

# SUBMINIATURE A.F. VOLTAGE AMPLIFYING PENTODE

# DF66

Subminiature voltage amplifying pentode suitable for use in hearing-aids. It has a filament current of 15 mA and is primarily intended for use with an H.T. battery supply of 22.5 volts.

## FILAMENT

$V_f$	0.625	V
$I_f$	15	mA

## MOUNTING POSITION

Any.

**Note**—Direct soldered connections to the leads of this valve must be at least 5 mm. from the seal and any bending of the valve leads must be at least 1.5 mm. from the seal.

## CAPACITANCES (measured without external screen)

$C_{a-g1}$	0.15	$\mu\mu\text{F}$
$C_{in}$	1.6	$\mu\mu\text{F}$
$C_{out}$	2.2	$\mu\mu\text{F}$

## CHARACTERISTICS

$V_a$	22.5	V
$V_{g2}$	22.5	V
$I_a$	50	$\mu\text{A}$
$I_{g2}$	15	$\mu\text{A}$
$V_{g1}$	-1.05	V
$g_m$	100	$\mu\text{A/V}$
$r_a$	>2	M $\Omega$
$\mu_{g1-g2}$	11.5	

## OPERATING CONDITIONS AS RESISTANCE

### COUPLED A.F. AMPLIFIER (see circuit overleaf)

#### (a) With fixed bias

$V_b$	22.5	V
$R_a$	1.0	M $\Omega$
$R_{g2}$	2.0	M $\Omega$
$V_{g1}$	-0.625	V
$I_k$	16	$\mu\text{A}$
$V_{out}/V_{in}$	33	
$R_{out}$	5	M $\Omega$

#### (b) With grid current biasing

$V_b$	22.5	V
$R_a$	1.0	M $\Omega$
$R_{g2}$	2.7	M $\Omega$
$R_{g1}$	10	M $\Omega$
$Z_s$	0	
$I_k$	16	$\mu\text{A}$
$V_{out}/V_{in}$	35	
$R_{out}$	5	M $\Omega$

## LIMITING VALUES

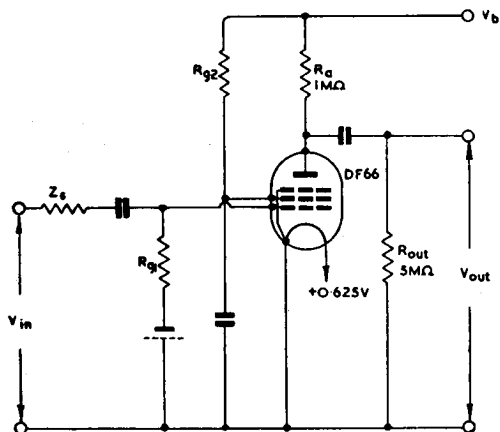
$V_a$ max.	45	V
$V_{g2}$ max.	45	V
$I_k$ max.	100	$\mu\text{A}$



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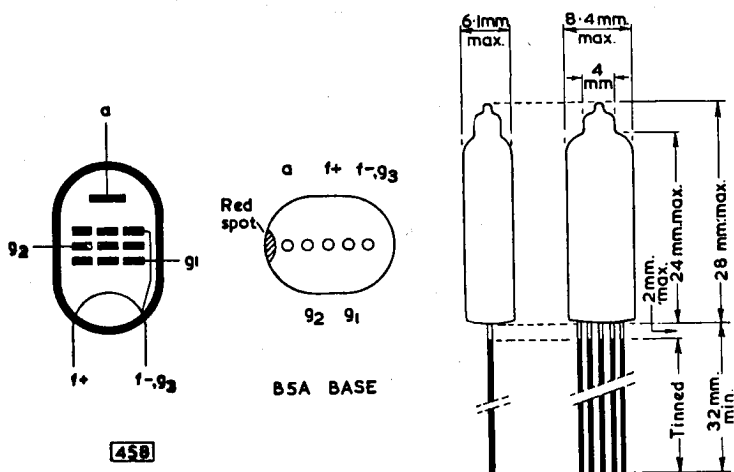
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472

Circuit of DF66 as Resistance Coupled A.F. Amplifier



458