ESU107

HALF-WAVE MERCURY VAPOUR RECTIFIER

GENERAL

The ESU107 is an indirectly heated half-wave mercury vapour rectifier having a minimum cathode heating delay time of three minutes. Two rectifiers in a full wave circuit will give an output of 6·0A at 6·3kV. This rectifier may be operated with condensed mercury temperatures in the range +25° to +70°C.

RATING

Heater voltage	V_h				5·0	V
Heater current	I_h				12	A
Maximum peak inverse voltage	P.I.V.(max)				20	kV
Maximum operating frequency	f_{max}				150	c/s
Minimum pre-heat time					3	min
Maximum output voltage in biphase half-wave using two valves	$V_{(out)max}$				6·3	kV
Maximum output current in biphase half-wave using two valves	$I_{(out)max}$				6·0	A
Maximum voltage drop across valve					15	V
Maximum surge cathode current (0·1 sec max)	$I_{k(surge)max}$				150	A
Maximum peak inverse voltage	P.I.V.(max)	20	15	10	5·0	kV
Condensed mercury temperature limits		25-55	25-60	25-65	25-70	°C
Peak cathode current	$i_{k(pk)}$	15	18	20	25	A
Maximum average cathode current (maximum average time 10 sec)	$I_{k(av)max}$	3·0	4·0	5·0	6·0	A

DIMENSIONS

Maximum overall length	305	mm
Maximum diameter	78	mm
Maximum seated height	285	mm
Approximate net weight	1	lb
Approximate packed weight	8	lb

Associated Electrical Industries Limited
Electronic Components Department
Tel: GERrard 9797

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MOUNTING POSITION—Vertical, base downwards.

NOTES

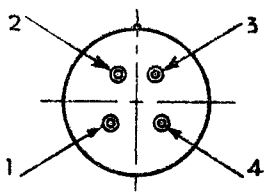
The cathode of this rectifier should be allowed an adequate heating time, preferably longer than the specified absolute minimum, but in any circumstances no shorter, before the application of anode voltage.

The condensed mercury temperature, which may be measured with a thermocouple attached to the coolest part of the bulb, should never pass outside the specified limits during operation.

After transportation, or a period of storage, or when first placed in service, an initial cathode heating time of 30 minutes should be allowed to ensure the correct distribution of the mercury within the valve.

TOP CAP—CT3

BASE—B4D



Viewed from free end of pins.

CONNECTIONS

Pin 1	No Connection	NC
Pin 2	Heater, Cathode	h,k
Pin 3	Heater	h
Pin 4	No Connection	NC
Top Cap	Anode	a

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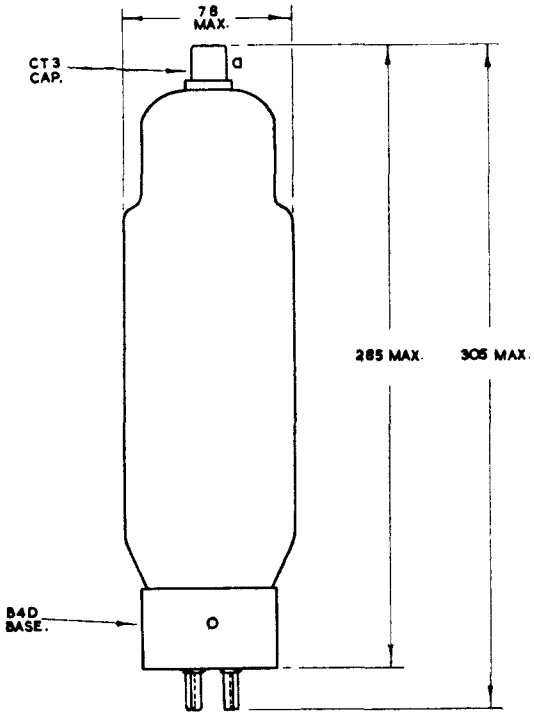

VIEW OF FREE END.

All dimensions in mm.

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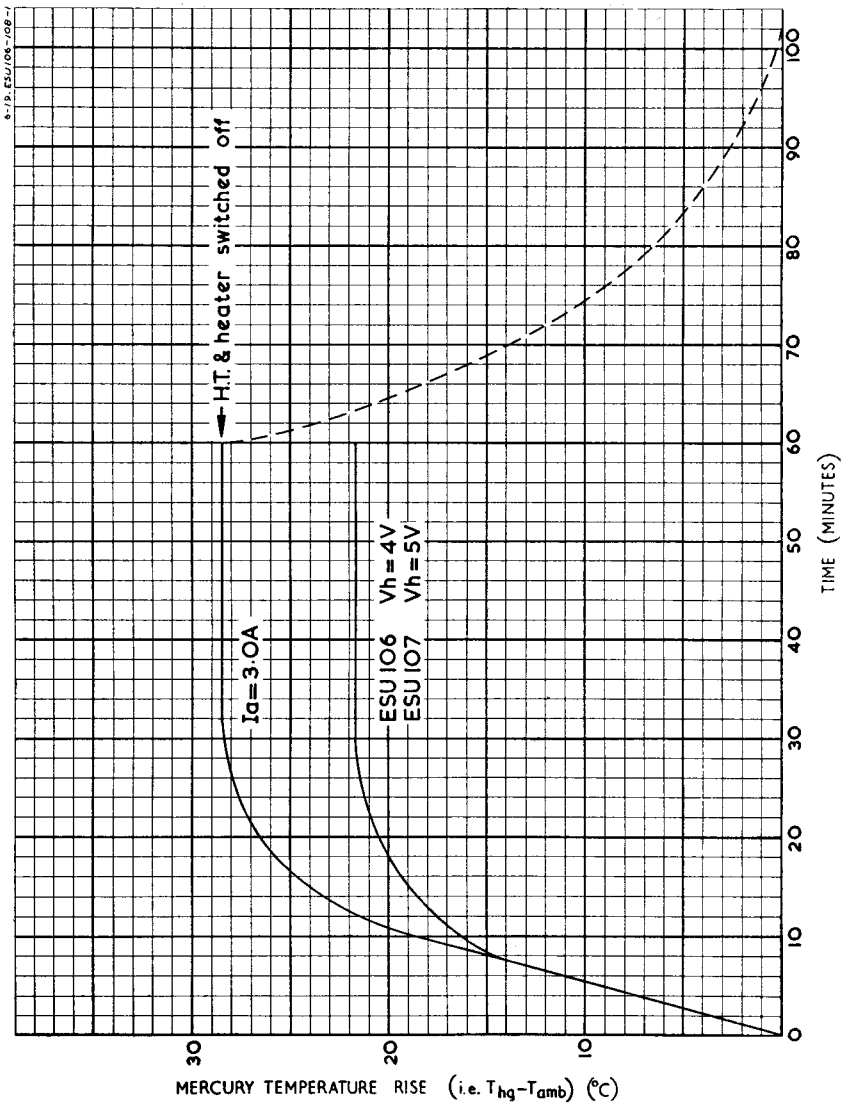
CHARACTERISTIC CURVES : T_{Hg}/t