Standard Telephones and Cables Limited
BRIMAR VALVE WORKS, FOOTSCRAY, SIDCUP, KENT, ENGLAND

BRIMAR

E. I. A.
REGISTRATION DATA

TYPE 7496

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TYPE 7496: VARI-MU R.F. PENTODE.

The 7496 is a seven pin all glass construction vari-mu pentode for use in R.F. and I.F. applications.

The use of a special rugged electrode construction manufactured by means of semi-automatic assembly techniques contributes to a low catastrophic failure rate.

The cathode sleeve is made of a special alloy to inhibit the growth of cathode interface resistance during long periods of operation under cut-off conditions and the pure tungsten heater has been designed to withstand frequent heater switching (see note). In addition, the heater-cathode construction and materials ensure very low levels of leakage throughout life.

The glass base and envelope strain patterns are tightly controlled during manufacture to prevent glass failures during life. Special attention is also given to the control of materials and processes to minimise variation of characteristics during life. A particular feature is the very low change in inter-electrode capacitances during life.

Note: A sample from each production lot is tested under the following elevated conditions to assess heater quality:- heater voltage 120% of nominal value: heater-cathode voltage 240V r.m.s; applied voltages cycled 1 minute on, 3 minutes off for 100 hours.

MECHANICAL DATA

Coated unipotential cathode.

Outline drawing	5-2	Bulb	T-5½
Base	E7-1	Small button	7 pin
Maximum diameter			¾"
Maximum overall length			1⅞"
Maximum seated height			2⅛"
Pin connections		Basing	7BK

Pin 1 - Grid No. 1	Pin 5 - Anode
Pin 2 - Grid No. 3	Pin 6 - Grid No. 2
Pin 3 - Heater	Pin 7 - Cathode
Pin 4 - Heater	

Mounting position	any
Maximum shock (intermittent service)	500g

ELECTRICAL DATA

Interelectrode capacitances. (Without external shield)

Ca-g1	..... .0035	pF (max)
C in	.....5.5	pF
C out	.....5.0	pF

Heater:

Voltage	(ac or dc)	6.3 volts
Current		0.3 amps

Ratings - Absolute maximum values.

Maximum heater voltage variation ..... ± 5% of nominal value.

Maximum heater-cathode voltage.

Heater negative with respect to cathode	150 volts
Heater positive with respect to cathode	150 volts
Maximum anode voltage (I_a = 0)	500 volts
Maximum anode voltage	330 volts
Maximum anode dissipation	3.3 watts
Maximum screen voltage (I_{g2} = 0)	330 volts
Maximum screen voltage	135 volts
Maximum screen dissipation	0.7 watts
Maximum bulb temperature (at hottest spot on bulb surface).....	165°C.

RANGE OF CHARACTERISTIC VALUES FOR EQUIPMENT DESIGN (At Zero hours)

Test conditions :- ..... Va = 250V, V_{g3}= 0, V_{g2} = 100V.
V_{g1}= 0, R_k = 68Ω

	Min.	Bogey.	Max.	
Anode current	8.5	11.0	13.5	mA
Screen current	2.8	4.2	5.6	mA
Mutual conductance	3.6	4.4	5.2	mA/V
Inner amplification factor	16	24	32	-
Anode impedance		1.0		MΩ

Maximum value of cathode interface resistance throughout life under cut-off conditions ..... 10Ω.