temperature rating -40°C to + 150°C		C

DIMENSIONS

Per outline on Page 4

MOUNTING POSITION

Any

CAPACITANCE (pF)	
Cak (max.)	5

NOTES

A. Mean rectified current from 50 c/s A.C. into a resistive or inductive load, CV4073 = 60 V peak, CV4074 = 120 V peak.

B. Applied voltage for CV4073 = -60 V, for CV4074 = -120 V.

C. At ambient temperatures in excess of 75°C the ratings for dissipation, forward D.C. current and rectified A.C. current decrease linearly with temperature, reducing to zero in each case at an ambient of 150°C.

CV4073
CV4074

TESTS

To be performed in addition to those applicable in K1001

The specification tests are common to both types unless otherwise specified.

K1001		Test Conditions	AQL (%)	Insp. Level	Symbol	Limits Min.	Limits Max.	Units
	GROUP A	T within range 15-30°C.						
	Forward voltage	Ia = 100 mA Note 1		100%	Va	-	1.5	V
	Reverse Current (1)	CV4073; Va = -60 V CV4074; Va = -120 V		100%	Ir	-	0.1	µA
	GROUP B omitted GROUP C							
	Reverse Current (2)	T = 100°C ± 3°C CV4073; Va = -60 V CV4074; Va = -120 V	2.5	I	Ir	-	10	µA
	Capacitance	Measured on a 1 c/s bridge with the valve mounted in a fully screened socket. Can floating Va = -10 ± 1 V	6.5	IC	Cac	-	5	pF
	Group D omitted Group E Mechanical Tests							
5.12	Lead Fragility	No voltages	6.5	IA				
	Temperature Cycling	Three cycles, -40°C to + 100°C. No voltages Note 2.		IC				
10	Climatic Tests	No voltages Note 3		IC				
11.3	Fatigue	No voltages Frequency = 170 c/s Min. Peak Acceleration = 10g Duration = 2 x 46 hours Note 4.		IA				
11.4	Shock	Hammer Angle = 60° No voltages Note 5.		IA				
	Post Temperature Cycling, Climatic, Fatigue and Shock Tests	Note 6.						
	Forward Voltage	T within range 15-30°C Ia = 100 mA Note 1	2.5		Va	-	1.5	V
	Reverse Current (2)	T = 100°C ± 3°C CV4073; Va = -60 V CV4074; Va = -120 V	2.5		Ir	-	10	µA

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K1001	Test	Test Conditions	AQL %	Insp. Level	Sym-bol	Limits Min.	Limits Max.	Units
	GROUP F							
A VI /5	Life Note 7	Half Wave circuit with resistive load Io = 80 mA. T within range 15-30°C. CV4073; PIV = 60 V CV4074; PIV = 120 V						
	Survival Rate Life Test	T = 23 hours		I				
	Survival Rate Life Test End Point							
		Combined AQL	2.5					
	Forward Voltage	T within range 15-30°C Ia = 100 mA Note 1	1.5		Va	-	1.5	V
	Reverse Current (2)	T = 100°C ± 3°C CV4073; Va = -60 V CV4074; Va = -120 V	1.5		I_r	-	10	µA
A VI /5.3	Intermittent Life Test			IA				
	Life Test End Point 1000 hrs.							
	Forward Voltage	T within range 15-30°C Ia = 100 mA Note 1	4.0		Va	-	1.5	V
	Reverse Current (2)	T = 100°C ± 3°C CV4073; Va = -60 V CV4074; Va z -120 V	4.0		Ir	-	10	µA
	Storage Life (1)	No voltages t = 150 hrs. T = -50°C		I				
	Storage Life (2)	No voltages t = 150 hrs T = + 100°C		I				
	Post Storage Life Test End Point							
		Combined AQL	4.0					
	Forward Voltage	T within range 15-30°C Ia = 100 mA Note 1			Va	-	1.5	V
	Reverse Current (2)	T = 100°C ± 3°C CV4073; Va = -60V CV4074; Va = -120 V			Ir	-	10	µA
	GROUP G							
A IX /2.5	Re-test after 28 days holding period	No voltages	100 → 0.5%					
App VI/5L	Repeat Group A Tests	Add for each Gate	1.0%					

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Notes

1. The valve shall be tapped during this test. There shall be no fluctuation of reading.

2. The valve shall be subjected to three complete cycles of temperature change. The extreme temperatures shall be maintained for not less than 15 minutes each. The time of changing the temperature from one extreme to the other shall not exceed 30 minutes. The test may start at any point in the cycle.

3. The lot shall remain in store pending the results of the Climatic Test to the following schedule:-

   0-28 days, accept lot for shipment if there are no failures i.e. AQL = 1.5%

   28-56 days, " " " " if the AQL = 6.5 or less

4. The valve shall be vibrated in two directions, one at right angles to the plane through the connecting leads and the other at right angles to the plane through the base.

5. The valve shall be subjected to 5 blows in each of the following directions:-

   (a) in the plane through the connecting leads

   (b) at right angles to the plane through the connecting leads

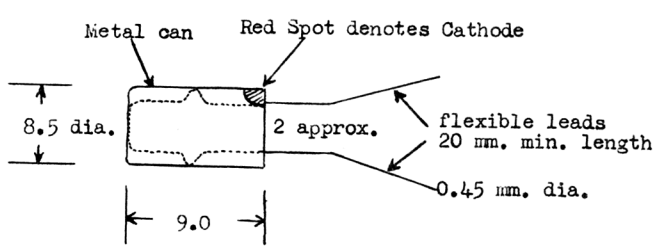
   (c) at right angles to the plane through the base and towards the base

   (d) ditto, away from the base

6. The forward voltage and reverse current tests shall be performed after each of the temperature cycling, climatic, fatigue and shock tests with an AQL of 2.5% in each case.

7. The life test may be continuous at the discretion of the manufacturer.

Outline drawing
Maximum Space Dimensions



Dimensions in millimetres and are nominal.

Amendment No. 1.
To Issue No. 1, dated 19th July, 1957 of
Electronic Valve Specification MOS/CV4073/CV4074

Page 3 Group F Delete Survival Rate Life Test including Survival Rate Life Test End Point.
Group G amend to read

	GROUP G			
App.IX /2.5	Re-test after 28 days holding period	No voltages		100%
App.VI /5.6	Inoperatives		0.5%	
	Repeat Group A tests	AQL for each test.	1.0%	

August, 1958
N.32313R.

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