VALVE ELECTRONIC **C.V.187.**

ADMIRALTY SIGNAL AND RADAR ESTABLISHMENT

Specification AD/CV.187 Issue No. 7 dated 18.6.56 To be read in conjunction with K.1001, ignoring clauses 5.2 and 5.8	SECURITY Specification: Unclassified Valve: Unclassified

→ Indicates a change

TYPE OF VALVE:- Half-wave vacuum rectifier.
CATHODE:- Directly heated; oxide coated.
ENVELOPE:- Glass.
PROTOTYPE:- U19.

MARKING
See K.1001/4

BASE
B4
See K.1001/A.IV/D.5.1.

RATINGS		Note
Filament Voltage.	(V) 4.0	
Filament Current.	(A) 3.3	
Max. RMS Input.	(V) 2500	A
Max. PIV with Ia = 0:-		
(i) For normal rectifier operation.	(kV) 7.1	A
(ii) For short inverse pulses (tp<10/uS)	(kV) 10.0	A
→ Max. Mean Cathode Current.	(mA) 250	A
Max. Peak Anode Current.	(mA) 2000	A
Max. Reservoir Capacitance.	(uF) 4	A
Min. Limiting External Resistance, including effective transformer resistance, in anode circuit.	(Ohms) 250	A

CONNECTIONS

Pin	Electrode
1	NC
2	NC
3	f
4	f
TC	a

TOP CAP
See K.1001/A.I/D.5.1.

DIMENSIONS
See K.1001/A.I/D.1.

Dimension	Min.	Max.
A (mm)	-	185
B (mm)	-	55

NOTES

A. Absolute maximum and minimum values.
B. The above ratings apply to condenser input filter.
C. If the PIV does not exceed 5 kV, the HT and LT may be switched simultaneously. Otherwise a minimum of 10 seconds delay is necessary before applying the HT.
D. Stand-by conditions of "LT on only" are not permissible.
E. Under conditions approaching the full ratings the filament voltage variations in operation must not exceed ± 5% on 4.0V.
F. The valve may be mounted either vertically, with base up or down, or horizontally with the major axis of the cross section of the ribbon filament vertical. Vertical mounting of the valve is preferred.

TESTS

To be performed in addition to those applicable in K.1001

	Test Conditions		Test	Limits		No. Tested	Note
	Vf (V)	Va (V)		Min.	Max.		
a	4.0 A.C. or D.C.	-	If (A)	2.7	3.6	100% or S	
b	4.0 A.C. or D.C.	80 D.C. Max.	Ia (mA)	360	-	100%	
c	4.0 A.C.	2500 A.C. RMS 50~	Load Test	There shall be no indication of "softness" or of sparking between electrodes.		100%	1
	Valves operated in pairs in bi-phase half-wave circuit with nominal D.C. load of 500 mA per pair. Reservoir capacitance = 4/uF. Resistance, including effective transformer resistance, introduced externally = 250Ω per anode. Running conditions:- LT applied first, HT applied approx. 10 secs. later. After running for one minute HT is to be switched OFF, ON, OFF.						

NOTE

1. The following load test may be performed as an alternative to test (c). The valves are operated in a single-phase, half wave circuit under the same conditions as those specified in test (c), except that the nominal D.C. load = 250 mA.