

MAZDA

30F5

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HIGH SLOPE SCREENED H.F. PENTODE

Indirectly heated—for series operation

GENERAL

The 30F5 is intended for use as a straight television pentode and is suitable for AC/DC series operation.

RATING

Heater Current (amps)	I_h	0.3
Heater Voltage (volts)	V_h	7.3
Maximum Anode Voltage (volts)	$V_a(\max)$	250
Maximum Screen Voltage (volts)	$V_{g2}(\max)$	250
Maximum Anode Dissipation (watts)	$P_a(\max)$	3§
Maximum Screen Dissipation (watts)	$P_{g2}(\max)$	1§
Maximum Heater to Cathode Voltage (volts) (r.m.s.)	$V_{h-k}(\max)$	200†
Maximum Resistance Control Grid to Cathode (k Ω)	$R_{g-k}(\max)$	600‡
Mutual Conductance (mA/V)	g_m	8.8*
Inner Amplification Factor	$\mu_{g1,g2}$	55*

* At $V_a = V_{g2} = 170$ volts. $V_{g1} = -1.85$

§ With a grid cathode resistance not exceeding 10,000 ohms

† From Cathode to higher potential heater pin

‡ With maximum anode dissipation 2 watts, maximum screen dissipation 0.5 watts and assuming a common anode and screen decoupling resistance of not less than 2,200 ohms $\pm 10\%$

INTER-ELECTRODE CAPACITANCES (pF)

		‡	§
Grid/Earth	c_{in}	9.0	10.3
Anode/Earth	c_{out}	4.4	5.7
Anode/Grid	c_{g1-a}	0.0073	0.0077

Inter-electrode Capacitances (continued overleaf)

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"Earth" denotes the remaining earthy potential electrodes, shields and heater joined to cathode.

‡ Inter-electrode capacitances with holder capacitance balanced out.

§ Total inter-electrode capacity including B9A ceramic holder without skirt or radial shield (Carr Fastener holder type 77/076).

DIMENSIONS

Maximum Overall Length (mm)	67.5
Maximum Diameter (mm)	22.2
Maximum Seated Height (mm)	6.5
Approximate Nett Weight (ozs)	$\frac{1}{2}$
Approximate Packed Weight (ozs)	1

MOUNTING POSITION—Unrestricted.TYPICAL OPERATION

Anode Voltage (volts)	V_a	170
Screen Voltage (volts)	V_{g2}	170
Grid Bias Voltage (volts)	V_{g1}	-1.85
Anode Current (mA)	I_a	10
Screen Current (mA)	I_{g2}	2.6
Mutual Conductance (mA/V)	g_m	8.8
Input Loss at 45 Mc/s (ohms)	$r_{g1-k(w)}$	16,000*
Equivalent grid noise resistance (ohms)	R_{eq}	750

* With grid circuit ONLY returned to pin 3

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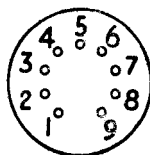
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BULB—Clear

BASE—Noval (B9A)



Viewed from Free End of Pins

CONNECTIONS

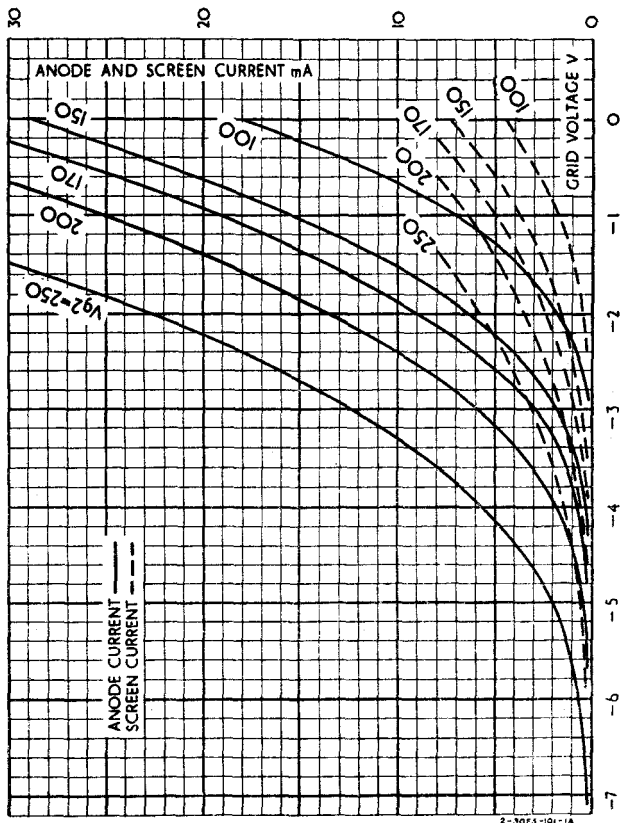
Pin 1	Cathode	k
Pin 2	Control Grid	g1
Pin 3	Cathode	k
Pin 4	Heater	h
Pin 5	Heater	h
Pin 6	Shield	s
Pin 7	Anode	a
Pin 8	Screen Grid	g2
Pin 9	Suppressor Grid	g3

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AVERAGE CHARACTERISTIC CURVES: $I_a, I_{g2}/V_g$
 $V_a = 250V.$



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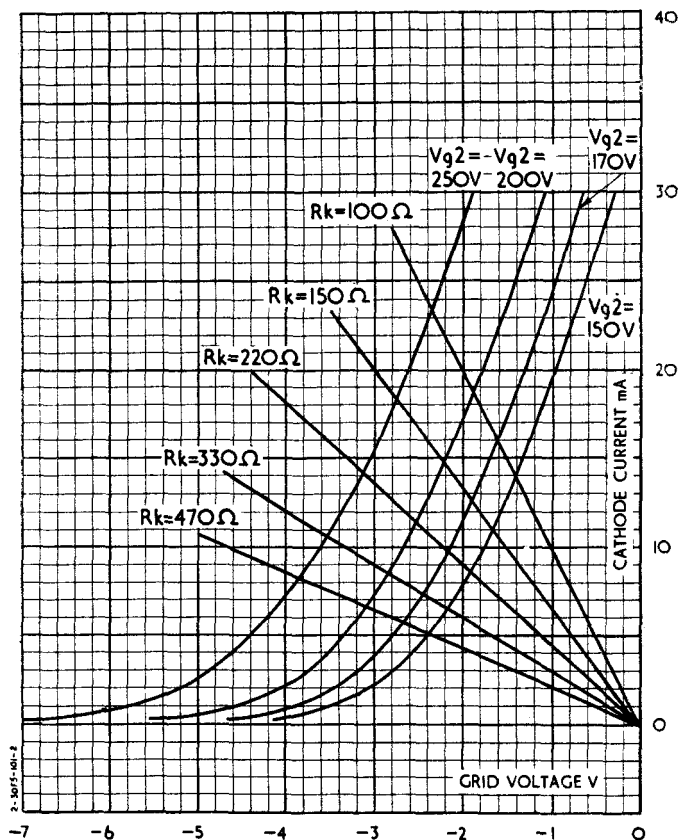
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AVERAGE CHARACTERISTIC CURVES: I_k/V_g

$V_a = 250V$.

Screen to Anode Current Ratio = 26% (approx.)



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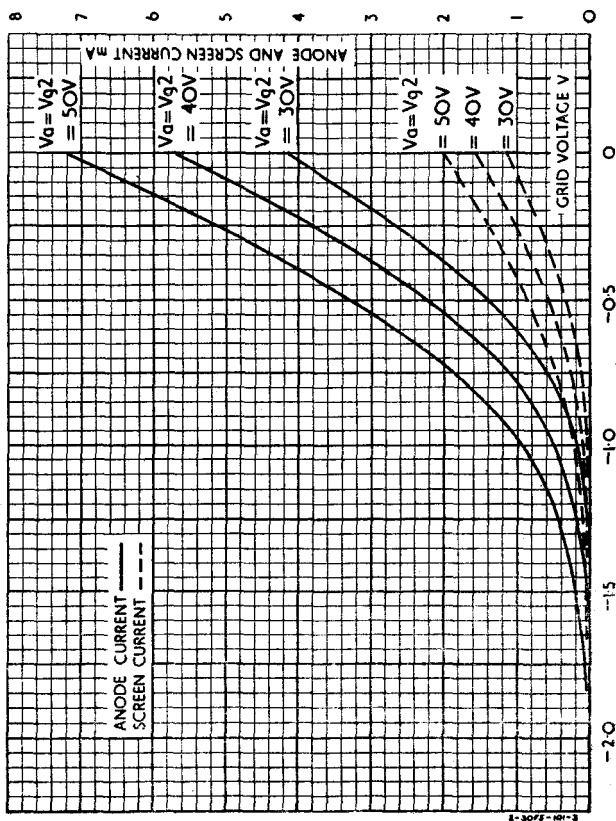
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HIGH SLOPE SCREENED H.F. PENTODE

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AVERAGE CHARACTERISTIC CURVES: $I_a, I_{g2}/V_g$ 

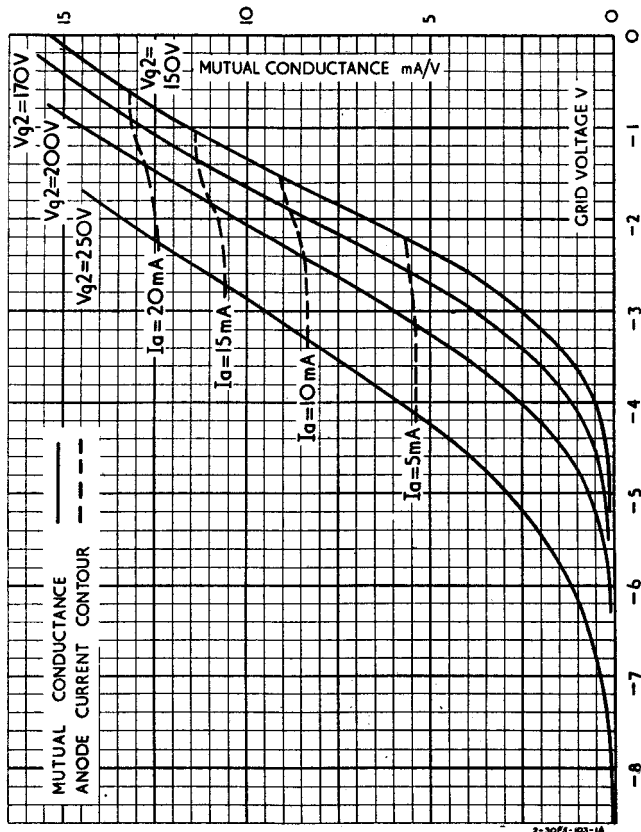
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HIGH SLOPE SCREENED H.F. PENTODE
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AVERAGE CHARACTERISTIC CURVES: g_m/V_g
 $V_a = 250V.$



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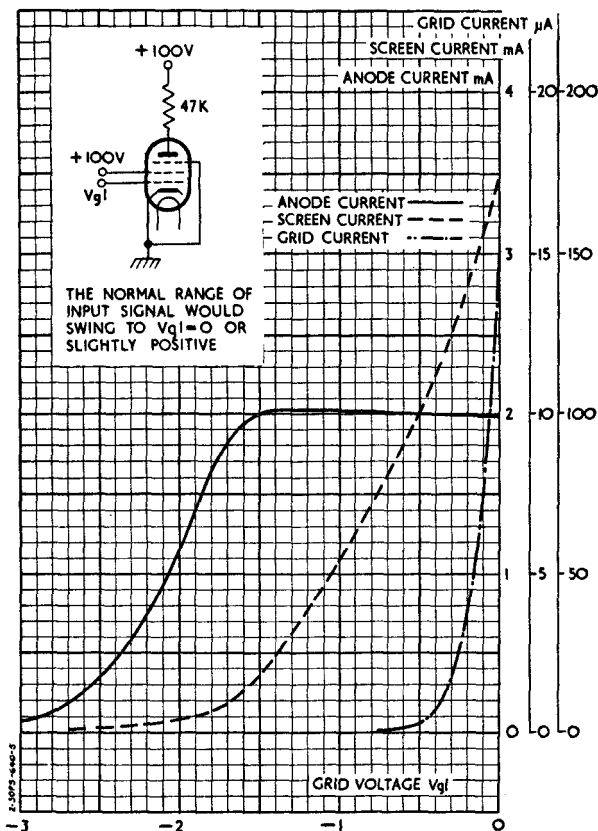
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AVERAGE CHARACTERISTIC CURVES : I_a , I_{g2} , I_{g1}/V_g
Used as a limiter in a synchronising separator circuit.



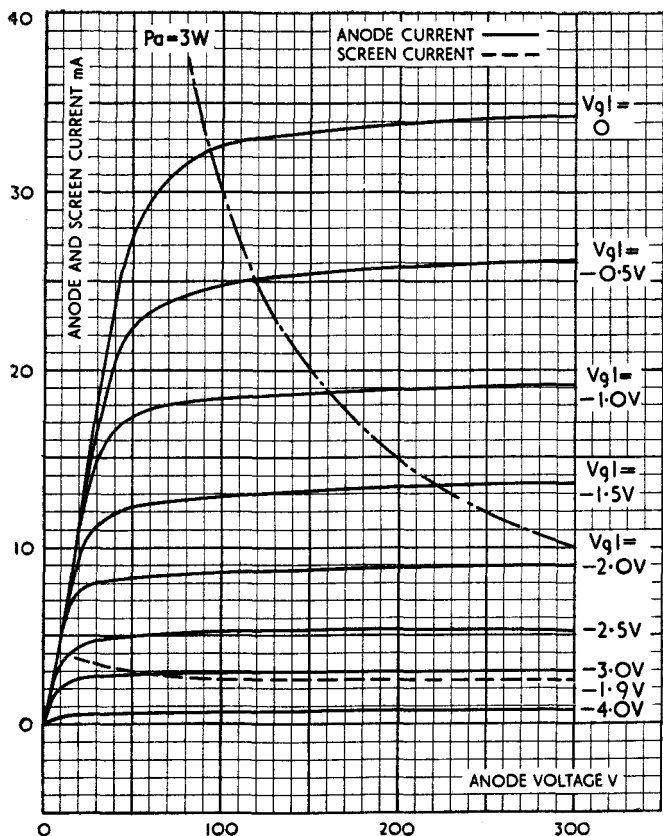
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AVERAGE CHARACTERISTIC CURVES: $I_a, I_{g2}/V_a$
 $V_{g2} = 170V.$



30F5

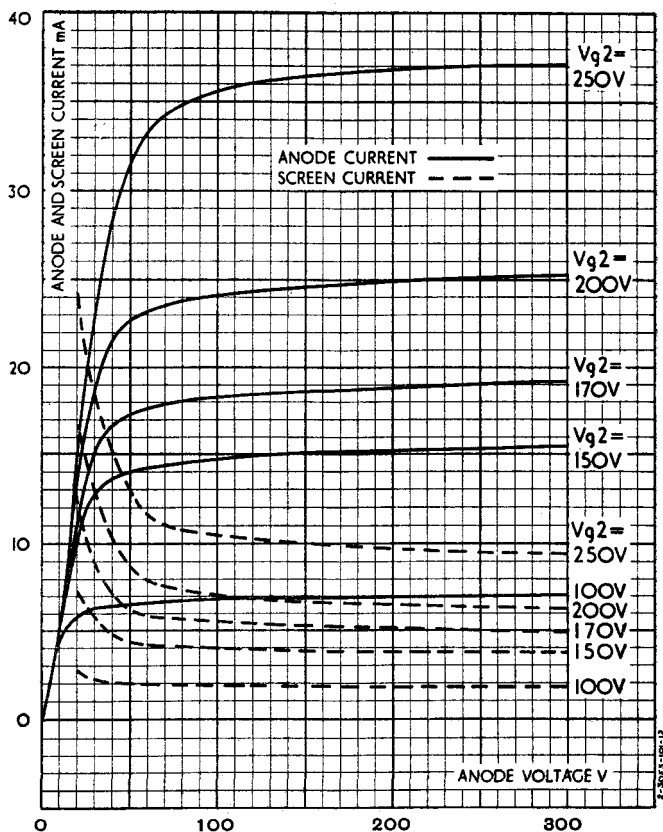
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AVERAGE CHARACTERISTIC CURVES: $I_a, I_{g2}/V_a$ $V_{g1} = -1.0V.$ 

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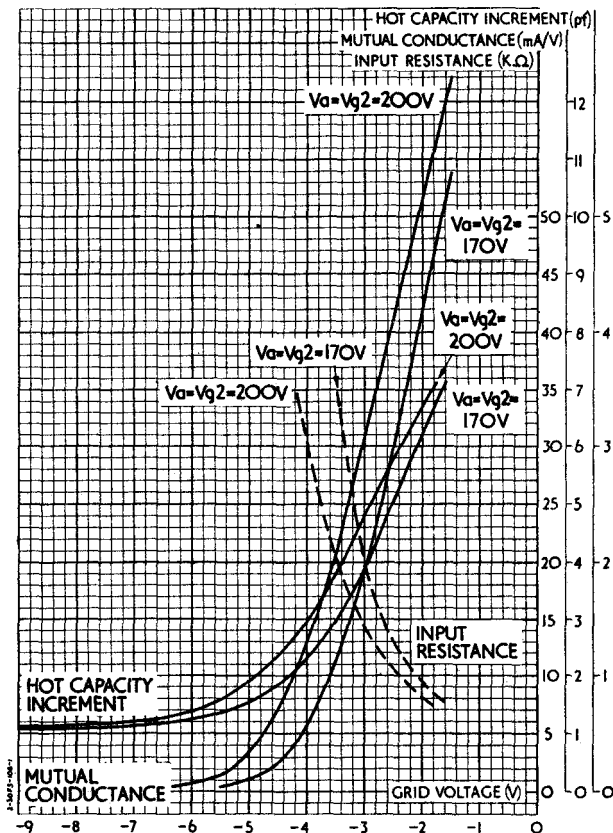
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Average Characteristic Curves : r_{in} , g_m $\delta c/V_g$

$f \approx 38 \text{ Mc/s}$

See also "Test Circuit" overleaf.



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VALVE & CRT DIVISION

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SIEMENS EDISON SWAN LIMITED

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TEST CIRCUIT

for

Average Characteristics r_{in} , g_m $\delta c/V_g$

$f = 38 \text{ Mc/s.}$

