EDISWAN
MAZDA

6F1

HIGH SLOPE SCREENED R.F. PENTODE
Indirectly heated—for parallel operation
REPLACEMENT TYPE ←

RATING

Heater Voltage (volts)	V_h	6.3
Heater Current (amps)	I_h	0.35
Maximum Anode Voltage (volts)	$V_{a(max)}$	250
Maximum Screen Voltage (volts)	$V_{g2(max)}$	250
Mutual Conductance (mA/V)	g_m	9.0§
Maximum Anode Dissipation (watts)	$P_{a(max)}$	3.5†
Maximum Screen Dissipation (watts)	$P_{g2(max)}$	1.0†
Maximum Potential Heater/Cathode (volts DC)	$V_{(h-k)max}$	150

§ Taken at $V_a = V_{g2} = 200V$; $V_{g1} = -1.8V$.

† With grid cathode resistance not exceeding 10,000 ohms.

INTER-ELECTRODE CAPACITANCES (pF)

		*	¶	‡
Anode/Earth	c_{out}	4.6	6.1	—
Anode/Control Grid	c_{a-g1}	—	.0077	.0068
Control Grid/Earth	c_{in}	9.0	10.5	—

* Inter-Electrode capacitances with holder capacitance balanced out.

¶ Total capacitances including Benjamin B8A moulded holder measured at 1 Mc/s.

‡ Total capacitances including Benjamin B8A moulded holder measured at 1 Mc/s but with extra perpendicular shield.

DIMENSIONS

Maximum Overall Length	(mm)	67
Maximum Diameter	(mm)	22
Maximum Seated Height	(mm)	54
Radius over Location Key	(mm)	12.25

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MOUNTING POSITION—Unrestricted.

TYPICAL OPERATION—As Amplifier

Anode Voltage (volts)	V_a	—	200	190	208
Screen Voltage (volts)	V_{g2}	240*	200	190	208
Grid Bias Voltage (volts-ve)	V_{g1}	1.45	1.8	1.55	1.9
Anode Current (mA)	I_a	20.3*	10.0	10.3	10.15
Screen Current (mA)	I_{g2}	5.6*	2.60	2.7	2.65
Mutual Conductance (mA/V)	g_m	—	9.0	9.25	8.95
Input Capacity, Working (pF)	‡§$C_{in(w)}$	—	12.1	12.25	12.1
Change in input capacity produced by biassing valve to 1μA/V (pF)	‡$\Delta C_{in(w)}$	—	2.75	2.9	2.7
Self Bias Resistance (ohms)	R_{k-E}	56	—	120	150
Input Loss at 45 Mc/s (ohms)	$\phi r_{g1-k(w)}$	—	14000	12500	14000
Equivalent Grid Noise Resistance (ohms)	r_{eq}	—	780	750	790

* Maximum permissible rating D.C. connected as Video Output Valve. (no signal)

§ Inter-Electrode capacitance with holder capacitance balanced out.

‡ Hot capacity measurements taken at a frequency of 0.5 Mc/s.

ϕ Measured with grid circuit decoupled to cathode pin 7. Screen and Anode circuits and shield returned to cathode pin 5.

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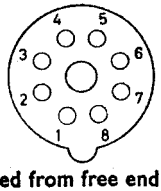
TYPICAL OPERATION—As Frequency Changer

Control Grid or Cathode Injection.		
Anode Voltage (volts)	V_a	250
Screen Supply Voltage (volts)	V_{g2}	250
Screen Dropping Resistor (ohms)	R_{g2}	100,000
Grid 1 Resistor for grid current bias (ohms)	R_{g1}	100,000
Heterodyne Peak Voltage (volts)	$V_{(het)pk}$	2.0
Anode Current (mA)	I_a	5.2
Screen Current (mA)	I_{g2}	1.3
Grid 1 Current (μA)	I_{g1}	18
Conversion Conductance (mA/V)	g_c	3.3

BULB—Clear.

BASE—B8A.



Viewed from free end of pins

CONNECTIONS

Pin 1	Heater	h
Pin 2	Anode	a
Pin 3	Internal Shield & Suppressor	$g_{3,s}$
Pin 4	Screen Grid	g2
Pin 5	Cathode	k
Pin 6	Control Grid	g1
Pin 7	Cathode	k
Pin 8	Heater	h

Indicates a change ←

6FI

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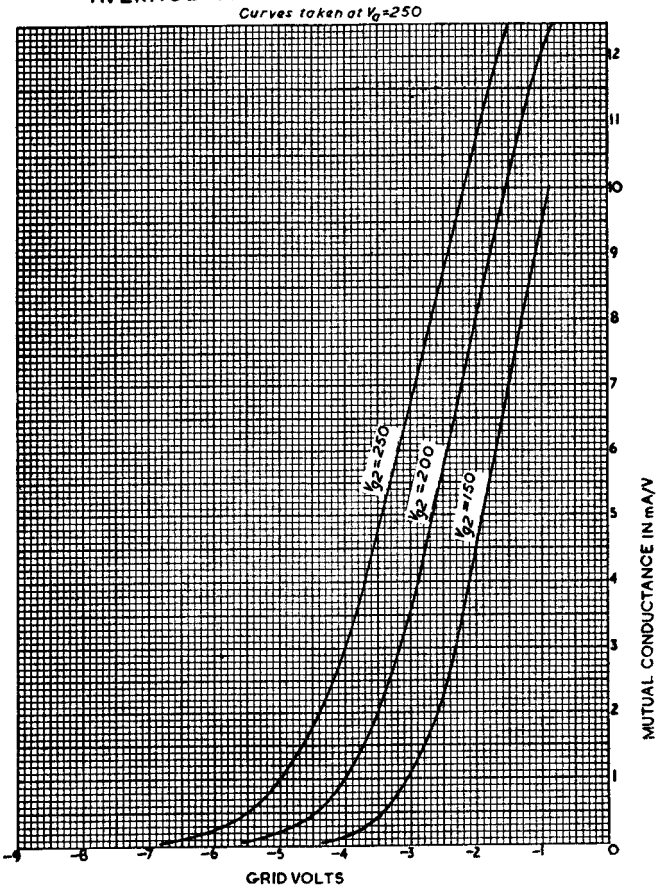
6FI

HIGH SLOPE SCREENED R.F. PENTODE

Indirectly heated—for parallel operation

REPLACEMENT TYPE ←

AVERAGE CHARACTERISTIC CURVES



Indicates a change ←

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SIEMENS EDISON SWAN LIMITED

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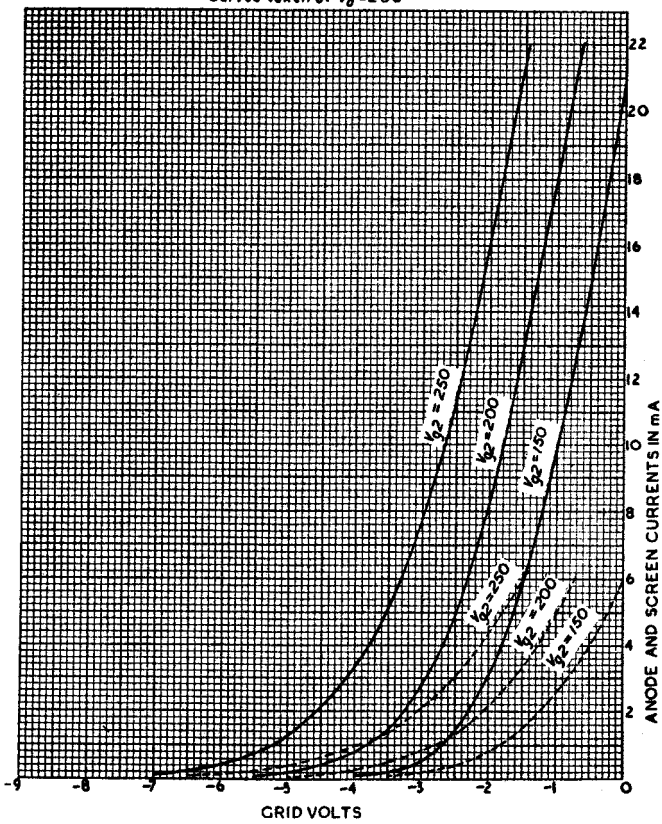
AVERAGE CHARACTERISTIC CURVES

Curves taken at V_o = 250



Indicates a change ←

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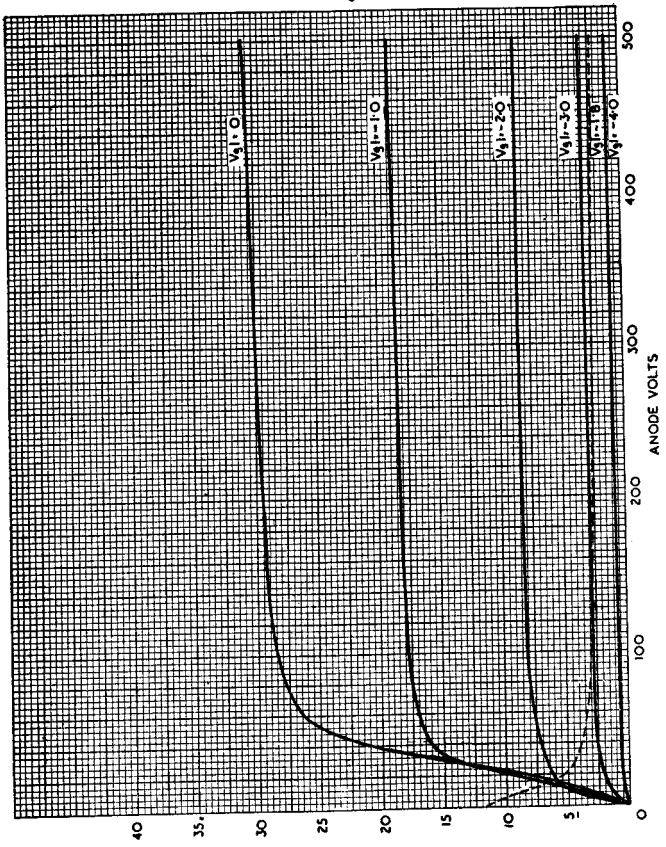
AVERAGE CHARACTERISTIC CURVES

CURVES TAKEN AT V_{g2}=200



ANODE AND SCREEN CURRENT (MILLIAMPS)

Indicates a change ←