

**MAZDA**

1. FD. 9

**DIODE - R. F. PENTODE**

Directly heated - for battery operation

**TENTATIVE**RATING

Filament Voltage (volts)	$V_f$	1.4
Filament Current (amps)	$I_f$	.05
Maximum Anode Voltage (volts)	$V_a(\max)$	90
Maximum Screen Voltage (volts)	$V_{g2}(\max)$	90
Maximum Control Grid Voltage (volts positive)	$V_{g1}(\max)$	0
Maximum Cathode Current (mA)	$I_k(av)\max$	3.0
Maximum Mean Diode Current ( $\mu A$ )	$I_a(d)(av)\max$	200
Inner $\mu\mu$ **	$\mu g_{lg2}$	12.0

\*\* at  $V_a = 67.5$ ;  $V_{g2} = 67.5$ ;  $V_{g1} = 0$ .INTER-ELECTRODE CAPACITANCES

		"	¶
Grid/Anode ( $\mu F$ )	$C_{a,g1}$	0.4	0.67
Grid/Earth ( $\mu F$ )	$C_{in}$	2.2	3.3
Anode/Earth ( $\mu F$ )	$C_{out}$	3.3	4.4

- With no external shield.
- ¶ Inter-electrode capacitances with holder capacitance balanced out.
- ¶ Total capacitance including a Benjamin B7G Holder Type 75/663R.

DIMENSIONS

Maximum Overall Length (mm)	54
Maximum Diameter (mm)	19.0
Maximum Seated Height (mm)	47.6
Approximate Nett Weight (ozs)	0.25
Approximate Packed Weight (ozs)	0.5

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1. F. D. 9

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### TENTATIVE

#### TYPICAL OPERATION

Anode Voltage (volts)	V <sub>a</sub>	67.5
Screen Voltage (volts)	V <sub>g2</sub>	67.5
Grid Bias Voltage (volts)	V <sub>g1</sub>	0
Anode Impedance (megohms)	r <sub>a</sub>	0.6
Mutual Conductance (mA/V)	E <sub>m</sub>	0.625
Anode Current (mA)	I <sub>a</sub>	1.6
Screen Current (mA)	I <sub>g2</sub>	0.4

#### As R.C.C. Amplifier

Anode Supply Voltage (volts)	V <sub>a(b)</sub>	45	45	90	135
Grid Bias Voltage (volts)	V <sub>g1</sub>	0	0	0	0
Anode Load Resistance (megohms)	R <sub>a</sub>	0.22	0.47	0.47	0.47
Screen Resistance (megohms)	R <sub>g2</sub>	0.39	1.2	1.8	1.8
Grid Resistance of following valve (megohms)	R <sub>g</sub>	0.47	2.2	2.2	2.2
Screen Bypass Condenser (μF)	C <sub>g2,E</sub>	.035	0.02	0.03	0.035
Coupling Condenser to following valve (μF)	C	.006	0.002	0.002	0.002
Voltage Gain @ 5v.		24	38	57	70
R.M.S. Output					

BULB Clear

BASE B7G



Viewed from free end of pins.

#### CONNEXIONS

Pin 1	Filament (-), grid 3	f-, g3
Pin 2	No connection	NC
Pin 3	Diode	ad
Pin 4	Screen Grid	g2
Pin 5	Anode	a
Pin 6	Control Grid	g1
Pin 7	Filament (+)	f+