

HALF-WAVE RECTIFIER

EY84

Indirectly heated half-wave rectifier primarily intended for operation at high altitudes.

PRELIMINARY DATA

HEATER

V_h	6.3	V
I_h	1.0	A

LIMITING VALUES

P.I.V. max.	2.0	kV
$i_{a(pk)}$ max.	0.9	A
V_{h-k} max. (heater negative)	650	V←

Capacitor Input

I_{out} max. ($V_a = 500 V_{r.m.s.}$)	150	mA
($V_a = 625 V_{r.m.s.}$)	125	mA
C max.	24	μ F
R_{lrm} min. ($V_a \leq 500 V_{r.m.s.}$)	150	Ω
($V_a > 500 V_{r.m.s.}$)	250	Ω

Choke Input

I_{out} max. ($V_a = 700 V_{r.m.s.}$)	175	mA
L min.	5	H

CHARACTERISTICS

Anode voltage drop ($I_{out} = 150$ mA)	22	V
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TYPICAL OPERATION OF TWO VALVES AS FULL-WAVE RECTIFIER

CAPACITOR INPUT

$V_{in(r.m.s.)}$	500-0-500	625-0-625	V
R_{lrm} (per anode)	150	250	Ω
*C (50 c/s)	16	16	μ F
I_{out}	300	250	mA
V_{out}	500	635	V

* For 1,600 c/s operation the same I/V relation would be obtained using a capacitor of 0.5 μ F.

CHOKE INPUT

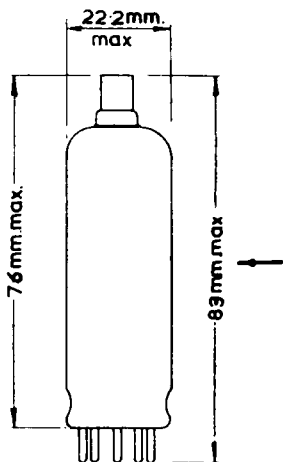
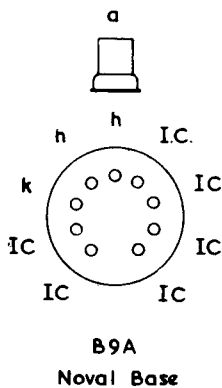
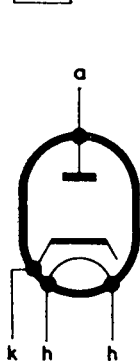
$V_{in(r.m.s.)}$	700-0-700	V
L	5	H
I_{out}	350	mA
V_{out}	550	V

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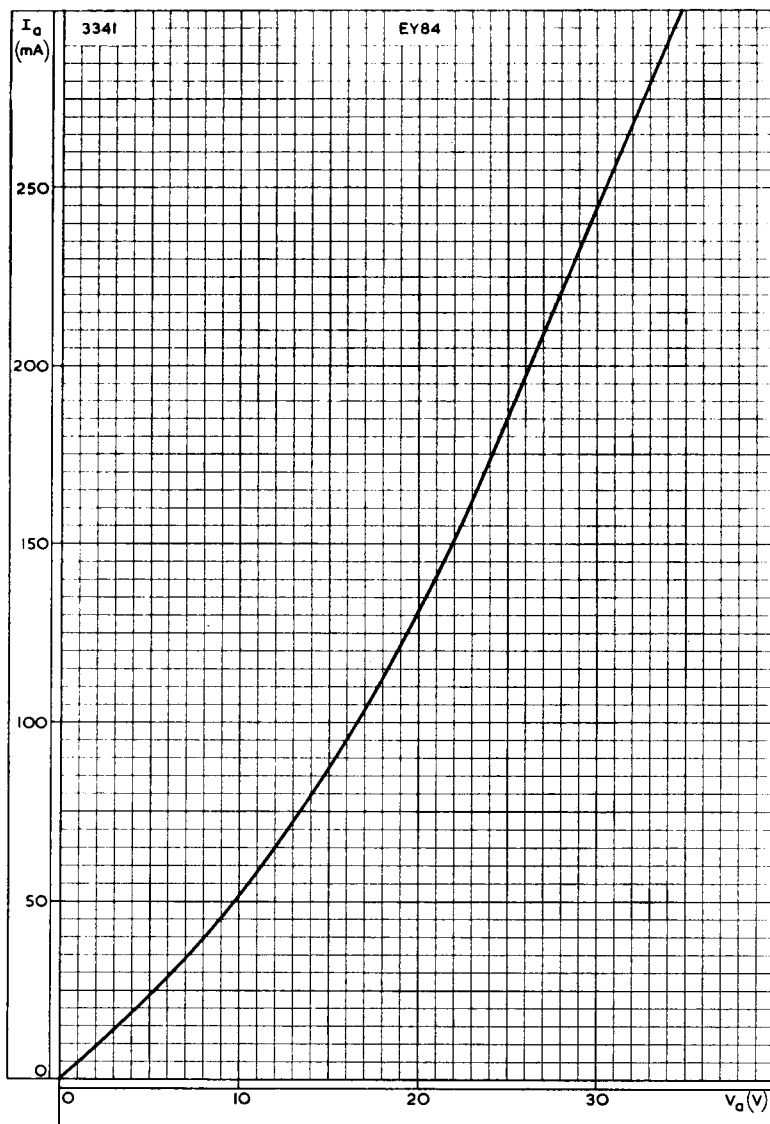
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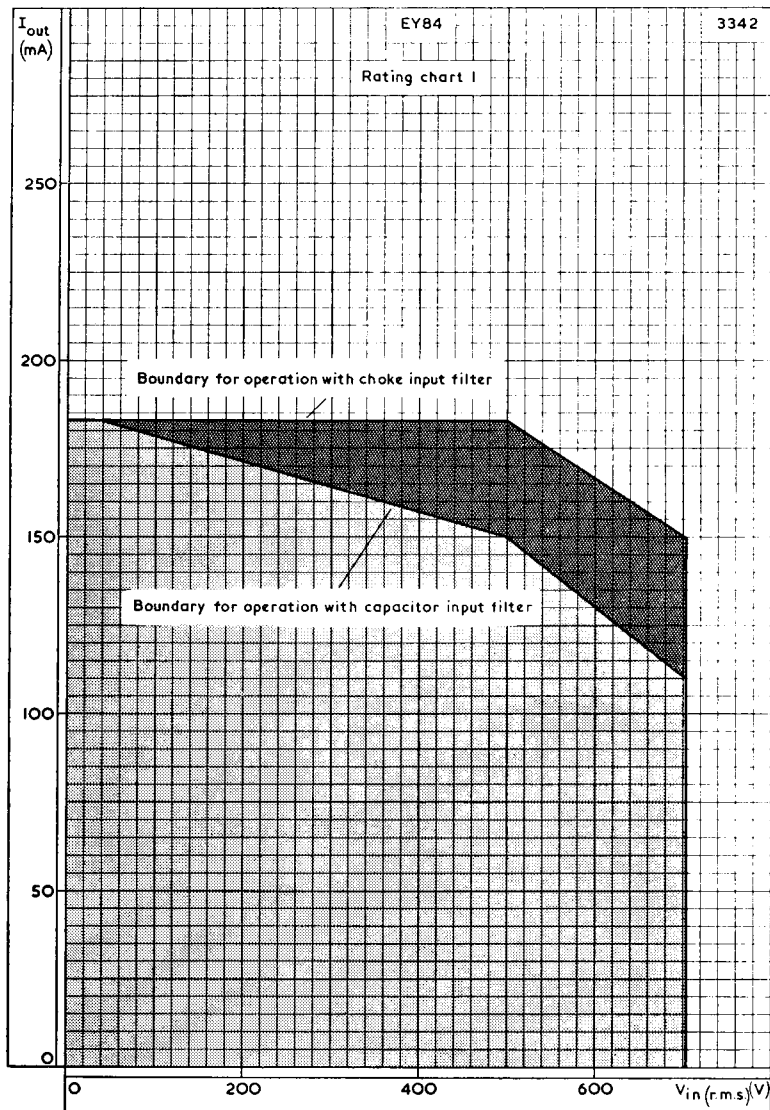
ANODE CURRENT PLOTTED AGAINST ANODE VOLTAGE



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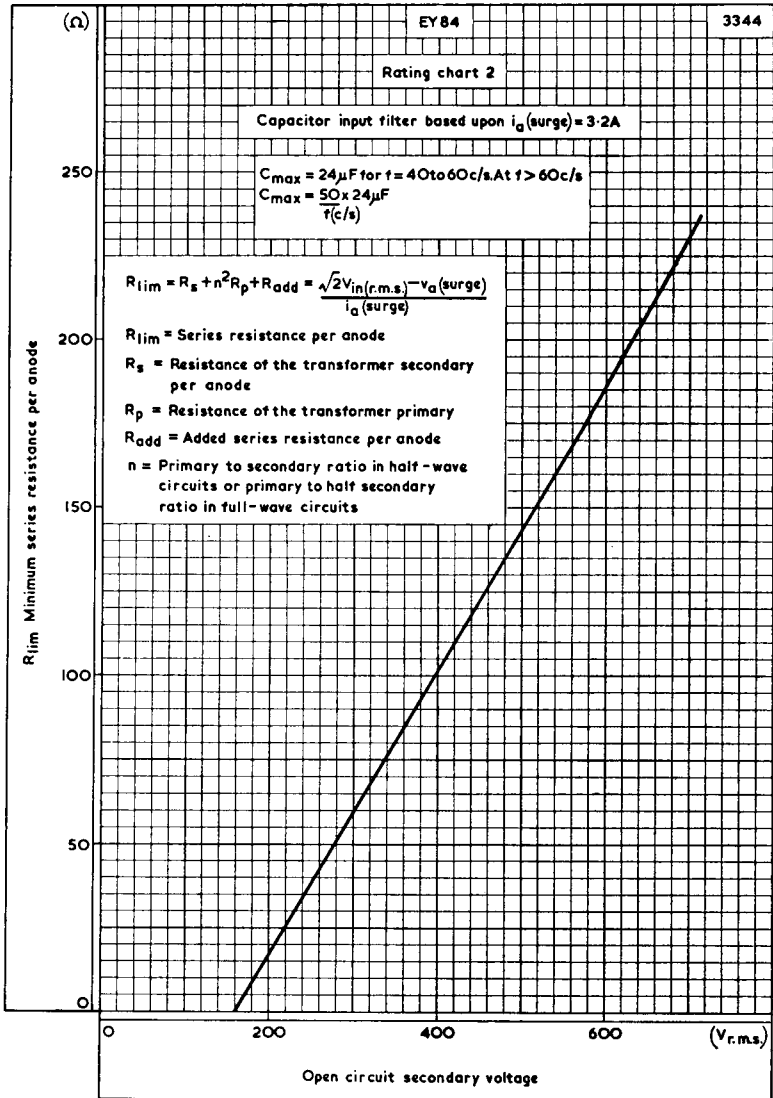


BOUNDARY OF OPERATION WITH CAPACITOR OR CHOKE INPUT FILTER

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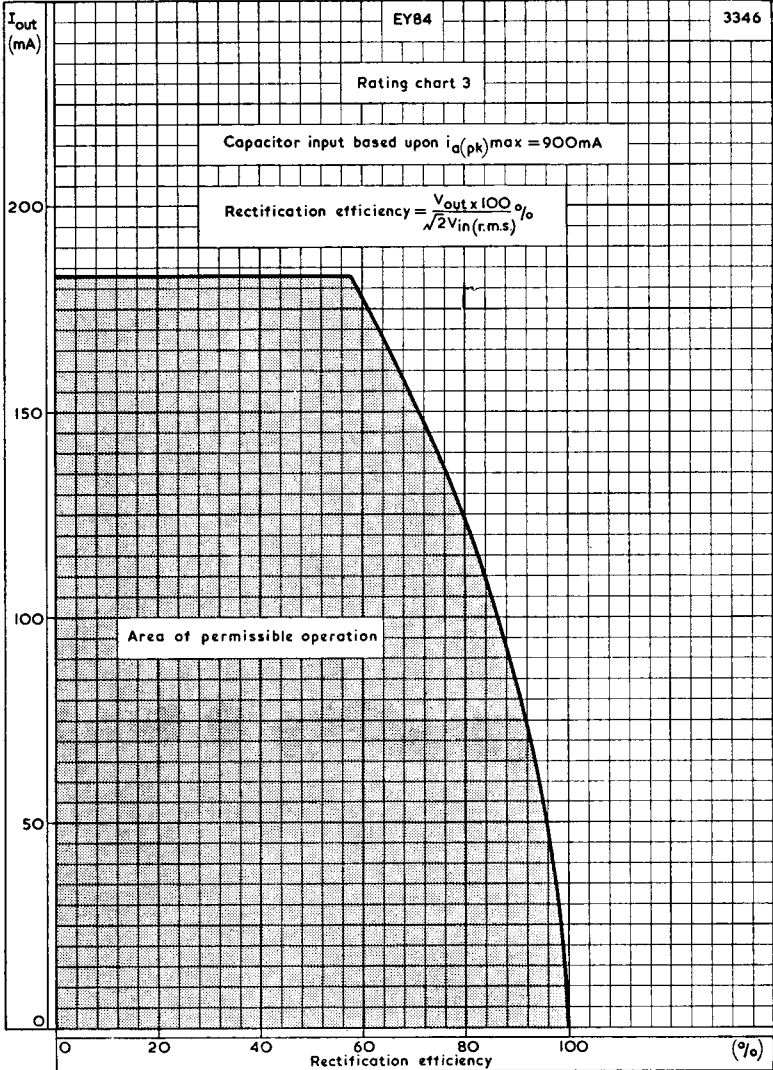


MINIMUM SERIES ANODE RESISTANCE PLOTTED AGAINST OPEN CIRCUIT SECONDARY VOLTAGE

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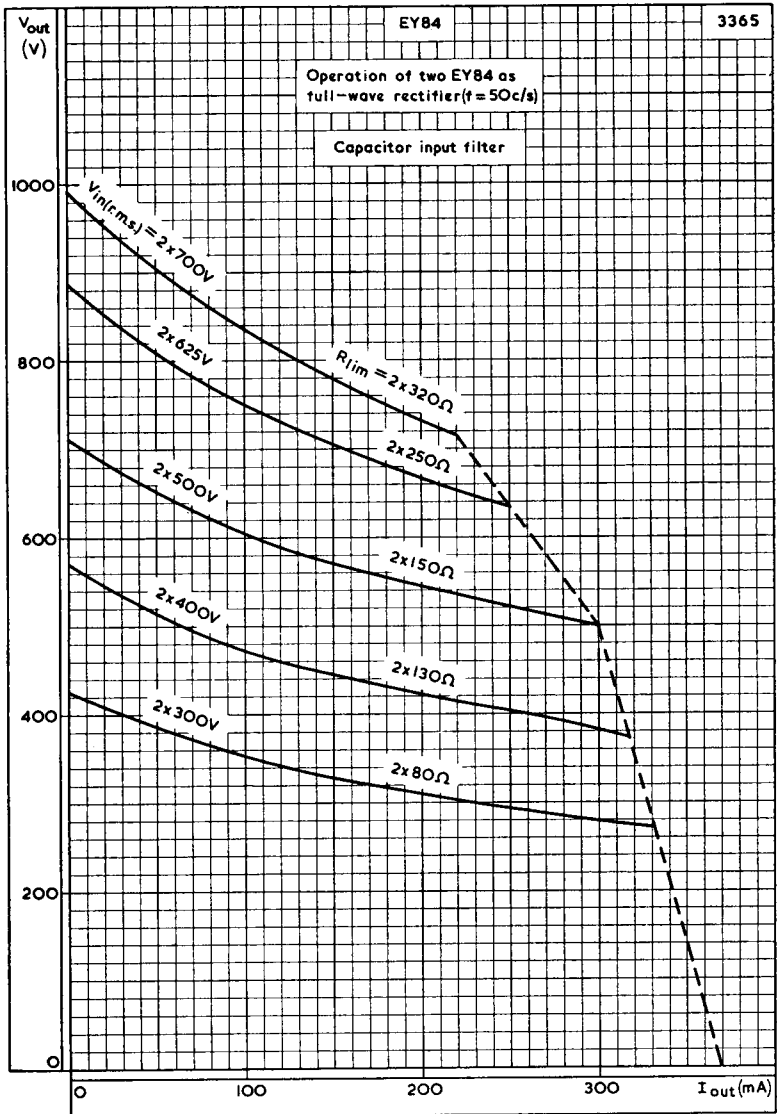
OUTPUT CURRENT PLOTTED AGAINST RECTIFICATION EFFICIENCY



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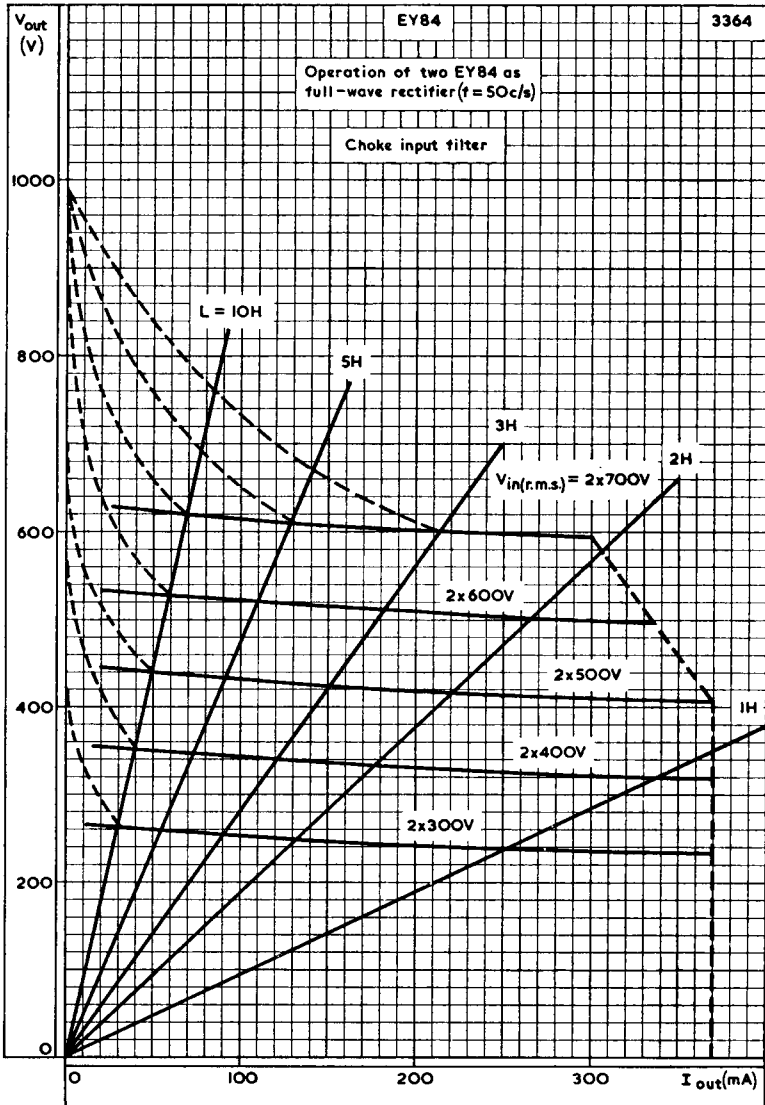


CAPACITOR INPUT FILTER REGULATION CURVES

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CHOKE INPUT FILTER REGULATION CURVES