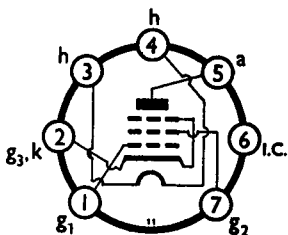




# MINIATURE OUTPUT PENTODE 0-1A INDIRECTLY HEATED

**N108**  
APRIL, 1952

## BASE CONNECTIONS AND VALVE DIMENSIONS



Base : B7G  
Bulb : Tubular

Overall length : 64—70      mm.  
Seated length : 58—64      mm.  
Max. diameter : 19          mm.

### RATING

#### Pentode Connection

$I_h$	0.1	A	
$V_h$	40 approx.	V	
$v_{h-k}$ (pk)	150 max.	V	
$V_a$	165 max.	V	
$V_{g2}$	165 max.	V	
$P_a$	9 max.	W	
$P_{g2}$	3 max.	W	
$\mu$	} at $V_a, V_{g2}=165, V_{g1}=-9$ {	k $\Omega$	
$r_a$			220
$g_m$			23.2
		mA/V	
	9.5		

#### Triode Connection

$V_a, g2$	165 max.	V	
$P_a, g2$	12 max.	W	
$\mu$	} at $V_a, g2=165, V_{g1}=-9$ {	$\Omega$	
$r_a$			10
$g_m$			835
		mA/V	
	12		

#### CAPACITANCES (of unshielded valve) :

$c_{a-all}$  10 pF       $c_{g1-all}$  10 pF       $c_{a-g1}$  0.3 pF

### TYPICAL OPERATION

#### Single Valve. Class A, Pentode Connection

% full input	45	100	100	75	50	%
$V_a$	100	150	165	165	165	V
$V_{g2}$	100	150	165	165	165	V
$V_{g1}$ (approx.)	-4.6	-7.8	-9.3	-10	-11.4	V
$I_a$ (o)	39	56	53	40	29	mA
$I_{g2}$ (o)	6.5	9.5	9	7.2	5.4	mA
$R_k$	100	120	150	220	330	$\Omega$
$v_{in}$ (pk)	5	7	8.5	6.7	4.7	V
$R_L$	2.5	3	3	4	6	k $\Omega$
$P_{out}$	1.45	3.5	4.1	2.84	2.3	W
D	8.6	11	10	10	10	%

The conditions given in the last two columns are those obtained when the valve is over-biased. They are useful when H.T. power is limited and reduced power output can be tolerated.

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## Two Valves. Push-pull, Class AB<sub>1</sub>, Pentode Connection

Data per pair unless otherwise stated.

V <sub>a</sub>	100	165	200	250	V
V <sub>g2</sub>	100	165	165	165	V
V <sub>g1</sub> (approx.)	-5	-11.9	-10	-11.2	V
I <sub>a</sub> (o)	70	107	87	66	mA
I <sub>a</sub> (max. sig.)	73	110	100	80	mA
I <sub>g2</sub> (o)	12	18	14	10	mA
I <sub>g2</sub> (max. sig.)	15	36	25	24	mA
R <sub>k</sub> (per valve)	120	150	200	300	Ω
v <sub>in</sub> (pk) (g <sub>1</sub> -g <sub>1</sub> )	11	20	25	30	V
R <sub>L</sub> (a-a)	3	3	4.5	7.5	kΩ
P <sub>out</sub>	2.25	9	11.5	13.3	W
D	3.3	4.6	4	4.5	%

## Two Valves. Push-pull, Class AB<sub>1</sub>, Triode Connection

Data per pair unless otherwise stated.

V <sub>a,g2</sub>	165	V
V <sub>g1</sub> (approx.)	-10.5	V
I <sub>a,g2</sub> (o)	65	mA
I <sub>a,g2</sub> (max. sig.)	74	mA
R <sub>k</sub> (per valve)	330	Ω
v <sub>in</sub> (pk) (g <sub>1</sub> -g <sub>1</sub> )	24	V
R <sub>L</sub> (a-a)	3	kΩ
P <sub>out</sub>	2.6	W
D	1.4	%

## GRID RESISTOR

The maximum permissible D.C. resistance from control grid to cathode is limited to 0.27 MΩ ± 20% for auto-bias and 0.1 MΩ for fixed bias applications.

## SCREENING

No internal or external screening is fitted to the valve.

## MOUNTING

Any position.

## RETAINING

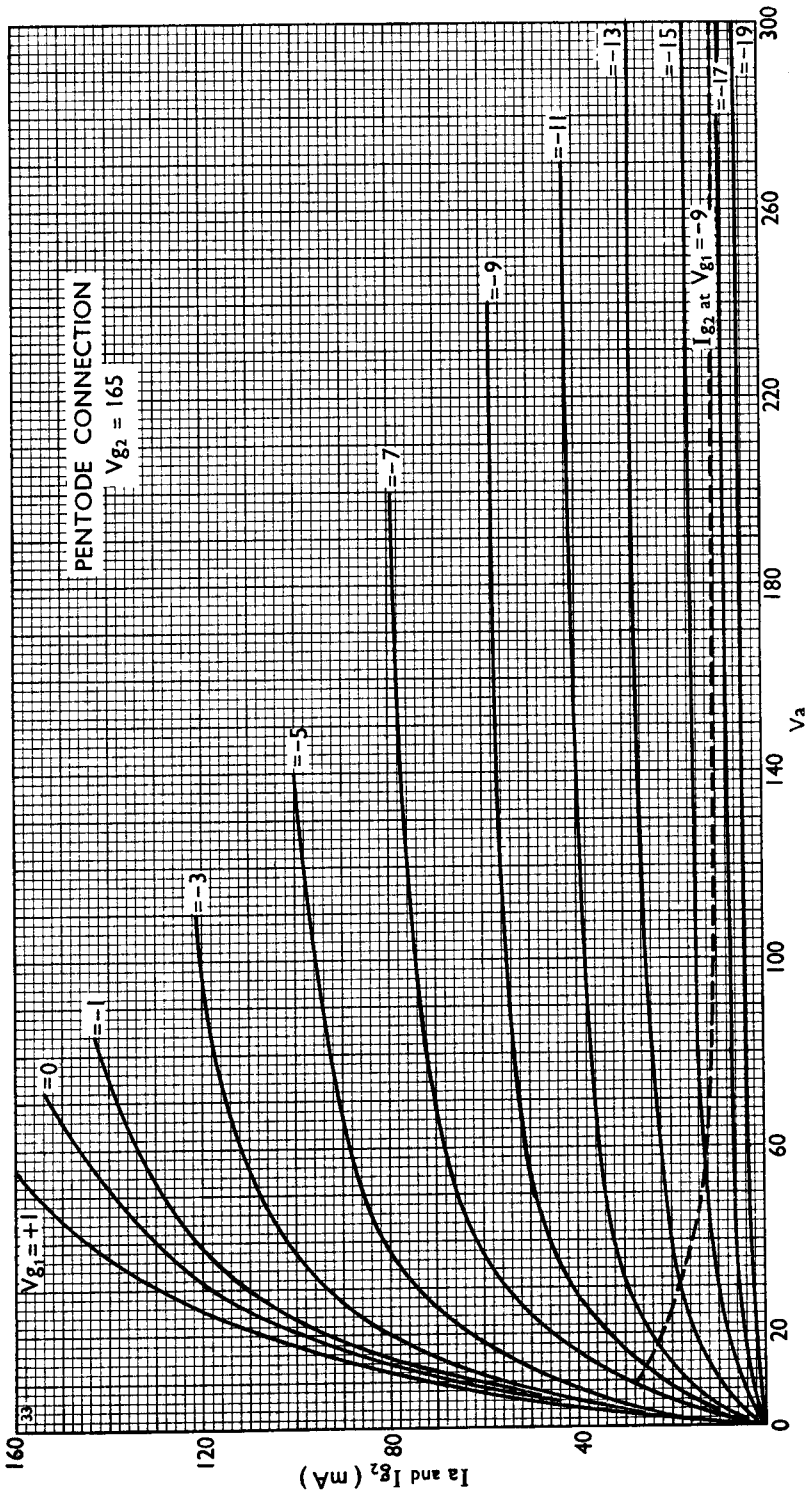
The use of a retaining device is recommended.

## VENTILATION

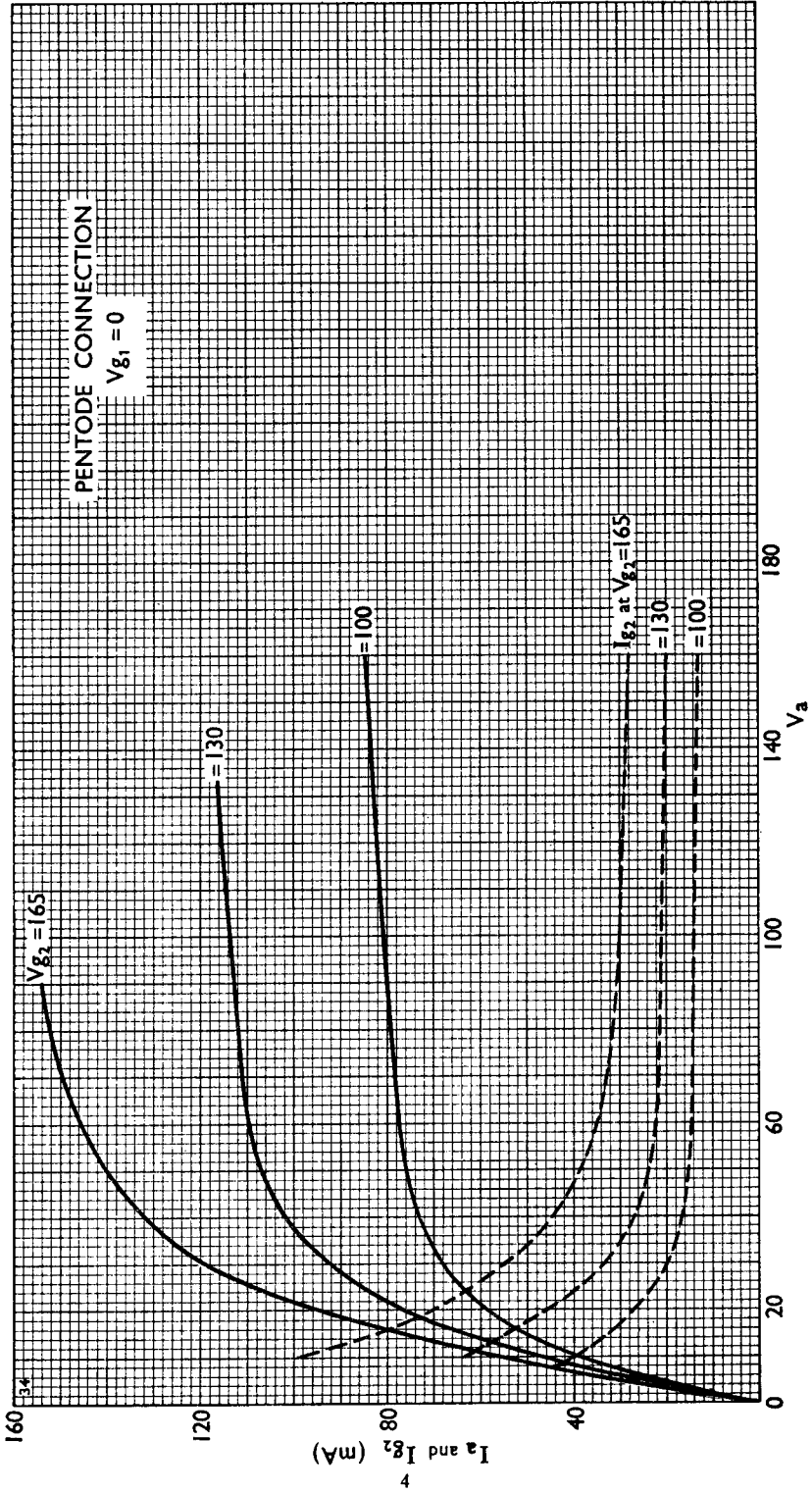
Free air circulation around the bulb is preferable. If a retaining device in the form of a canister is employed, the surfaces should be blackened. The temperature of the hottest part of the bulb must not exceed 250°C.

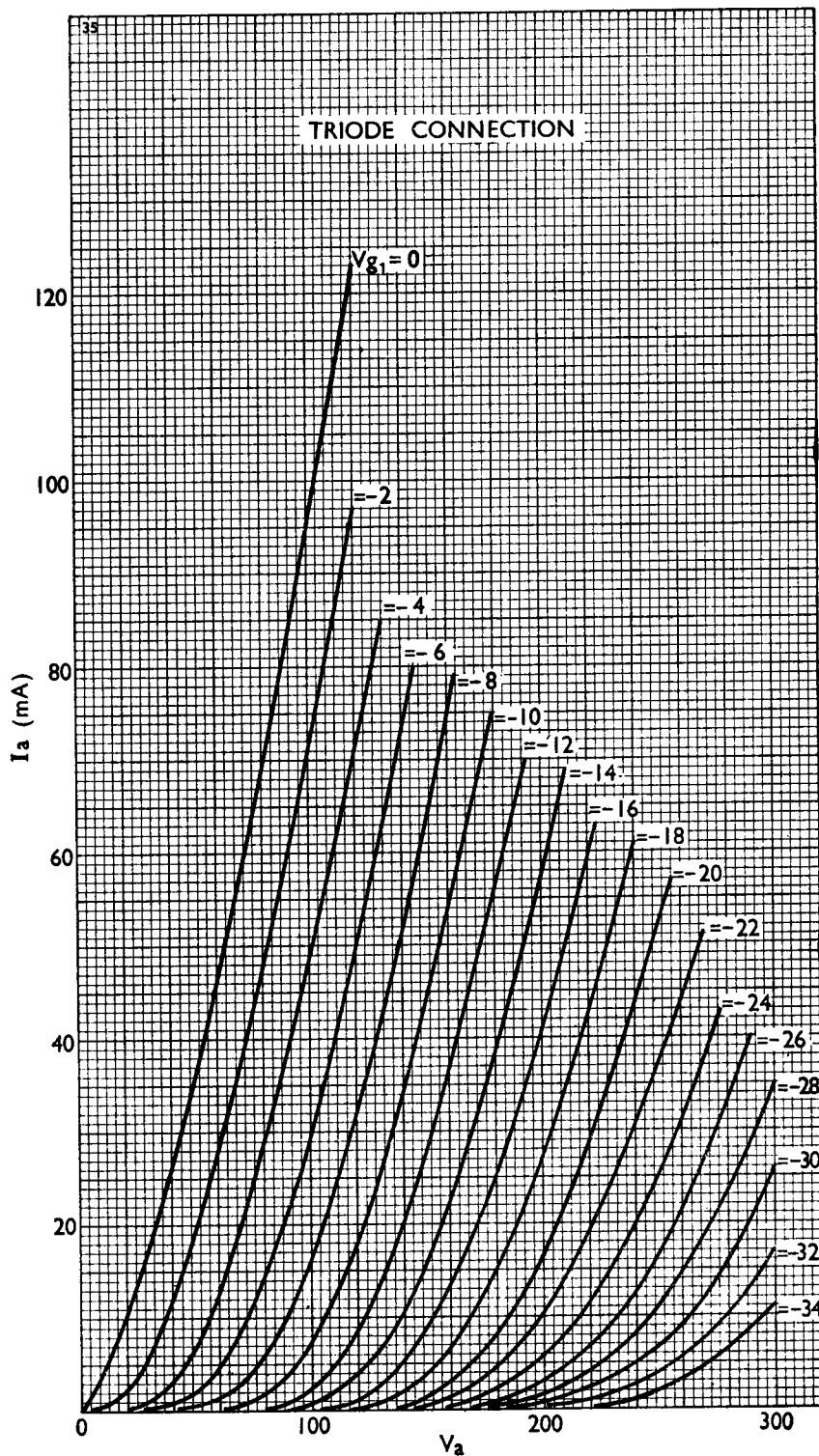
## MICROPHONY

Although this is of a very low order, equipment should be designed to minimise microphony.

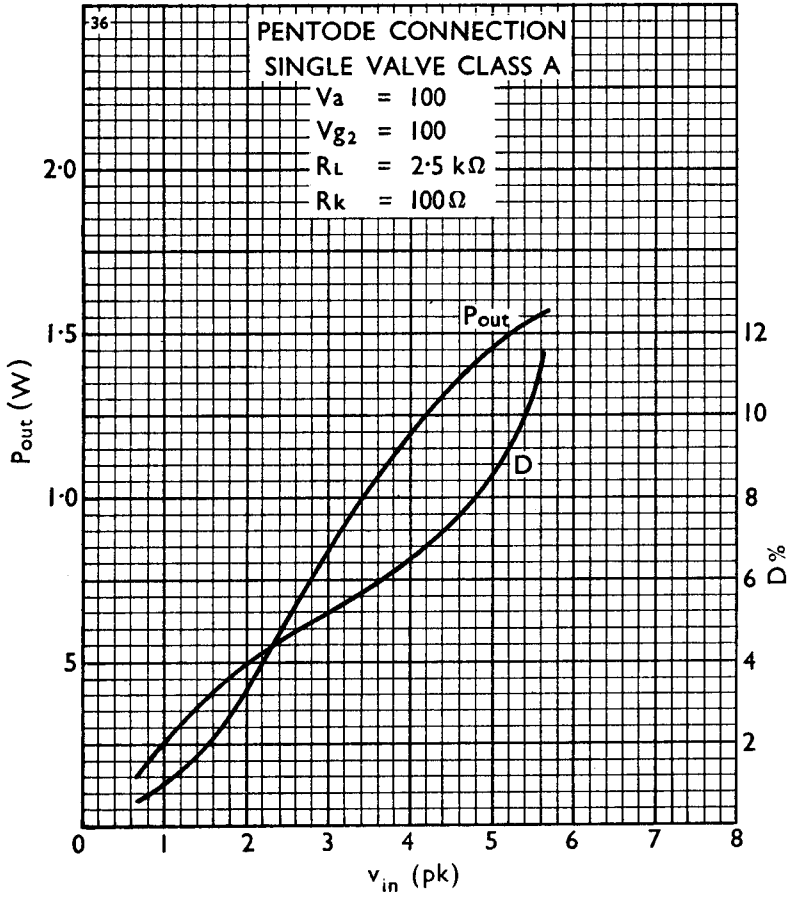


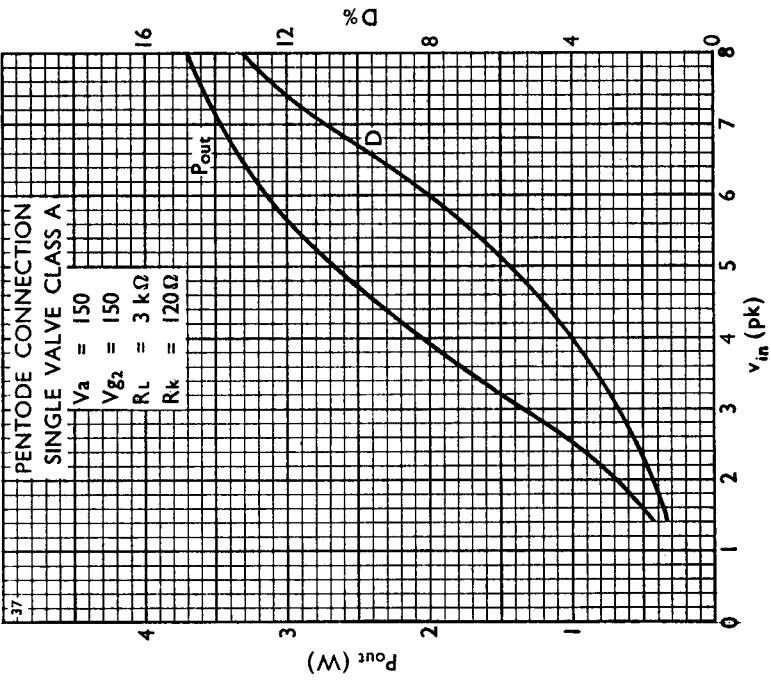
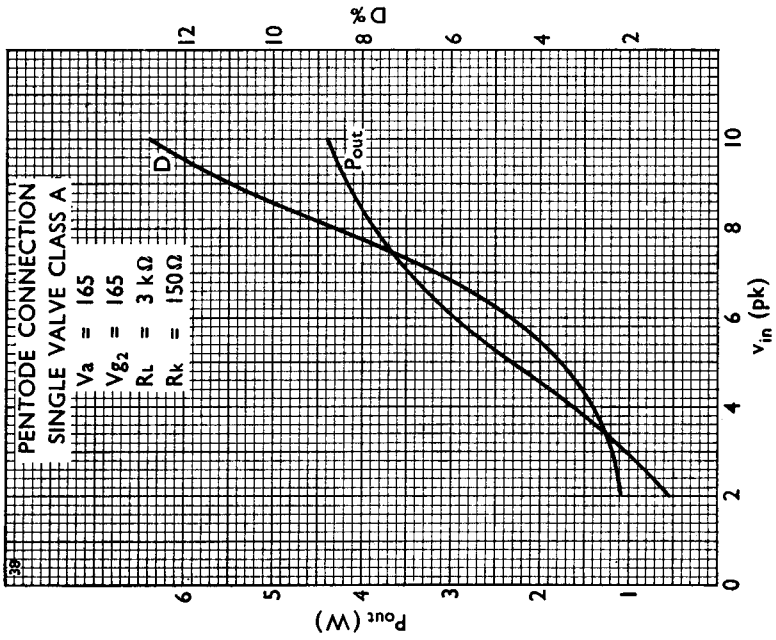
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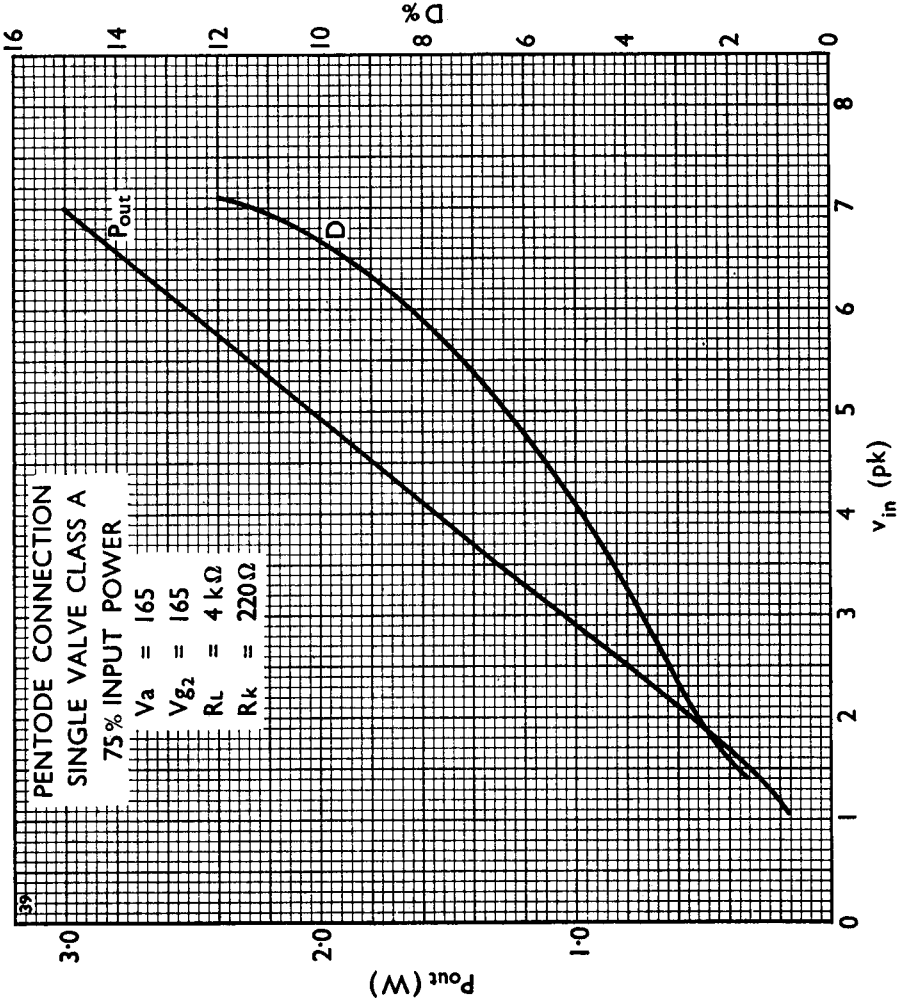


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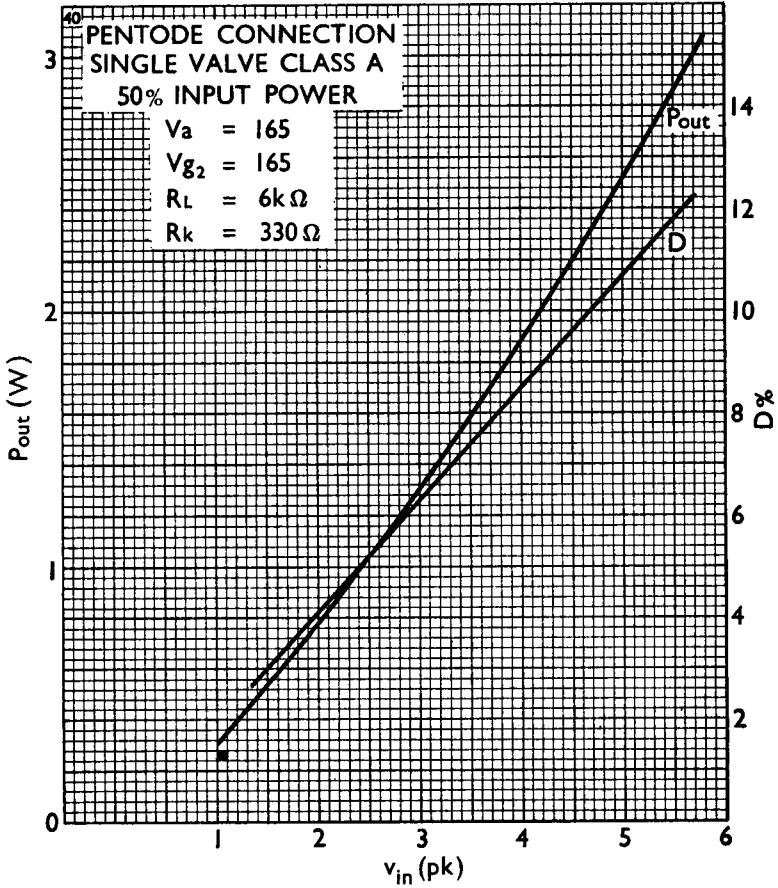




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