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

BRIMAR

E. I. A. REGISTRATION DATA

TYPE 7492

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TYPE 7492: HIGH SLOPE DOUBLE TRIODE

The 7492 is a nine pin, all glass construction double triode with independent sections for use in both R.F and computor 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	6-2	Bulb	T-6½
Base	E9-1	Small button	9 pin
Maximum diameter			$\frac{7}{8}$"
Maximum overall length			2.3/16"
Maximum seated height			1.15/16"
Pin connections		Basing	9A

Pin 1 - Anode	(section 2)	Pin 6 - Anode	(section 1)
Pin 2 - Grid	(section 2)	Pin 7 - Grid	(section 1)
Pin 3 - Cathode	(section 2)	Pin 8 - Cathode	(section 1)
Pin 4 - Heater		Pin 9 - Heater centre tap	
Pin 5 - Heater			

Mounting position ..... any
Maximum shock (intermittent service) 500g

ELECTRICAL DATA

Interelectrode capacitances. (Without external shield)

C_{a-g} (Each section)	1.6 pF
C in (Each section)	2.5 pF
C out'	0.45 pF
C out"	0.38 pF
Ca'-a"	0.24 pF
$C_{h-k' + k"}$	4.1 pF

Heater:

		Series	Parallel	
Voltage	(ac or dc)	12.6	6.3	volts
Current		0.15	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..... 100 volts
Heater positive with respect to cathode ..... 100 volts
Maximum cathode current (Each section) ..... 22 mA
Maximum average grid current ..... 1.1 mA
Maximum anode voltage (I_a = 0) ..... 550 volts
Maximum anode voltage ..... 300 volts
Maximum anode dissipation (Each section) ..... 2.8 watts
Maximum bulb temperature (at hottest spot on bulb surface).. 200°C

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

Test conditions ..... V_a = 250V, V_g = 0, R_k = 200Ω

Each Section

	Min.	Bogey	Max.	
Anode current	7	10	14	mA
Mutual conductance	4.5	5.5	6.5	mA/V
Amplification factor	50	60	70	
Unbalance between anode current of sections		-	3.2	mA
Anode current at V_g = - 20V			10	µA

Maximum value of cathode interface resistance throughout life... 10Ω