

Specification MOA/CV4071 Issue 2 dated 27th March, 1963 To be read in conjunction with K1001, BS448 & BS1409	<u>SECURITY</u>	
	UNCLASSIFIED	UNCLASSIFIED

→ Denotes a change

TYPE OF VALVE - Reliable High voltage, Half Wave Rectifier CATHODE - Indirectly heated ENVELOPE - Glass PROTOTYPE - CV404	<u>MARKING</u> See K1001/4																																																																																
<u>RATING</u> All limiting values are absolute	<u>BASE</u> BS448/B8-0/1.1																																																																																
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	Dimension (mm)	Min. Max.																																																																															
	A overall length	105 118																																																																															
	B Diameter	- 34																																																																															
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NOTES

- A. Ratings apply to condenser input filter and 50 cps.
- C. Caution to Electronic Equipment Design Engineers: Special attention should be given to the temperature of valves to be operated in aircraft. Reliability will be seriously impaired if the maximum bulb temperature is exceeded. The life expectancy may be reduced if conditions other than those specified for life tests are imposed on the valve and will be reduced appreciably if absolute maximum ratings are exceeded. Both reliability and performance will be jeopardised if heater voltage ratings are exceeded: life and reliability performance are directly related to the degree that regulation of the heater voltage is maintained at its centre-rated value.
- D. Joint Services Cat. No. 5200-21-000-4071

TESTS

To be performed in addition to those applicable in K1001. Tests shall be performed in the specified order unless otherwise agreed with the Inspecting Authority.

Test Conditions - unless otherwise specified

Vh(V)
4.0

Ia(mA d.c.)
120

K1001	Test	Test Conditions	AQL %	Insp. Level	Sym-bol	Limits		Units
						Min.	Max.	
	<u>GROUP A</u> Heater current Anode Voltage Rectification (1)	Input voltage = 6KV rms min. $f = 50\text{c/s}$; $C_{res} = .25\mu\text{F}$ Source Res = 7.5k Load current = 50mA min. Notes 1, 4.		100% 100% 100%	Ih Va	1.35 - 1.65 120	A V	
	<u>GROUPS B & C</u> <u>GROUP D</u> Rectification (2)	Omitted as for Rectification (1) in Group A but $f =$ any frequency in the range 1.5 - 2.4 kc/s Notes 1, 2, 4.		5.5 IA				
11.3	<u>GROUP E</u> Functional Fatigue <u>Post Functional fatigue</u> Rectification (1) Fatigue	Input voltage = 5kV rms Load resistance = 125K $C_{res} = 0.01\mu\text{F}$ $f = 50\text{c/s}$ Note 3 as for Group A test Vh = 4.0V switched 1 min. on and 3 mins. off. Va = 0 frequency = 170 c/s Min. peak accel. = 5g Duration = 100 hrs (min) divided into 2 planes		5.5				

K1001	Test	Test Conditions	AQL %	Insp. Level	Sym- bol	Limits		Units	
						Min.	Max.		
11.4	<u>Post Fatigue Test</u> Rectification (1)	as for Group A test Hammer angle = 30° No voltages	6.5	IA					
	Shock								
	<u>Post Shock test</u> Rectification (1)								as per Group A test
AVI/5.3	<u>GROUP F</u> Life (intermittent)	Half wave rectifier Input voltage = 6kV min. rms. f = 50 c/s, Cres = .25 μ F Source resistance = 7.5k Load current = 50mA min. Note 4		IA					
	<u>Life test end point-</u> 500 hrs. Rectification (1)								6.5
	<u>Life test end point-</u> 1000 hrs. Rectification (1)								10
AXI/2.5	<u>GROUP G</u> Re-test after 28days holding period			100%					
AVI/5.6	Inoperatives		0.5%						

NOTES

- Run for 40 secs. After first 10 secs. switch AC HT supply 3 times - 5 secs off and 5 secs. on. Reject for softness or persistent flash-over.
- With C reservoir to suit supply frequency.
- The valve shall be vibrated sinusoidally with a linear change of acceleration with frequency starting at 1g (peak) at 25 c/s and rising to 30g (peak) at 500 c/s. The minimum rate of sweep shall be 1 min/octave. The valve shall complete one full traverse up and down in the horizontal plane.
- The input voltage and the load current are at the discretion of the manufacturer provided that the specified limits are exceeded.