Electronic TUBES

6BF6

Description and Rating

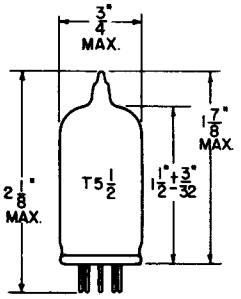
DUPLEX-DIODE TRIODE

GENERAL DESCRIPTION

Principal Application: The 6BF6 is a miniature duplex-diode, medium-mu triode. It is designed for use as a combined detector, amplifier and automatic-volume-control tube. Electrically the 6BF6 is similar to the metal type 6SR7.

Cathode	Coated Unipotential
Heater Voltage (A-C or D-C)	6.3 Volts
Heater Current	0.3 Ampere
Envelope	T-5½ Glass
Base:	E7-1 Miniature Glass-Button 7-Pin
Mounting Position:	Any

PHYSICAL DIMENSIONS

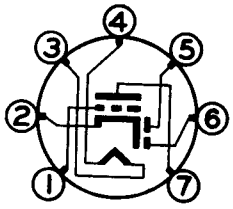


RMA 5-2

TERMINAL CONNECTIONS

Pin 1 - Triode Grid
Pin 2 - Cathode
Pin 3 - Heater
Pin 4 - Heater
Pin 5 - Number 2 Diode Plate
Pin 6 - Number 1 Diode Plate
Pin 7 - Triode Plate

BASING DIAGRAM



RMA 7BT
BOTTOM VIEW

MAXIMUM RATINGS

DESIGN-CENTER VALUES:

TRIODE SECTION

Peak Heater-Cathode Voltage		
Heater Negative with Respect to Cathode	90	Volts
Heater Positive with Respect to Cathode	90	Volts
Plate Voltage	300	Volts
Plate Dissipation	2.5	Watts

CHARACTERISTICS AND TYPICAL OPERATION

CLASS A_1 AMPLIFIER: TRIODE SECTION

Plate Voltage	250	Volts
Grid Voltage	-9	Volts
Plate Resistance	8500	Ohms
Transconductance	1900	micromhos
Amplification Factor	16	
Plate Current	9.5	Milliamperes
Load Resistance	10000	Ohms
Total Harmonic Distortion	6.5	Per Cent
Power Output	300	Milliwatts

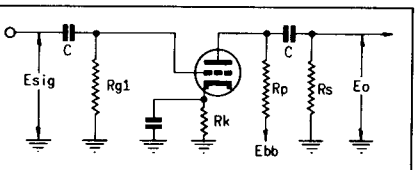
DIODE SECTIONS

Minimum Diode Current per Plate with 10 Volts D-C Applied	0.6	Milliampere

Note: Diode biasing of the triode unit of the 6BF6 is not suitable.

CLASS A RESISTANCE-COUPLED AMPLIFIER

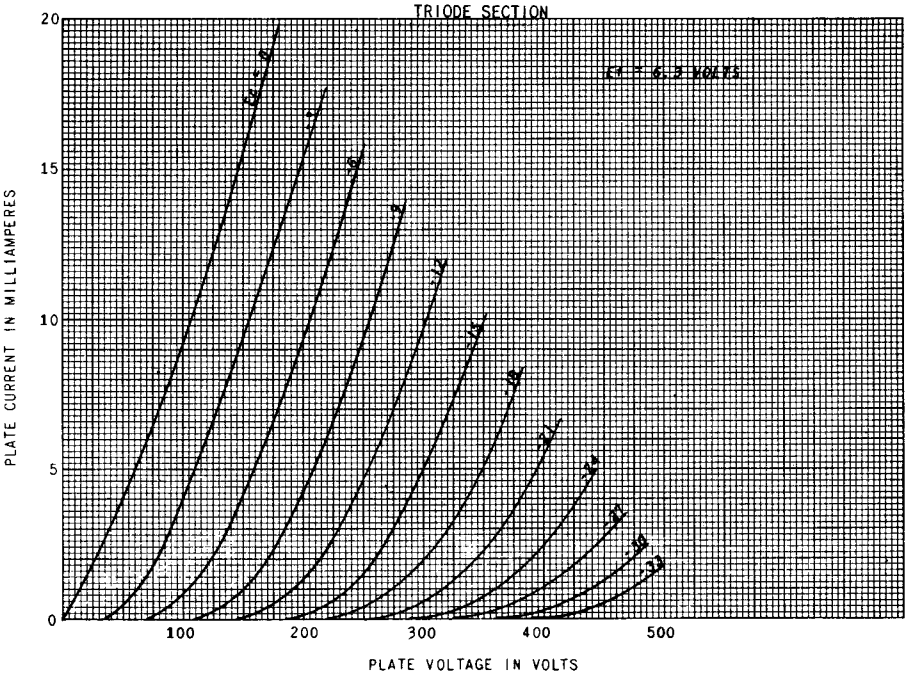
Rp Meg.	Rg1 Meg.	Rs Meg.	Ebb = 90 Volts Rk	Gain	Eo	Ebb = 180 Volts Rk	Gain	Eo	Ebb = 300 Volts Rk	Gain	Eo
.047	*	.047	2200	9	14	2000	10	32	1800	10	58
.047	*	.0.1	2800	10	18	2500	10	42	2400	11	74
.047	*	0.22	3200	10	20	3000	11	47	2900	11	85
0.1	*	0.1	4100	10	13	3800	11	36	3600	12	65
0.1	*	0.22	5400	11	20	5100	11	47	5000	12	85
0.1	*	0.47	6800	11	24	6200	12	55	6200	12	96
0.22	*	0.22	8500	11	18	8000	12	41	7800	12	74
0.22	*	0.47	12000	11	23	11000	12	54	11000	12	95
0.22	*	1.0	14000	11	27	13000	12	69	13000	12	106



Note: Coupling capacitors (C) should be selected to give desired frequency response. Rk should be adequately by-passed.

Notes: 1. Eo is peak output voltage given at the point where grid current begins to flow. 2. Gain measured at 5.0 volts RMS output. * Value of Rg1 is non-critical.

AVERAGE PLATE CHARACTERISTICS



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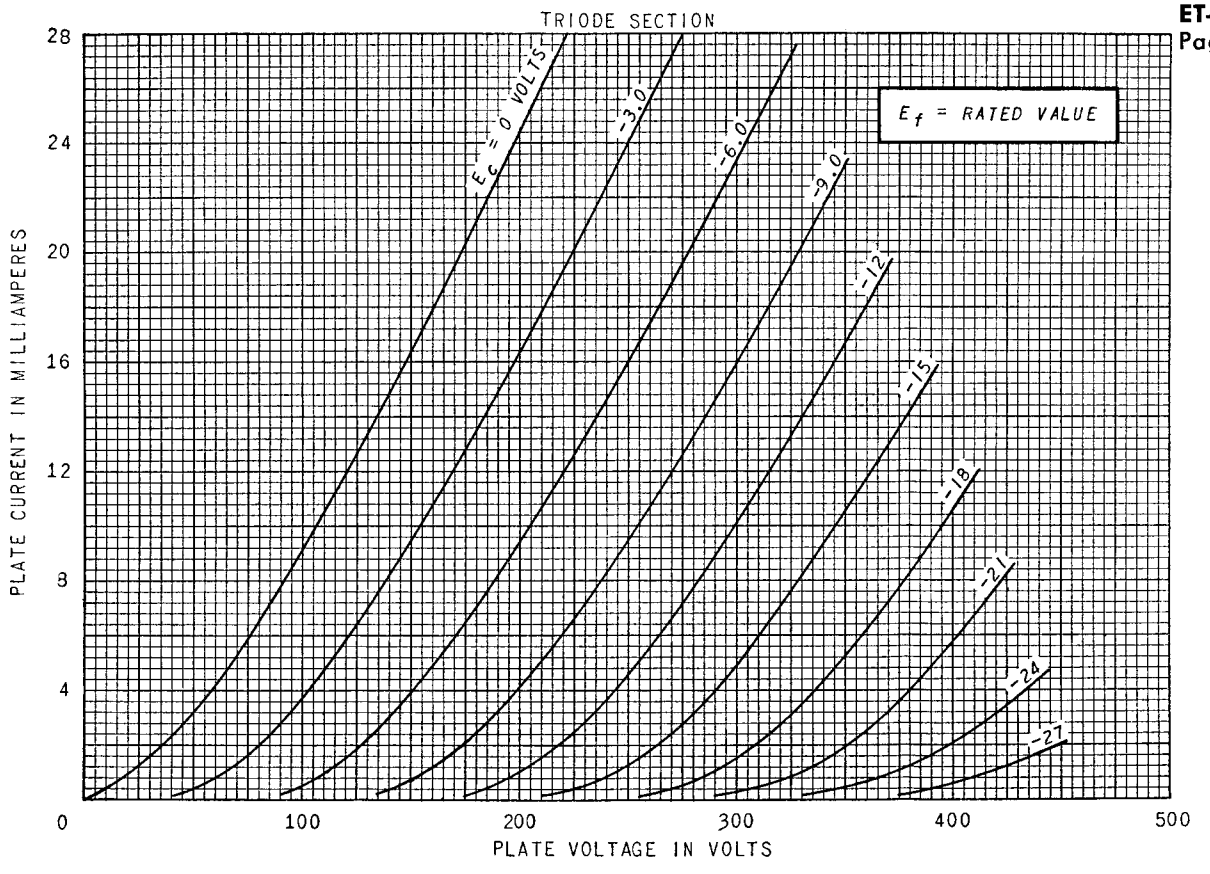

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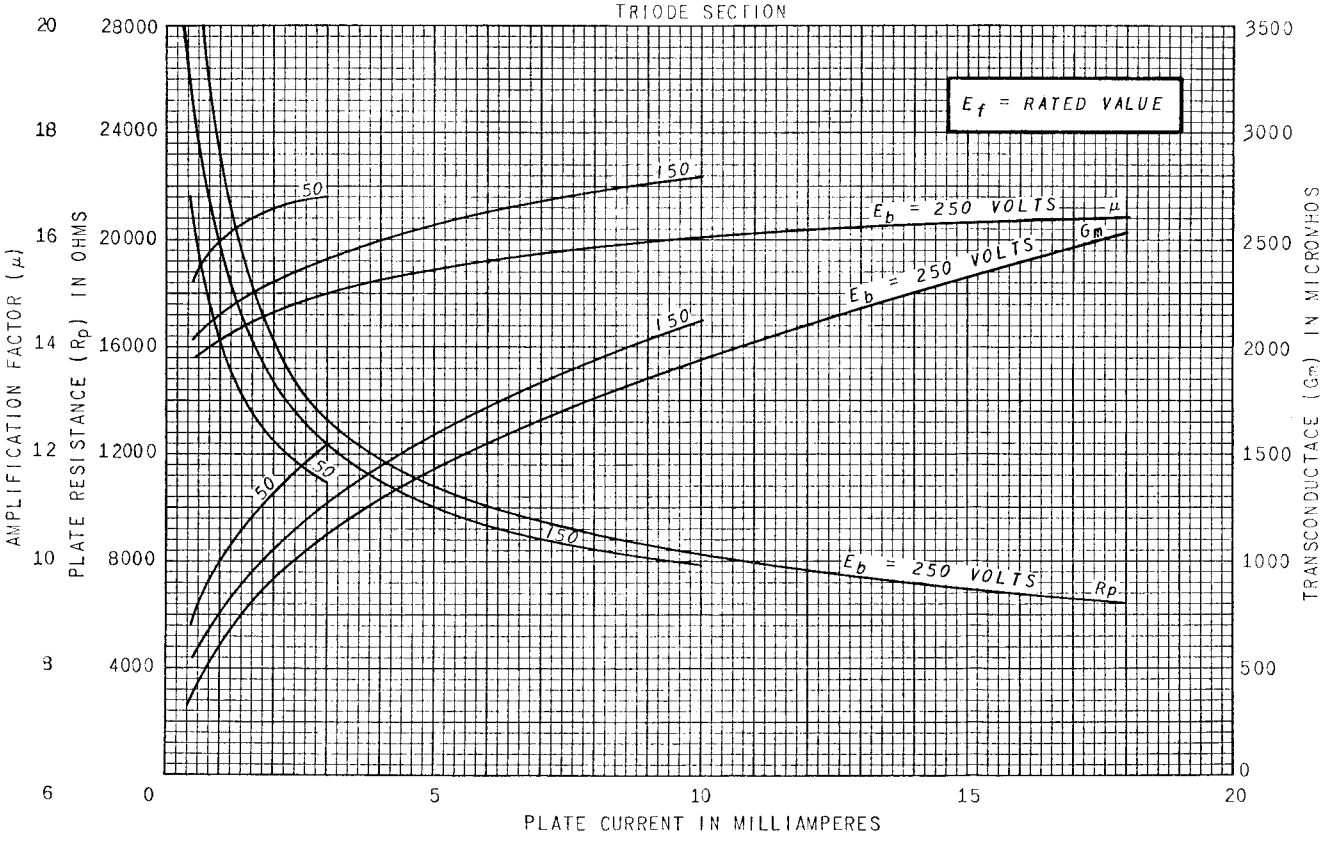
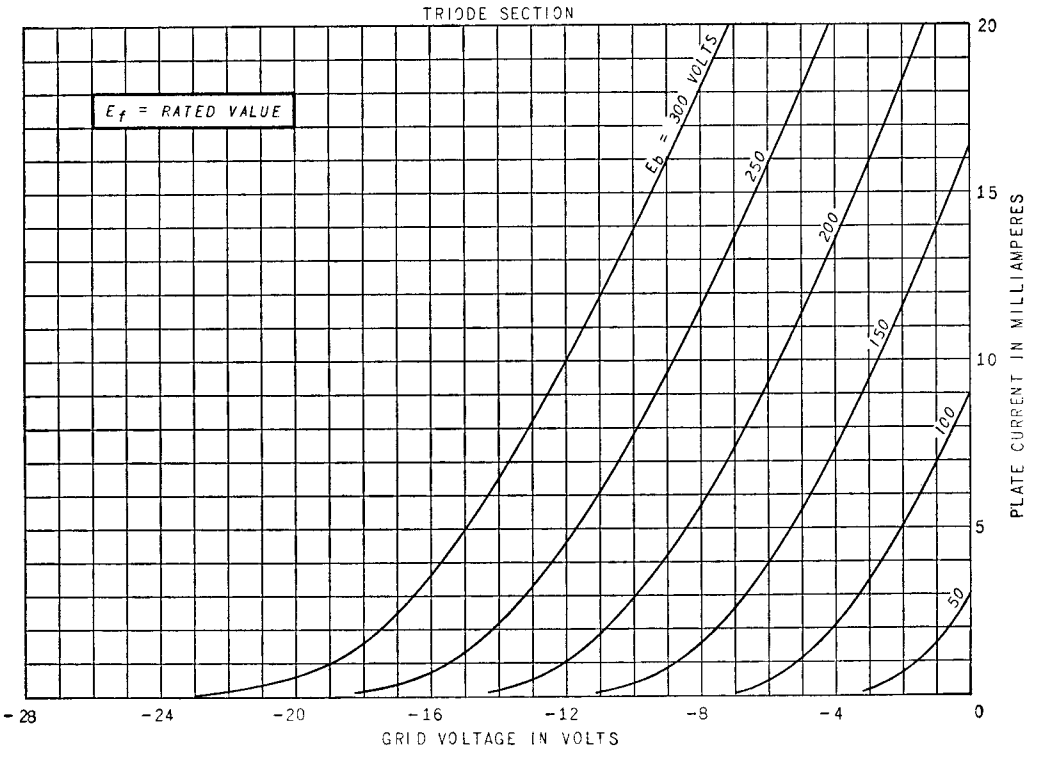
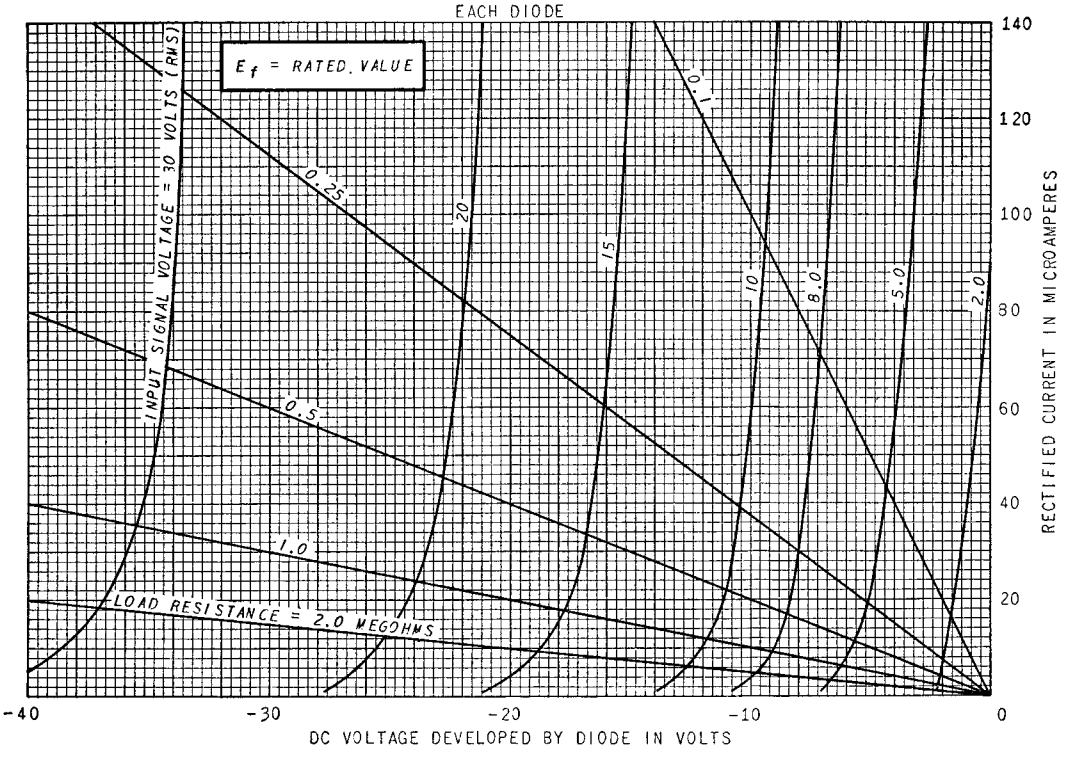


AVERAGE TRANSFER CHARACTERISTICS



OPERATION CHARACTERISTICS



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