

VALVE ELECTRONICUNITED KINGDOM ATOMIC ENERGY AUTHORITY (A.E.R.E.)

CV2316

CV2317

Specification D.At.En/CV.2316/2317 Issue 5, dated 16th September, 1965. To be read in conjunction with K.1001	SECURITY	
	Specification Unclassified	Valve Unclassified

→ Indicates a change

TYPE OF VALVE: Electron Multiplier Photocell				MARKING	
ENVELOPE: Glass				See K.1001/4.1	
PROTOTYPE: E.M.I. TYPE 6097B				BASE	
				B15B	
				CONNECTIONS	
				Pin	Electrode
Max. safe interstage potential (V)	200	A	Note	1	Dynode 5
Max. voltage between anode and D.11 (V)	300	A		2	Dynode 7
Max. voltage between cathode and D.1 (V)	300	A		3	Dynode 9
Max. safe D.C. (or average) collector current (mA)	1	B		4	Dynode 11
Max. operating D.C. (or average) collector current (mA)	0.1	C		5	Internally connected
Max. ambient temperature (°C)	70 ⁷	D		6	Collector anode
Nominal overall current gain	10 ⁷	E		7	Internally connected
Max. output current linear with respect to light input within 10%	1	E&F		8	Dynode 10
				9	Dynode 8
				10	Dynode 6
				11	Dynode 4
				12	Dynode 2
				13	Photocathode
				14	Dynode 1
				15	Dynode 3
				DIMENSIONS	
				See Drawing Page 3	

NOTES

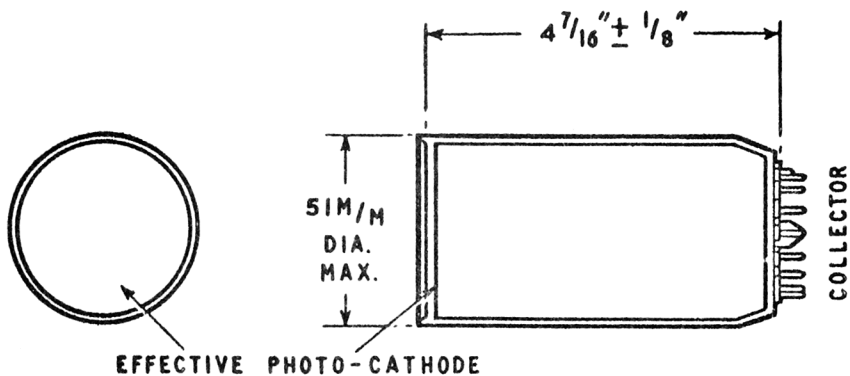
- A. A protective load resistance of at least 10 K is recommended on each electrode.
- B. By "safe" is meant that which will not cause permanent change or damage to the tube. Tube should not be exposed to room light when operating potentials are applied.
- C. This is the maximum current advised for reliable and repeatable measurements free from errors due to fatigue, etc.
- D. This is limit above which permanent damage may occur. Dark current roughly doubles for each 10°C rise of temperature.
- E. At 160 V/Stage.
- F. This can be increased by increasing volts progressively on all stages.

* CV2316 and 2317 are Mechanically identical. CV2317 is selected electrically to a less stringent specification.

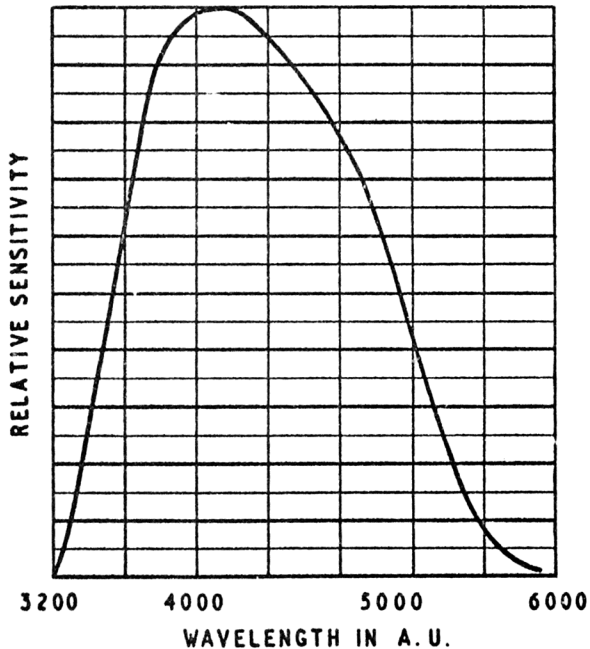
	Test Conditions	Test			No. Tested	Note
			Max.	Min.		
a		<u>CAPACITANCES</u> pF Collector to all electrodes	10		T.A.	
b	300 V. between cathode and all other electrodes tied together. Light flux 0.01 Lumens	Photocathode sensitivity $\mu\text{A}/\text{lumen}$		40 (CV2316) 10 (CV2317)	100% 100%	1.2
c	150 V. between Cathode and D1. Equal voltages between all other stages. Known low intensity light flux	Overall volts to obtain at the Collector a sensitivity of 200 A/lumen (CV2316) 30 A/lumen (CV2317)	1750 1500	~~1150~~ 445 750	100% 100%	3
d	Equal voltages between all stages to give sensitivity of 200 A/lumen (CV2316) 30A/lumen (CV2317)	Anode Dark current μA	0.05 0.03		100% 100%	4
E	Equal voltages between all stages to give sensitivity of 2000 A/L (CV 2316 only)	Anode Dark current μA	2.0		100%	4

NOTES

1. Light flux incident on not less than 1.1/2" diameter patch nominally at centre of cathode.
2. Tested with standard lamp source at colour temperature 2854°K.
3. Incident on a 1.1/2" diameter patch on the photo-cathode. Diffused light of the order of 10^{-7}L or by flying spot.
Known variable light flux adequate to produce conveniently measured output current.
4. The dark current is measured at room temperature not less than 15°C after up to two hours in dark if required.



TYPICAL EQUAL ENERGY SPECTRAL
RESPONSE CURVE OF PHOTO-CATHODE



CV2316/3

CV2317/5

CV2316/CV2317/5/3

Amdb.1

CV2316/CV2317

Issue No. 5

Amendment No. 1

Page 2. Opposite 200 A/1
 Under Minimum Column
Delete: 115
Insert: 1150

Page 3. Delete: "CV2317/3
 CV2317/5"

Insert: "CV2316/CV2317/5/3"

✓AAS
6/8/66