

BRIMAR

E. I. A.
REGISTRATION DATA

TYPE 7498
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TYPE 7498: HIGH SLOPE R.F. PENTODE.

The 7498 is a seven pin all glass construction 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-5 $\frac{1}{2}$
Base E7-1 Small button 7 pin
Maximum diameter $\frac{3}{4}$ "
Maximum overall length 2 $\frac{1}{8}$ "
Maximum seated height 1 $\frac{1}{8}$ "
Pin connections Basing ~~7ED~~
7DB

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

Mounting position any
Maximum shock (intermittent service) 500g

ELECTRICAL DATAInterelectrode capacitances. (Measured with external shield)

C_{a-g1}	.....	.01 pF (max)
C in	.....	7.6 pF
C out	.....	3.25 pF

Heater:

Voltage	(ac or dc)	6.3 volts
Current		0.3 amps.

Ratings - Absolute Maximum values.

Maximum heater voltage variation	.....	$\pm 5\%$ of nominal value.
Heater negative with respect to cathode	.....	150 volts
Heater positive with respect to cathode	.....	150 volts
Maximum anode voltage ($I_a=0$)	.....	550 volts
Maximum anode voltage	.....	300 volts
Maximum anode dissipation	.....	3.0 watts
Maximum screen voltage ($I_{g2}=0$)	.....	450 volts
Maximum screen voltage	.....	300 volts
Maximum screen dissipation	.....	0.9 watts
Maximum bulb temperature (at hottest spot on bulb surface)	.....	200 °C

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

Test conditions $V_a = 250V$, $V_{g3} = 0$, $V_{g2} = 250V$, $V_{g1} = 0$
 $R_{k} = 160\Omega$.

	<u>Min.</u>	<u>Bogey</u>	<u>Max.</u>	
Anode current	7.5	9.85	12.2	mA
Screen current	1.8	2.6	3.4	mA
Mutual conductance	6.0	7.62	9.25	mA/V
Anode current at $V_{g1} = -8V$			100	μA
Inner amplification factor	60	75	89	

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