

Specification MOS(A)/CV 2434 Issue 1 Dated 2.9.57 To be read in conjunction with K1001 (except clause 52) BS448 and BS1409	<u>SECURITY</u>	
	<u>Specification</u> Unclassified	<u>Valve</u> Unclassified

→ Indicates a change

Type of valve - High stability long life gas-filled trigger tube Cathode - Cold Envelope - Glass Prototype - Z803U			<u>MARKING</u> See K1001/4		
<u>RATINGS</u> (Notes G and H)			<u>BASE</u> BS448/B9A		
		Note	<u>CONNECTIONS</u> (Note G)		
Nominal Trigger Ignition Voltage (V)	132		Pin	Electrode	
Max. Working Anode Voltage (V)	290	A	1	Anode	
Min. Working Anode Voltage (V)	170	A	2	Internal Connection	
Nominal Anode/Cathode Maintaining Voltage (V)	105		3	Internal Connection	
Typical Trigger/Cathode Maintaining Voltage (V)	95		4	Cathode	
Max. Priming Current (µA)	25	A	5	Cathode	
Min. Priming Current (µA)	2	A	6	Priming Anode	
Max. Peak Cathode Current (mA)	100	A	7	Cathode	
Max. Average Cathode current (mA)	25	A.E.	8	Trigger	
Max. Positive Peak Trigger Current (mA)	8	A.C.D.	9	Trigger	
Max. Priming Anode Ignition Voltage (V)	150	A.E.	<u>DIMENSIONS</u>		
Max. Transfer Current (Va = 240v) (µA)	25	A.F.	See BS.448/B9A/2.1		
Min. Trigger Capacitance to ensure ignition with			Size Ref. No. 1		
(a) +Va 170V (pf)	1500		Dimension	Min.	Max.
(b) +Va 200V (pf)	1000		A mm		38.0
(c) +Va 240V (pf)	500		C mm	19.0	22.2
Max. increase in Trigger Ignition Voltage when anode voltage is changed from 290V to 170V. (%)	1		D mm		45.0
Typical stability of trigger Ignition Voltage 2000 hours life. (%)	+1	F	<u>MOUNTING POSITION</u>		
			Any		
			<u>NOTES</u>		
			See Page 2		

NOTES (ratings)

- A. Absolute value.
- B. Maximum averaging time 15 seconds.
- C. Negative trigger current should not be drawn by the valve. Such a current occurs if the trigger potential is reduced below 90V during anode conduction.
- D. To limit the positive peak trigger current a resistor of 2.2K Ω is required for trigger capacities between 4700 and 15000 pF, and a resistor of 5.6 K Ω is required for trigger capacities of over 15000 pF.
- E. This applies in darkness or in daylight.
- F. To ensure high stability of characteristics in light and darkness a priming discharge of some 10 μ A flowing between priming anode and cathode is essential. If the valve is used without priming discharge, delays in trigger ignition up to 10 seconds may occur and thus seem to impair the stability of the characteristics. However under these conditions the pre-strike current of the valve is considerably reduced.
- G. The cathode connection should be made to pins 4, 5 and 7 connected together.
- H. It is recommended that the priming discharge resistor is 10 Meg ohm $\pm 20\%$. This resistor must be soldered directly to pin 6. Stray capacitance between priming anode and cathode must be kept to a minimum.

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								
Ip = 25 μ A Ra = 1 M ohm Ct = 2000 pF								
K1001	TEST	TEST CONDITIONS	AQL %	INSP. LEVEL	SYMBOL	LIMITS		UNITS
						MIN.	MAX.	
	a. Primer Ignition Voltage	Va = Vt = 0 Rt = 100 K ohm Note 1		100%	Vp	-	150	V
	b. Trigger Ignition Voltage (1)	Va = 280 v, Rt = 100 K ohm Note 2		100%	Vt(1)	128	137	V
	c. Trigger Ignition Voltage (2)	Va = 160V, Rt = 100 K ohm Ct = 3,900 pF, R lim. = 2.2 K ohm Note 2		100%	Vt(2)	-	-	
	Change in Trigger Ignition Voltage (1) Vt(1) - Vt(2)			100%	Δ Vt(T)	-	4	V
	d. Trigger Ignition Voltage (3)	Va = 200V, R at = 100 M ohm Ct = 1000 pF, Note 2.				-	-	
	Change in Trigger Ignition Voltage (2) Vt(1) - Vt(3)				Δ Vt(2)	-	4	V
	e. Anode Ignition Voltage	Vt = 120V, Ra = 100 K ohm Rt = 100 M ohm, Note 3		100%	Va	290	-	V
	f. Anode Maintaining Voltage	Adjust Va, Vt = 0 Ra = 10 K ohm, Rt = 100 M ohm Note 4.	2.5	I	Va	100	110	V
	g. Trigger Preconduction Current (Ip = 0)	Va = 280V Adj Vt.	6.5	IA	It	-	5 x 10 ⁻¹⁰	A
	h. Life	Note 5			IC			
	<u>Life Test End Point 500 hours</u>	As in test b	6.5		Δ Vt	-	1.5	%
	<u>Life Test End Point 2000 hours</u>	As in test b Notes 6 & 7			Δ Vt	-	2.0	%

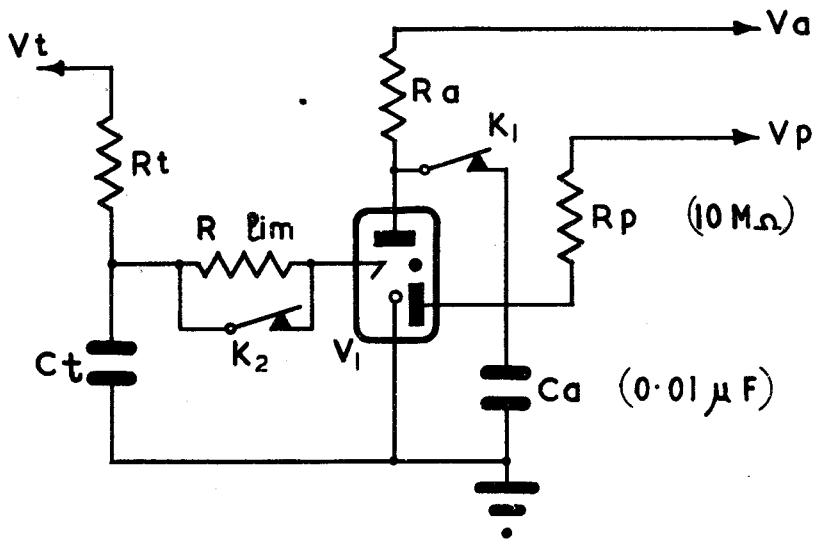
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NOTES (tests)

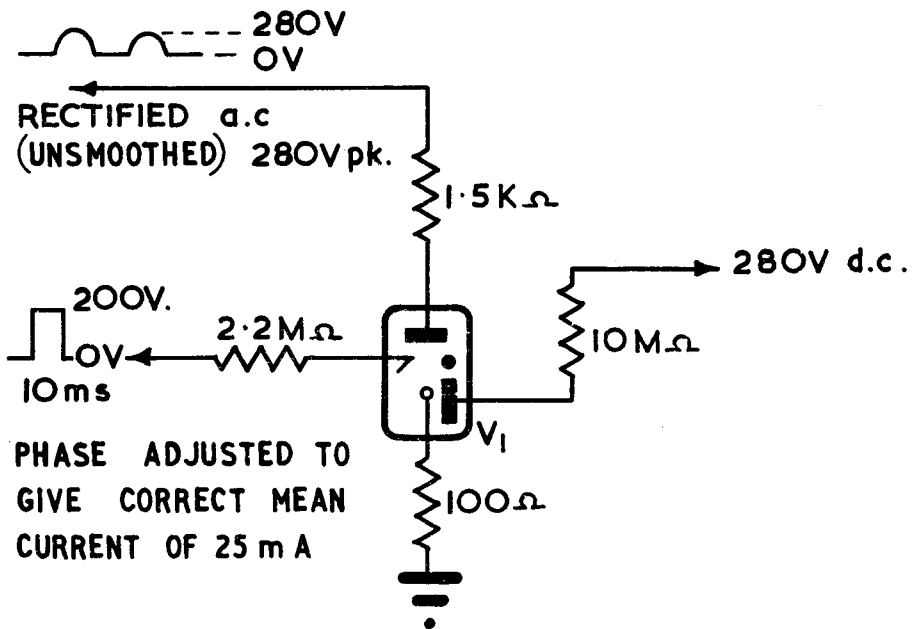
General: A lot shall consist of one month's production. Tests "a" to "f" are to be performed using Circuit 1 on page 5

1. Increase priming anode voltage (v_p) slowly until the valve ignites primer to cathode.
2. Increase trigger voltage (V_t) slowly until the valve ignites trigger to cathode.
3. Increase anode voltage (V_a) slowly until the valve ignites anode to cathode.
4. Measure anode voltage drop with a high impedance voltmeter connected between anode and cathode when the anode maintaining current is adjusted to 10 mA. For this test only, Ca should be disconnected.
5. Apply an unsmoothed half wave rectified A.C. voltage of 280 volts peak to the anode so that I_a mean = 25 mA and I_a peak = 100 mA. See circuit 2 on page 5
6. This is not a batch acceptance test but shall be made on valves undergoing normal factory life tests. Examination of the records of such tests will normally be considered as fulfilment of the requirements of the test clause.
7. Change of V_t (1) from original Value.

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CIRCUIT. 1



CIRCUIT. 2