MINISTRY OF AVIATION - R.R.E.

VALVE ELECTRONIC CV2359

Specification MOA/CV2359 ISSUE 1A dated 13th March, 1961 To be read in conjunction with K1001 ignoring clauses 5.2., 5.8.	SECURITY VALVE: Unclassified SPECIFICATION: Unclassified

→ indicates a change

TYPE OF VALVE - Broad-band passive protection cell.

PROTOTYPE - VX9173

MARKING

See K1001/4

RATING		Note
Operating frequency (Mc/s)	8950-9600	
Maximum peak power (kW)	10	A
Minimum primer supply voltage (V)	900	B
Primer current minimum (mA)	0.1	
→ Primer current maximum (mA)	0.16	

BASE

None

DIMENSIONS AND CONNECTIONS

See Drawing page 5

PACKAGING

See K1005

NOTES

A. With duty cycle not exceeding 0.001.

B. The power supply voltage must be negative with respect to the body of the cell.
It should be connected through a suitable dropping resistance of which at least 1Mohm must be adjacent to the primer terminal.

Z.22152

	TEST CONDITIONS		TEST	LIMITS Min.	LIMITS Max.	No. Tested	Notes
	Primer Supply Voltage (Volts)						
a	900	Test shall be performed at least 7 days after any previous discharge	Primer Breakdown (Secs) The delay between the application of primer voltage and the breakdown shall be measured.	-	5	100%	1
b	1000		Primer Operating Voltage (V) The voltage of the primer shall be measured after breakdown has occurred.	150	250	100%	1
c	1000	Line shall be energised with not more than 10mW R.F. and terminated in a load matched better than 1.02 V.S.W.R.	V.S.W.R. (i) Measured at frequencies 8950, 9150,9250,9450 and 9600 Mc/s.	-	1.2	100%	1
			(ii) Measured over the frequency range 8950-9600 Mc/s	-	1.25	5%	1
d	1000	Valve shall be mounted between impedences matched better than 1.10 V.S.W.R. Line shall be energised with not more than 10mW.R.F. Test Frequency 8950 Mc/s	Insertion Loss (db)	-	1.0	100%	1
e	1000	Total leakage to be measured for a 1usec pulse-length at 1000 c/s recurrence. Peak incident power 10kW. Transmitter frequency 9375 ±50Mc/s.	High power leakage (Total) ergs/pulse		0.2	100%	1,2

TESTS (Con'td)

CV2359

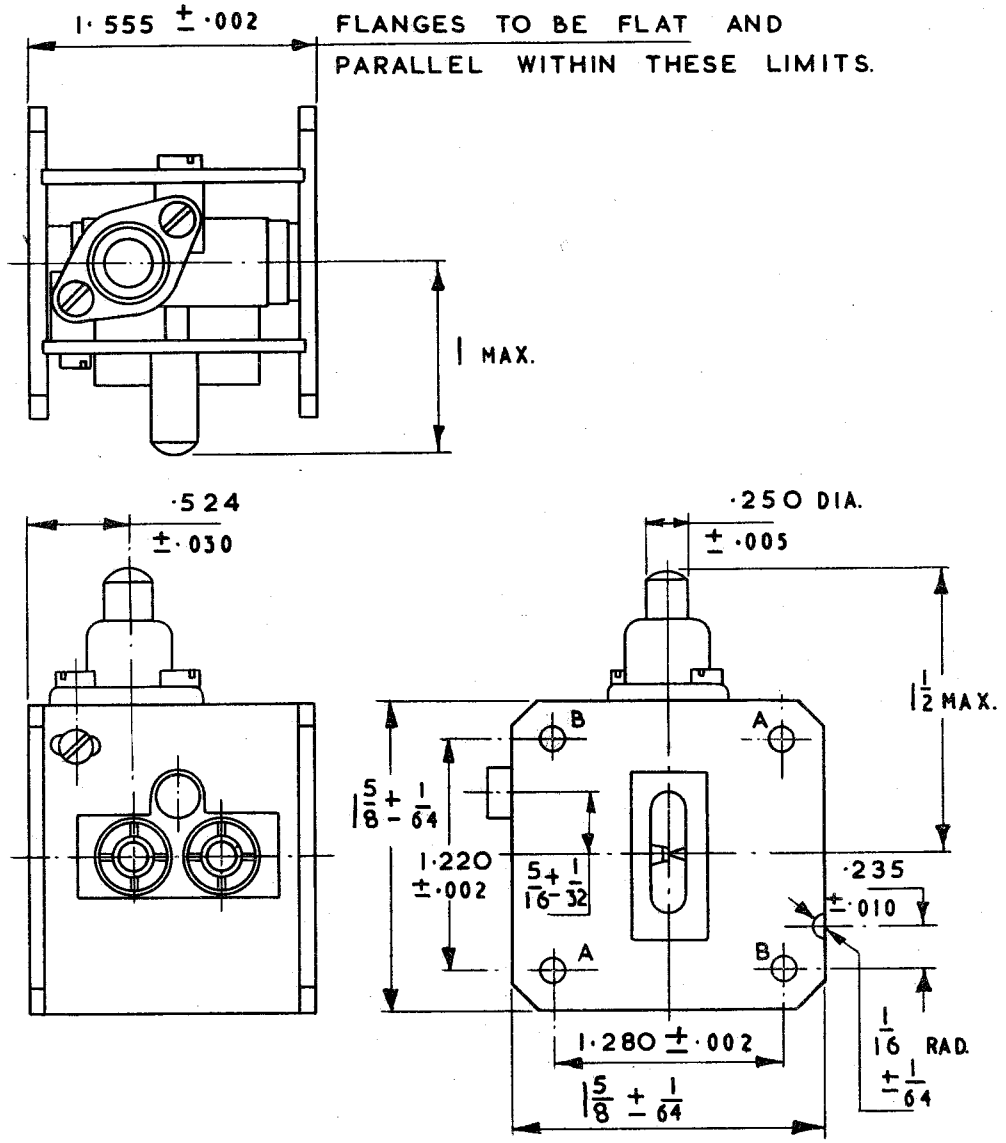
TEST CONDITIONS			TEST	LIMITS		NO.	NOTES
				Min.	Max.		
f	1000	Test frequency of simulated echo pulse in range 8950-9600 Mc/s. power less than 10mW peak. Transmitter frequency to be 9375 ± 50Mc/s peak power 10kW, recurrence frequency 1000c/s pulse length 1 usec. Test to be performed at least seven days after manufacture or after any previous high power test.	Recovery Time The time shall be measured from the trailing edge of the transmitter pulse for an insertion loss exceeding that immediately before the transmitter pulse by:- 6 db (usecs) This value must be achieved within 90 seconds of first switching on the transmitter.	30		100%	1,2
g	1000	Applied power varied from 100mW to 100W. Pulse length one microsecond ± 10% Other conditions as test (e)	Low Power Leakage (mW Peak) The total leakage power through the cell shall be measured as the applied power is varied from 100mW to 100W	-	200	100%	1
h	1000	When connected to a receiver havin g a noise factor not greater than 10db the resultant noise factor with the primer passing 100 uA D.C. shall not be greater than 10.3db.	Excess Noise			TA	

NOTES

1. The primar supply shall be D.C. having a peak to peak ripple voltage not exceeding 2% and shall be negative with respect to the body of the cell. The regulation should be such that the voltage does not change by more than 5% at load currents up to 0.3mA. Total series resistance to be 5.5 Megohms ± 5% of which 1 Megohm must be adjacent to the primer terminal.

2. These tests shall be performed using a CV2166 or other approved magnetron with suitable directive feeds to provide 10kW peak R.F. power incident on the valve under test. Values of peak power, pulse length and recurrence frequency to be within ± 10% of their nominal values.

CV. 2359



A — 2 HOLES EACH FLANGE ·170 DIA. ± ·002
B — 2 HOLES EACH FLANGE ·150 DIA. ± ·002
TO BE POSITIONED AS SHOWN ON 1·768 ± ·004 P. C. D.

ALL DIMENSIONS ARE IN INCHES