

All-glass triode rated for a maximum anode dissipation of 400W, and suitable for use at frequencies up to 75Mc/s.

## PRELIMINARY DATA

This data should be read in conjunction with GENERAL OPERATIONAL RECOMMENDATIONS – TRANSMITTING VALVES included in this volume of the handbook.

<b>FILAMENT</b>	Thoriated tungsten		
	$V_f$	10	V
	$I_f$	10	A

## MOUNTING POSITION

Vertical – with filament connectors up or down.  
Horizontal – with plane of electrodes vertical.

## CAPACITANCES

$C_{a-g}$	6.3	pF
$C_{g-f}$	12.3	pF
$C_{a-f}$	8.5	pF

CHARACTERISTICS (measured at  $I_a=200\text{mA}$ )

$g_m$	4.0	$\text{mA/V}$
$\mu$	35	

## COOLING

$T_{\text{anode seal max.}}$	145	$^{\circ}\text{C}$
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It is necessary to keep the temperature of the dome between the anode and grid seals below  $145^{\circ}\text{C}$  and under some conditions of operation an air flow of up to 40 cu.ft./min. from a 2-in. diameter nozzle directed at this area may be necessary.

## OPERATION AS SINGLE VALVE R.F. POWER OSCILLATOR OR AMPLIFIER (CLASS "C" TELEGRAPHY OR F.M. TELEPHONY)

## Limiting Values

	Forced air cooling	Natural cooling	
$V_a$ max.	4.0	3.0	kV
$p_a$ max.	400	300	W
$-V_g$ max.	500	500	V
$I_g$ max.	100	100	mA
$p_g$ max.	20	20	W
$I_k$ max.	600	600	mA
$i_{k(pk)}$ max.	3.0	3.0	A
$R_{g-f}$ max.	15	15	$k\Omega$



# TY4-350

## V.H.F. POWER TRIODE

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### Typical Operating Conditions

	Forced air cooling	Natural cooling	
f	< 20	< 30	Mc/s
V <sub>a</sub>	4.0	3.0	kV
V <sub>g</sub>	-200	-200	V
I <sub>a</sub>	450	415	mA
V <sub>in(pk)</sub>	375	360	V
I <sub>g</sub>	75	55	mA
P <sub>a</sub>	360	245	W
P <sub>out</sub>	1.44	1.0	kW
P <sub>load(driver)</sub>	35	33	W
η	80	80	%
*P <sub>load</sub>	1152	800	W

\*With a circuit transfer efficiency of 80%.

### OPERATION AS R.F. POWER AMPLIFIER (CLASS "C" TELEPHONY, ANODE MODULATION)

Limiting Values (carrier condition for modulation factor of 1)

	Forced air cooling	Natural cooling	
V <sub>a</sub> max.	3.0	2.5	kV
p <sub>a</sub> max.	270	200	W
-V <sub>g</sub> max.	500	500	V
I <sub>g</sub> max.	100	100	mA
p <sub>g</sub> max.	20	20	W
I <sub>k</sub> max.	550	500	mA
i <sub>k(pk)</sub> max.	2.7	2.5	A
R <sub>g-f</sub> max.	15	15	kΩ

### Typical Operating Conditions

	Forced air cooling	Natural cooling	
f	< 20	< 30	Mc/s
V <sub>a</sub>	3.0	2.5	kV
V <sub>g</sub>	-300	-300	V
I <sub>a</sub>	415	335	mA
I <sub>g</sub>	85	75	mA
V <sub>in(pk)</sub>	490	460	V
P <sub>a</sub>	245	200	W
P <sub>load(driver)</sub>	50	50	W
η	80	76	%
P <sub>out</sub>	1000	635	W
*P <sub>load</sub>	800	508	W
For 100% modulation			
P <sub>mod</sub>	622	420	W

\*With a circuit transfer efficiency of 80%.



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### OPERATION AS CLASS "B" A.F. POWER AMPLIFIER OR MODULATOR

#### Limiting Values

	<i>Forced air cooling</i>	<i>Natural cooling</i>	
$V_a$ max.	4.0	3.0	kV
$p_a$ max.	400	300	W
$I_g$ max.	100	100	mA
$I_k$ max.	600	600	mA
$i_{k(pk)}$ max.	2.0	2.0	A

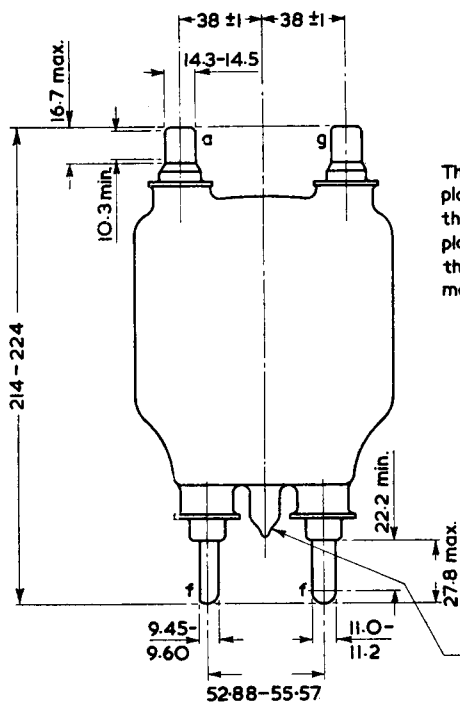
#### Typical Operating Conditions for two Valves in Push-Pull (with $I_g$ )

	<i>Forced air cooling</i>	<i>Natural cooling</i>	
$V_a$	4.0	3.0	kV
$V_g$	-100	-70	V
$I_{a(o)}$	$2 \times 50$	$2 \times 50$	mA
$I_a$ (max. sig.)	$2 \times 400$	$2 \times 375$	mA
$V_{in(g-r).r.m.s.}$	336	280	V
$I_g$	$2 \times 67$	$2 \times 56$	mA
$R_{a-a}$	12	9.5	$k\Omega$
$P_{out}$	2.4	1.65	kW

# TY4-350

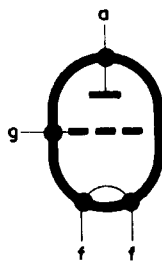
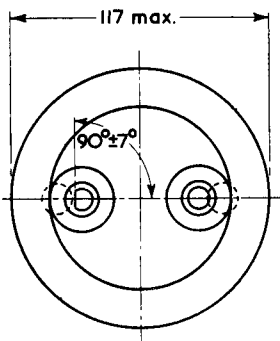
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The horizontal angle between the plane determined by the axes of the filament terminals and the plane determined by the axes of the grid and anode caps is not more than 5°

The mounting should provide liberal clearance for this tip



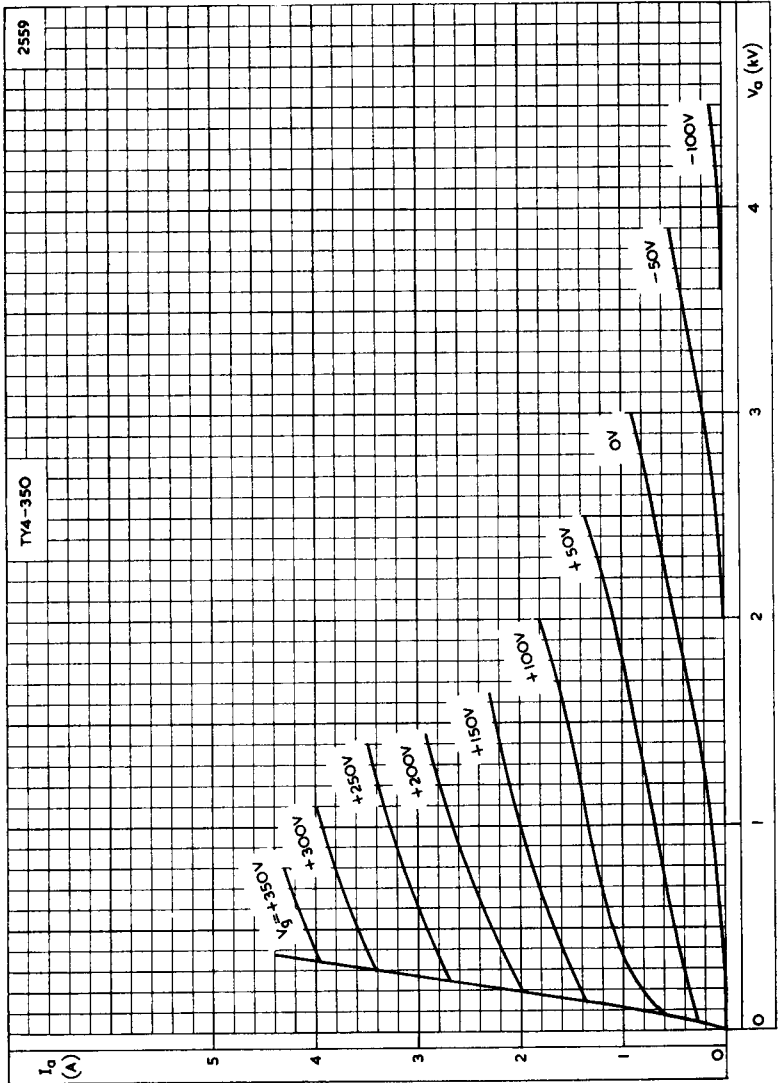
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All dimensions in mm

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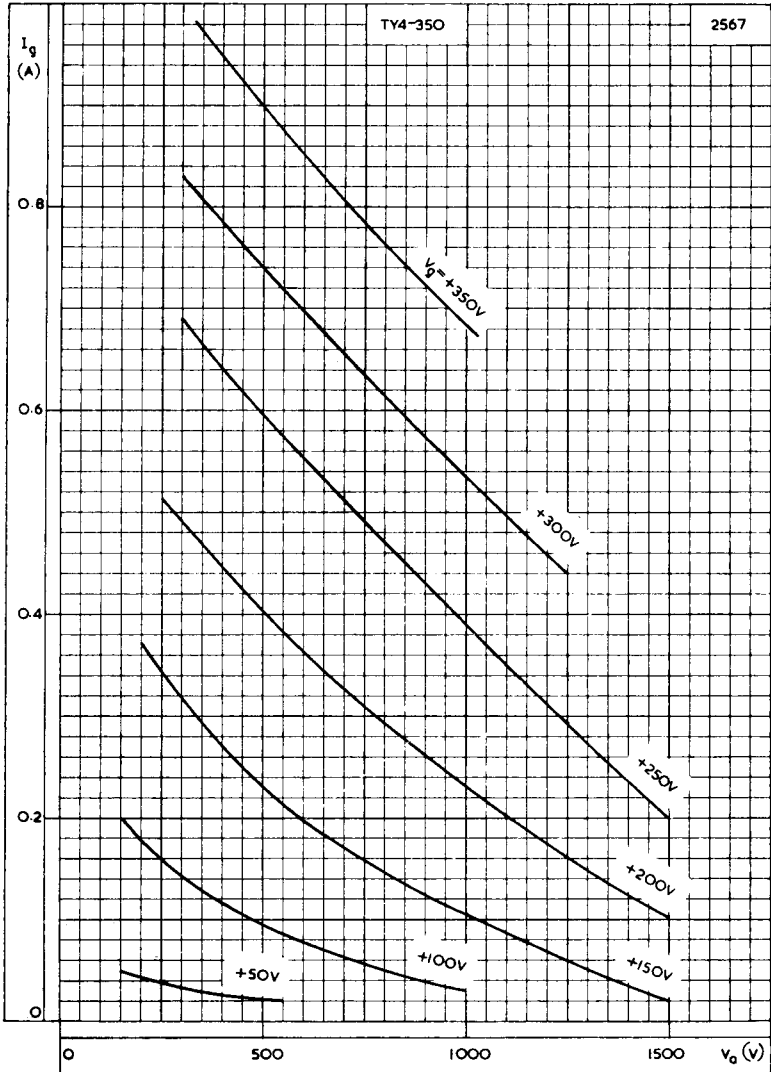


ANODE CURRENT PLOTTED AGAINST ANODE VOLTAGE

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GRID CURRENT PLOTTED AGAINST ANODE VOLTAGE

