EDISWAN

ESU106

HALF-WAVE MERCURY VAPOUR RECTIFIER

TENTATIVE

GENERAL

THE ESU106 is an indirectly heated half-wave Mercury Vapour Rectifier having a normal cathode heating delay time of five minutes. Two rectifiers in a full wave circuit will give an output of 6 amps at 6.3kV. This rectifier may be operated with condensed mercury temperatures in the range +25°C to +70°C.

RATING

Heater Voltage (volts)	V_h	4.0
Heater Current (amps)	I_h	14.0 to 16.0
Maximum Peak Inverse Voltage (kV)	PIV(max)	20.0†
Maximum Peak Anode Current (amps)	$i_{a(pk)max}$	15.0†
Maximum Mean Anode Current (amps)	$I_{a(av)max}$	3.0†
Maximum Voltage Drop (volts)		15.0
Minimum Cathode Heating Time (at 15°C) (minutes)		5.0*
Condensed Mercury Temperature Range (°C)		+25 to +70
Maximum Surge Cathode Current (0.1 sec max) (amps)	$I_{k(surge)max}$	150

* At free air ambient temperature 10°C heating time is 10 minutes, at 5°C heating time is 20 minutes.

† See " Typical Operation " for temperature derating.

DIMENSIONS

Maximum Overall Length	(mm)	310
Maximum Diameter	(mm)	78
Approximate Nett Weight	(lbs)	1
Approximate Packed Weight	(lbs)	8

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RADIO & ELECTRONIC COMPONENTS DIVISION

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MOUNTING POSITION—Vertical, base downwards

TYPICAL OPERATION

A Full Wave Rectifier using 2 valves can deliver an output of 6 amps at 6.3kV.

Condensed Mercury Temperature (°C)		70	65	60	55—25
Maximum Peak Inverse Voltage (kV)	$PIV_{(max)}$	5	10	15	20
Maximum Peak Cathode Current (amps)	$i_{k(pk)max}$	30	20	18	15
Maximum Mean Cathode Current (amps)	$I_{k(av)max}$	7	5	4	3

NOTE

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.

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BASE—GES

TOP CAP—CT3

VALVE HOLDER—Ediswan Clix 4857

TOP CAP CONNECTOR—Ediswan Clix TC433

CONNECTIONS

Base Centre	Heater, Cathode	h,k
Base Shell	Heater	h
Top Cap	Anode	a

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