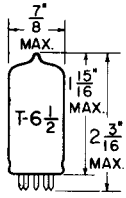
TUNG-SOL

DUPLEX-DIODE TRIODE

MINIATURE TYPE



GLASS BULB

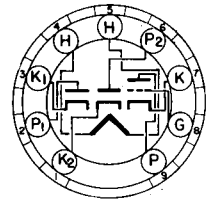
COATED UNIPOTENTIAL CATHODE

HEATER

6.3 VOLTS 0.45 AMP.

AC OR DC

ANY MOUNTING POSITION



BOTTOM VIEW

SMALL BUTTON
9 PIN BASE

9KR

THE 6FM8 IS A DUPLEX-DIODE, HIGH-MU TRIODE WITH SEPARATE CATHODES FOR EACH OF THE DIODE SECTIONS AND THE TRIODE SECTION. THE TUBE IS DESIGNED PRIMARILY FOR USE AS AN FM DETECTOR AND AF VOLTAGE AMPLIFIER.

DIRECT INTERELECTRODE CAPACITANCES

WITHOUT EXTERNAL SHIELD

TRIODE GRID TO PLATE	1.8	μμf
TRIODE INPUT	1.5	μμf
TRIODE OUTPUT	0.16	μμf
GRID TO DIODE #1 PLATE	0.05	μμf
GRID TO DIODE #2 PLATE	0.04	μμf
DIODE #1 INPUT	2.4	μμf
DIODE #2 INPUT	2.2	μμf
DIODE #1 CATHODE TO ALL	4.6	μμf
DIODE #2 CATHODE TO ALL	4.8	μμf

RATINGS

INTERPRETED ACCORDING TO DESIGN MAXIMUM SYSTEM

HEATER VOLTAGE	6.3	VOLTS
MAXIMUM PLATE VOLTAGE	330	VOLTS
MAXIMUM POSITIVE DC GRID VOLTAGE	0	VOLTS
MAXIMUM PLATE DISSIPATION	1.1	WATTS
MAXIMUM HEATER-CATHODE VOLTAGE;		
HEATER POSITIVE WITH RESPECT TO CATHODE		
DC COMPONENT	100	VOLTS
TOTAL DC AND PEAK	200	VOLTS
HEATER NEGATIVE WITH RESPECT TO CATHODE		
TOTAL DC AND PEAK	200	VOLTS
MAXIMUM DIODE CURRENT FOR CONTINUOUS OPERATION (EACH DIODE)	5.0	MA.

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TYPICAL OPERATING CONDITION AND CHARACTERISTICS

CLASS A_1 AMPLIFIER

HEATER VOLTAGE	6.3	VOLTS
HEATER CURRENT	0.45	AMP.
PLATE VOLTAGE	250	VOLTS
GRID VOLTAGE	−3.0	VOLTS
AMPLIFICATION FACTOR	70	
PLATE RESISTANCE (APPROX.)	58000	OHMS
TRANSCONDUCTANCE	1200	μMHOS
PLATE CURRENT	1.0	MA.
AVERAGE DIODE CURRENT, EACH DIODE WITH 5.0 VOLTS DC APPLIED	20	MA.

DESIGN-MAXIMUM RATINGS ARE LIMITING VALUES OF OPERATING AND ENVIRONMENTAL CONDITIONS APPLICABLE TO A BOGEY ELECTRON DEVICE OF A SPECIFIED TYPE AS DEFINED BY ITS PUBLISHED DATA, AND SHOULD NOT BE EXCEEDED UNDER THE WORST PROBABLE CONDITIONS. THE DEVICE MANUFACTURER CHOOSES THESE VALUES TO PROVIDE ACCEPTABLE SERVICEABILITY OF THE DEVICE, TAKING RESPONSIBILITY FOR THE EFFECTS OF CHANGES IN OPERATING CONDITIONS DUE TO VARIATIONS IN DEVICE CHARACTERISTICS. THE EQUIPMENT MANUFACTURER SHOULD DESIGN SO THAT INITIALLY AND THROUGHOUT LIFE NO DESIGN-MAXIMUM VALUE FOR THE INTENDED SERVICE IS EXCEEDED WITH A BOGEY DEVICE UNDER THE WORST PROBABLE OPERATING CONDITIONS WITH RESPECT TO SUPPLY-VOLTAGE VARIATION, EQUIPMENT COMPONENT VARIATION, EQUIPMENT CONTROL ADJUSTMENT, LOAD VARIATION, SIGNAL VARIATION, AND ENVIRONMENTAL CONDITIONS.

RESISTANCE COUPLED AMPLIFIER

R_p MEG.	R_s MEG.	R_{g1} MEG.	E_{bb} = 90 VOLTS			E_{bb} = 180 VOLTS			E_{bb} = 300 VOLTS		
			R_k	GAIN	E_o	R_k	GAIN	E_o	R_k	GAIN	E_o
0.10	0.10	0.10	5700	21	7.0	2400	29	18	1800	33	35
0.10	0.24	0.10	6100	26	9.0	2700	34	23	2000	38	42
0.24	0.24	0.10	9100	30	10	4300	40	24	3000	44	43
0.24	0.51	0.10	10000	34	13	4700	45	31	3300	49	52
0.51	0.51	0.10	15000	37	14	7500	47	28	5600	51	50
0.51	1.0	0.10	16000	40	16	8200	50	35	6200	55	60
0.24	0.24	10	0	31	5.0	0	44	19	0	48	40
0.24	0.51	10	0	37	7.0	0	49	25	0	52	52
0.51	0.51	10	0	39	7.5	0	51	22	0	54	44
0.51	1.0	10	0	42	10	0	54	28	0	58	56

E_o IS MAXIMUM RMS VOLTAGE OUTPUT FOR FIVE PERCENT TOTAL HARMONIC DISTORTION.

GAIN MEASURED AT 2.0 VOLTS RMS OUTPUT.

FOR ZERO-BIAS DATA, GENERATOR IMPEDANCE IS NEGLIGIBLE.

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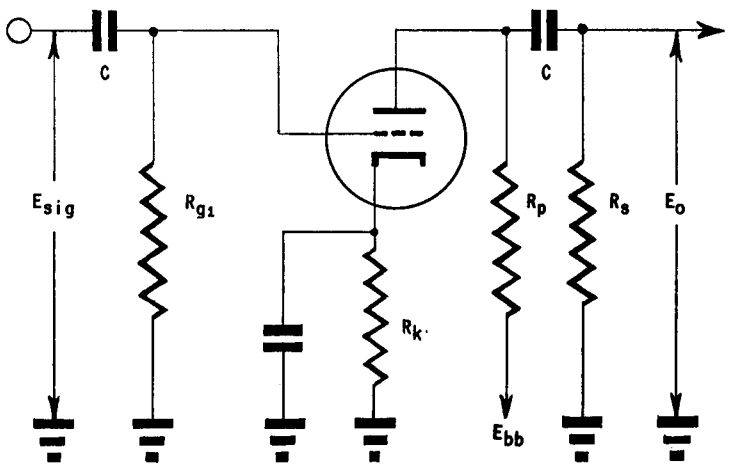
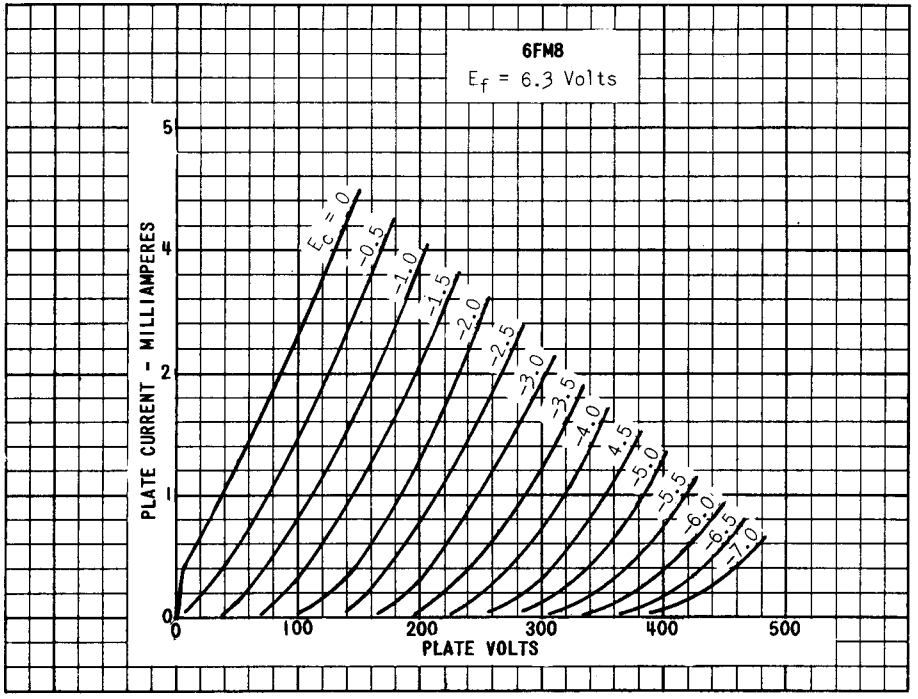
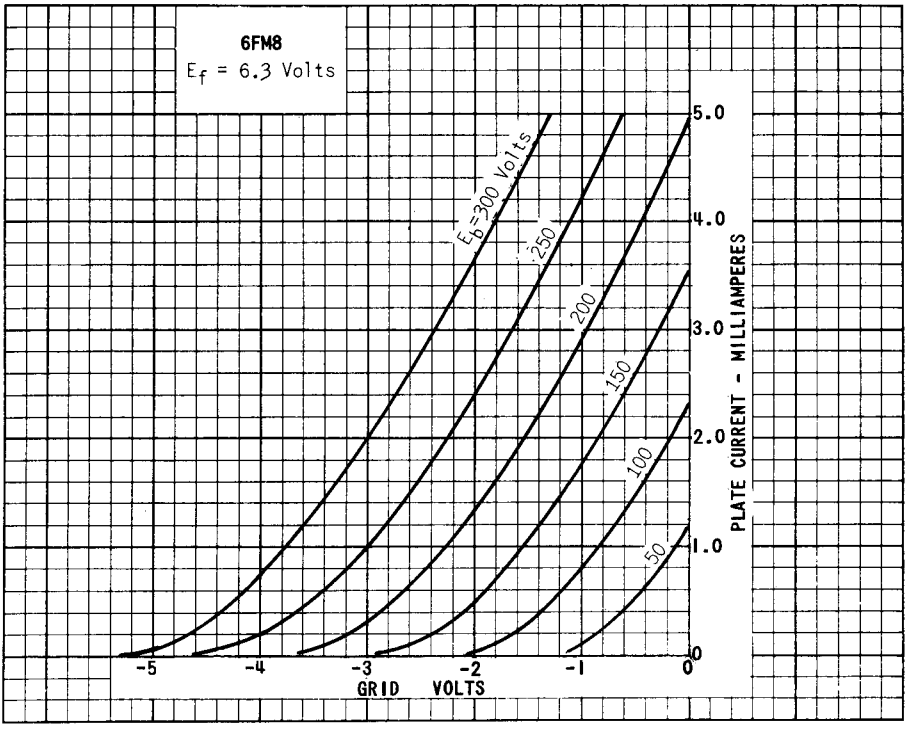
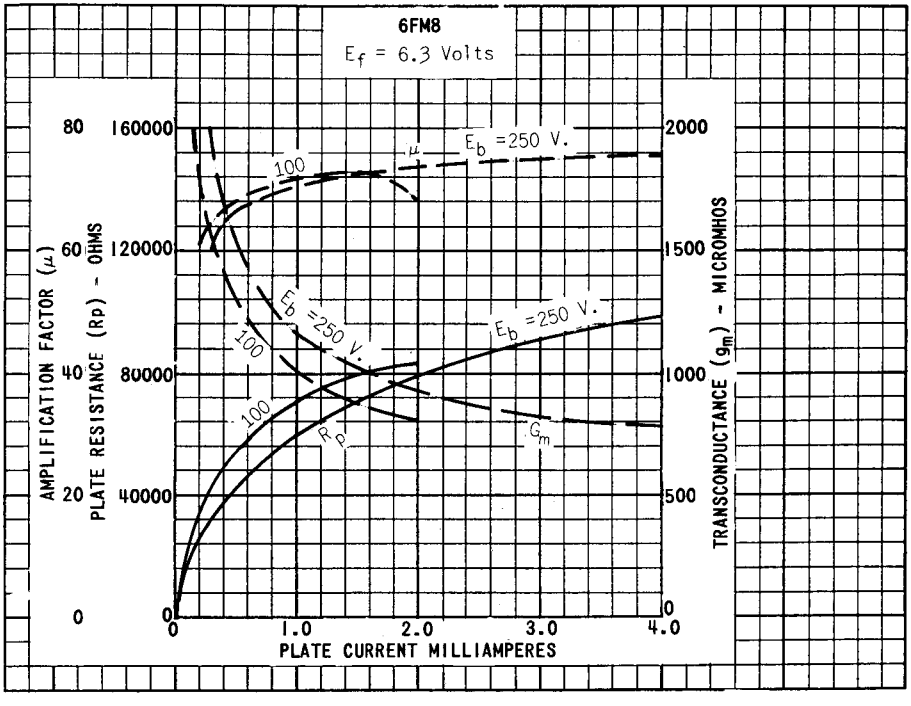
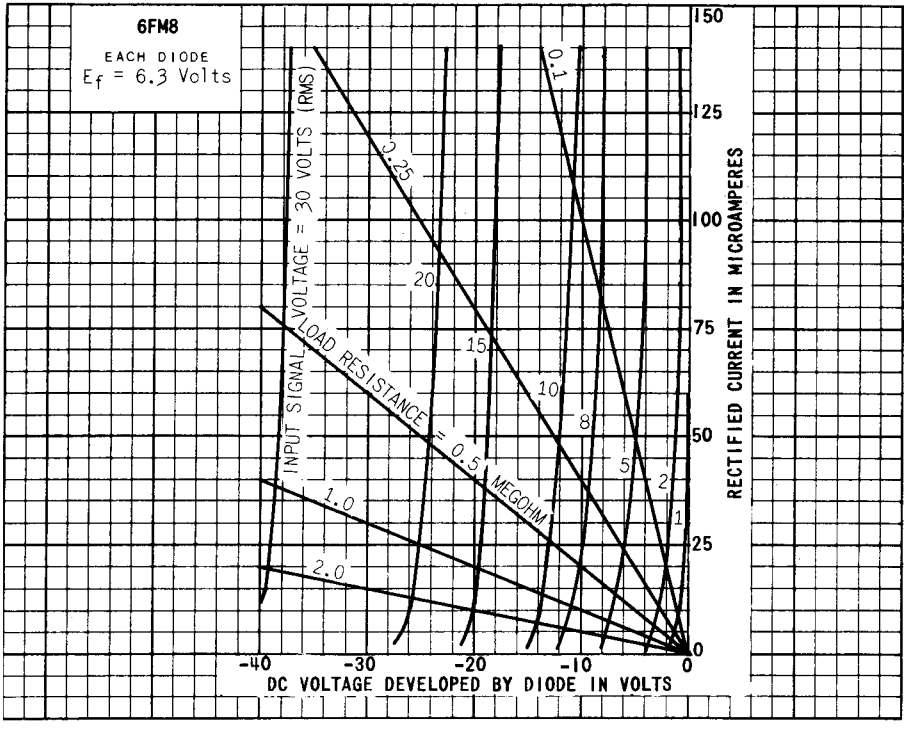


NOTES: COUPLING CAPACITORS (C) SHOULD BE SELECTED TO GIVE DESIRED FREQUENCY RESPONSE.
R_k SHOULD BE ADEQUATELY BY-PASSED




6FM8
E_f = 6.3 Volts
E_b=300 Volts
250
200
150
100
50
5.0
4.0
3.0
2.0
1.0
0
-5
-4
-3
-2
-1
0
GRID VOLTS
PLATE CURRENT - MILLIAMPERES


6FM8
E_f = 6.3 Volts
80
60
40
20
0
160000
120000
80000
40000
0
2000
1500
1000
500
0
1.0
2.0
3.0
4.0
E_b =250 V.
100
μ
R_p
G_m
AMPLIFICATION FACTOR (μ)
PLATE RESISTANCE (Rp) - OHMS
TRANSCONDUCTANCE (g_m) - MICROMHOS
PLATE CURRENT MILLIAMPERES


6FM8
EACH DIODE
E_f = 6.3 Volts
INPUT SIGNAL VOLTAGE = 30 VOLTS (RMS)
LOAD RESISTANCE = 0.5 MEGOHM
2.25
20
15
10
8
5
2
1
0.1
1.0
2.0
150
125
100
75
50
25
0
-40
-30
-20
-10
0
DC VOLTAGE DEVELOPED BY DIODE IN VOLTS
RECTIFIED CURRENT IN MICROAMPERES