

MINISTRY OF SUPPLY - DLRD/RRE

Specification MOS/CV4075	<u>SECURITY</u>	
Issue 1 Dated 17th July, 1957	<u>Specification</u>	<u>Valve</u>
To be read in conjunction with K1001, BS448 and BS1409	UNCLASSIFIED	UNCLASSIFIED

→ Indicates a change

TYPE OF VALVE - Reliable half wave EHT Rectifier			<u>MARKING</u>	
CATHODE - Indirectly Heated			See K1001/4	
ENVELOPE - Glass				
PROTOTYPE - VX3509				
<u>RATING</u> All limiting values are absolute			<u>BASE</u> See K1001/AV/D2 See BS448/B8-0/1.1 19 Dimension (i) applies	
		Note		
Heater Voltage	(V)	6.3	A	
Heater Current	(A)	0.265		
Max Working Peak Inverse Voltage	(kV)	30		<u>CONNECTIONS</u>
Max Mean Anode Current	(mA)	4.0		Electrode
Max Peak Anode Current	(mA)	300		Pin
Max Shock (Short Duration)	(g)	500		1 internal connection
Max Acceleration (Continuous operation)	(g)	2.5		2 Heater
Max Operating Frequency	(kc/s)	250		3 internal connection
Max Bulb Temperature	(°C)	150		4 " "
			5 " "	
			6 No connection	
			7 Heater	
			8 internal connection	
			T.C. Anode	
			<u>TOP CAP</u>	
			See drawing on page 4	
			<u>DIMENSIONS</u>	
			See drawing on page 4	
<u>CAPACITANCES (pF)</u>			<u>MOUNTING POSITION</u>	
Ca-k (nom)		3.8	Any	
<u>NOTES</u>				
A. Switching may be direct when the anode voltage rises at approximately the same rate as the heater voltage, e.g. flyback, RF oscillator or pulsed circuits.				

CV 4075

TESTS

Page 2

To be performed in addition to those applicable in K1001.

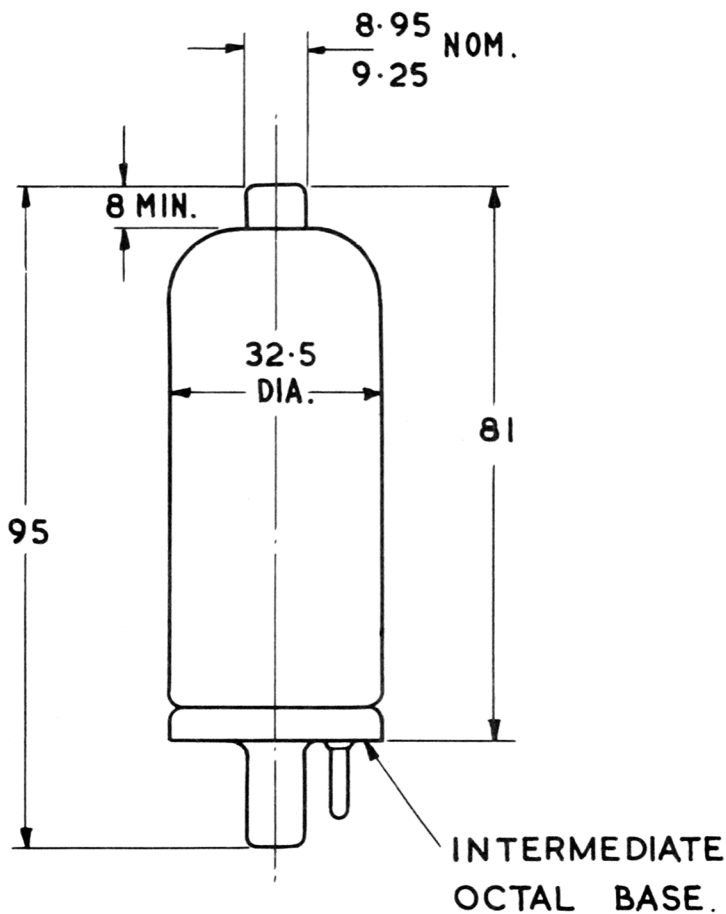
Tests shall be performed in the specified order, unless otherwise agreed with the Inspecting Authority.

Test Conditions - unless otherwise specified								
Vh (V)		Va(V)						
6.3		190						
K1001 Ref.	Test	Test Conditions	AQL %	INSP. LEVEL	SYM- BOL	Limits		UNITS
						MIN	MAX	
	<u>GROUP A</u> Voltage Breakdown	Note 1 & 2						
	<u>GROUP B</u> Heater Current Anode Current (1) Output Current	Note 1	.65 .65 .65	II II II	Ih Ia I	.238 8 2	.292 13 -	A mA mA
	<u>GROUP C</u> Anode Current (2) Emission Change in Anode Current (1)	Va = 300V Vapk = 2.5KV Tp = 2 /u Secs prf = 50 pps. Vh = 5.7V	2.5 2.5 2.5	I I I	Ia Iapk ΔIa	18 300 -	25 - 10	mA mA %
11.3	<u>GROUP D</u> <u>GROUP E</u> Fatigue <u>Post Fatigue Tests</u> Voltage Breakdown Output Current	Not applicable Vh = 6.9V switched 1 min ON, 3 mins OFF Va = 0 Frequency = 170 c/s Min pk accel = 5g Duration = 33 hrs in a vertical plane, 66 hrs in a hori- zontal plane Note 1 & 2 Note 1	 2.5 2.5	 IA	 I	 2	 -	 mA

K1001	Test	Test Conditions	AQL %	Insp. Level	Sym- bol	Limits		Units
						Min.	Max.	
11.4	Shock	No voltages Hammer angle = 30°		LA				
	<u>Post Shock Tests</u>							
	Voltage breakdown Output Current	Note 1 and 2 Note 1	2.5 2.5		I	2	—	mA
A VI/5 A VI/5.1	<u>GROUP F</u> Life Intermittent Life Test Life Test End-point 500 hours	Note 1		IA				
	Output current	Note 1	2.5		I	1.6	—	mA
	Life Test End-point 1000 hours							
	Output Current	Note 1	4.0		I	1.5	—	mA
A IX/2.5 A VI/5.6	<u>GROUP G</u> Retest after 28 days holding period							
	Inoperatives		0.5	100%				

NOTES

- The valve shall be operated in a half-wave rectifier circuit at a frequency of not less than 75 kc/s. PIV = 33kV min; Cres = 450pF; Load resistance = 7 Megohms; Min. peak D.C. Anode current = 18.7mA; Min. heating time = 90 secs. If the heater is supplied from an RF source it must be run at the same temperature as it would attain at 6.3V D.C.
- Filament and Anode supplies shall be applied simultaneously. Run for two minutes and reject for softness or persistent flashover.



DIMENSIONS ARE MAXIMUM UNLESS OTHERWISE STATED.