

MINISTRY OF SUPPLY - DLRD/RRE

Specification MOS/CV4075 Issue 1 Dated 17th July, 1957 To be read in conjunction with KLOOL, BS448 and BSL409	<u>SECURITY</u>	
	<u>Specification</u>	<u>Valve</u>
	UNCLASSIFIED	UNCLASSIFIED

—————→ Indicates a change

TYPE OF VALVE - Reliable half wave EHT Rectifier CATHODE - Indirectly Heated ENVELOPE - Glass PROTOTYPE - V13509		<u>MARKING</u>
		See KLOOL/4
<u>RATING</u>		<u>BASE</u>
All limiting values are absolute		See BSL448/B8-0/1.1
	Note	
Heater Voltage (V)	6.3	
Heater Current (A)	0.265	
Max Working Peak Inverse Voltage (kV)	30	A
Max Mean Anode Current (mA)	4.0	
Max Peak Anode Current (mA)	300	
Max Shock (Short Duration) (g)	500	
Max Acceleration (Continuous operation) (g)	2.5	
Max Operating Frequency (kc/s)	250	
Max Bulb Temperature (°C)	150	
		<u>CONNECTIONS</u>
		Electrode
		Pin
		1 internal connection
		2 Heater
		3 internal connection
		4 " "
		5 " "
		6 No connection
		7 Heater
		8 internal connector
		T.C. Anode
		<u>TOP CAP</u>
		See drawing on page 4
		<u>DIMENSIONS</u>
		See drawing on page 4
		<u>CAPACITANCES (pF)</u>
Ca-k (nom)	3.8	
		<u>MOUNTING POSITION</u>
		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.		

To be performed in addition to those applicable in K1001.

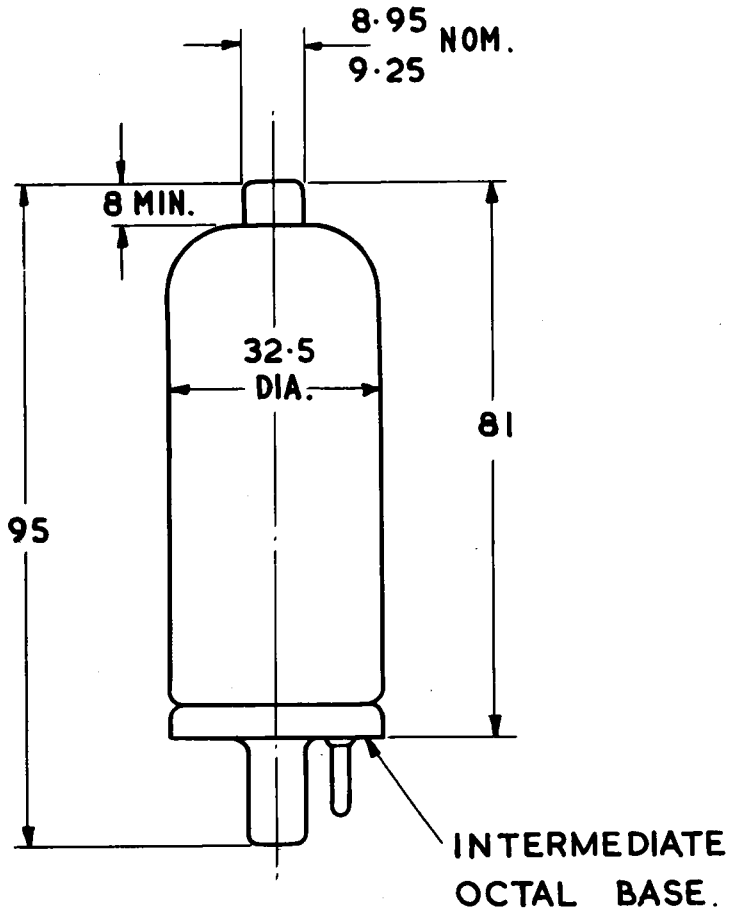
Tests shall be performed in the specified order, unless otherwise agreed with the Inspecting Authority.

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 /μ 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 o/s Min pk accel = 5g Duration = 33 hrs in a vertical plane, 66 hrs in a horizontal 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°		IA				
	<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 <u>Intermittent Life</u> Test <u>Life Test End-point</u> <u>500 hours</u> Output current	Note 1 Note 1	 2.5	IA I	 I	 1.6	 —	 mA
	<u>Life Test End-point</u> <u>1000 hours</u> Output Current	Note 1	4.0	I	I	1.5	—	mA
	<u>GROUP G</u> Retest after 28 days holding period							
	A IX/2.5 A VI/5.6	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.