

VALVE ELECTRONIC

CV2187

GENERAL POST OFFICE: E-IN-C ( S )

Specification: <u>GPO/CV2187/Issue 1</u> Dated: <b>JAN. 1954</b> To be read in conjunction with K 1001	<u>SECURITY</u>	
	<u>Specification</u> Unclassified	<u>Valve</u> Unclassified

→ indicates a change

<u>TYPE OF VALVE:</u> Reflex klystron		<u>MARKING</u> See K1001/4	
<u>CATHODE:</u> Indirectly heated		<u>BASE</u> None. Connections made to flexible leads.	
<u>ENVELOPE:</u> Copper-glass			
<u>PROTOTYPE</u> Z 239/1G			
<u>RATING</u>		Note	<u>CONNECTIONS</u> <u>NOTE A</u>
Heater voltage (V)	6.3	B	<u>Lead</u> <u>Electrode</u>
Heater current (A)	1.0		1      Heater-Cathode
Frequency range (Mc/s)	3600 to 4200		2      Heater
Resonator voltage (max.) (V)	1100		3      Heater-Cathode
Reflector voltage (max.) (V)	- 700		TC      Reflector
Resonator current (max.) (mA)	70		<u>TOP CAP</u>
Output power (min.) (W)	1		See K1001/A1/5.2
Bandwidth to half power (Mc/s)	40 to 70		<u>DIMENSIONS</u>
Modulation sensitivity (Mc/s/V)	0.5		See drawing on Page 3
Modulation capacity (pF)	3		
<u>NOTES.</u>			
A. Lead connections marked on side of base shell.			
B. Cathode heating time, 60 secs.			
C. Mounting, vertical with base up or down.			
D. Air cooling required; 7 cu.ft/min. when operated with gun end uppermost, 5 cu.ft/min. with gun end down. The cooling air to be directed towards the gun end.			
E. When switching on care should be taken to ensure that the reflector is never allowed to receive a positive bias.			
F. The valve should normally be operated with the resonator earthed and the cathode negative.			
G. Two heater-cathode leads are brought out from the valve so that one can be used as a separate d.c. return path to avoid hum.			

To be performed in addition to those applicable in K 1001

	Test Conditions					Test	Limits		No. Tested	Note
	Vh (v)	V ref. (v)	V res. (v)	I. res. (mA)	Mod. peak AC. (v)		Min.	Max.		
a	6.3	-	-	-	-	Heater current (A)	0.92	1.08	100%	1
b	6.6	-250	Adjust	64	-	V res. (v)	-	1100	100%	2,3
c	6.0	Adjust	Adjust	-		Oscillation at 3980 Mc/s I res. (mA) - 64 V ref. (v) -140 -260 V res. (v) - 1100 Power output (mw) 800 -			100%	2,3,5
d	6.0	As in test c	As in test c	-	100	Oscillation at 3980 Mc/s Bandwidth to half power (Mc/s)	40	-	100%	2,3
e	6.0		As in test c	-	5	Oscillation at 3980 Mc/s Frequency variation (Mc/s)	4	-	100%	2,3,4
f	6.0	As in test c	As in test c	-	100	Frequency range 3850 to 4100 Mc/s Oscillation shall be detected over the range	-	-	100%	2,3

- Notes.
- The valve shall be pre-heated for 1 minute minimum.
  - These tests to be carried out in an approved circuit.
  - In these tests the valve shall be blown with a minimum air flow of 7 cu. ft/min.
  - The frequency variation shall be measured about a reflector voltage mid-way between the half-power D.C. voltages on the power curve. This point may be estimated visually.
  - The maximum value of the resonator current shall be increased above 64 mA specified, when the resonator voltage is less than 1100 volts as follows:-

<u>Resonator volts</u>	<u>Resonator current</u>
1100	64 mA
1050	67 mA
1000	70 mA

