

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

BRIMAR

**E. I. A.
REGISTRATION DATA**

TYPE 7631

DATE 10.2.61
ISSUEDTYPE 7631: DOUBLE DIODE.

The 7631 is a seven pin all glass construction double diode suitable for clamping and pulse shaping 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.

Base	E7-1	Bulb	T-5 $\frac{1}{2}$
Maximum diameter		Small button	7 pin
Maximum overall length			$\frac{3}{4}$ "
Maximum seated height			1 $\frac{3}{4}$ "
Pin connections		Basing	1 $\frac{1}{2}$ "
			6BT

Pin 1 - Cathode	(section 1)	Pin 5 - Cathode	(section 2)
Pin 2 - Anode	(section 2)	Pin 6 - Internal Shield	
Pin 3 - Heater		Pin 7 - Anode	(section 1)
Pin 4 - Heater			

Mounting position any
Maximum shock (intermittent service) 500g

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E.I.A. REGISTRATION DATA (Continued)

TYPE 7631

ELECTRICAL DATAInterelectrode capacitances. Measured with external shield)

Ca-h+k+s (each section) 3.2 pF

Ck-h+a+s (each section) 3.2 pF

Ca' -a'' 0.026 pF(max)

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.Maximum heater cathode voltage 360 volts
(cathode positive with respect to heater)

Maximum peak inverse anode voltage 360 volts

Maximum peak anode current 10 mA

Maximum surge anode current 350 mA

Maximum bulb temperature (at hottest spot on
bulb surface) 165°CRANGE OF CHARACTERISTIC VALUES FOR EQUIPMENT DESIGN.

(At Zero hours).

Test conditions $V_a = 10V$.Each Section.

	<u>Min.</u>	<u>Bogey.</u>	<u>Max.</u>
Anode current	40	60	- nA
Diode short circuit current ($R_L = 40k\Omega$)	2.0	-	20 μA

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