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

BRIMAR

E. I. A.
REGISTRATION DATA

TYPE 7631

DATE ISSUED 10.2.61

TYPE 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-5½
		Small button	7 pin
Maximum diameter			¾"
Maximum overall length			1¾"
Maximum seated height			1½"
Pin connections		Basing	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

ELECTRICAL DATA

Interelectrode 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	± 5% of nominal value.
Maximum heater cathode voltage (cathode positive with respect to heater)	360 volts
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°C

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

Test conditions ..... Va = 10V.

Each Section.

	Min.	Bogey.	Max.	
Anode current	40	60	-	mA
Diode short circuit current (R_L = 40kΩ)	2.0	-	20	µA

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