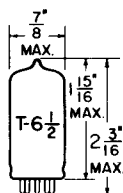


TUNG-SOL**DUPLEX-DIODE TRIODE**

MINIATURE TYPE

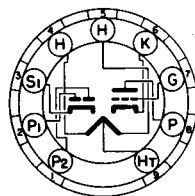
**GLASS BULB**

COATED UNIPOTENTIAL CATHODE

SERIES	HEATER	PARALLEL
8.4 VOLTS		4.2 VOLTS
0.225 AMP.		0.45 AMP.

AC OR DC

ANY MOUNTING POSITION

CONTROL OF HEATER WARM-UP TIME
APPLIES ONLY TO PARALLEL CONNECTION.**BOTTOM VIEW**
SMALL BUTTON
9 PIN BASE

9EN

THE 8CN7 IS A DUPLEX DIODE HIGH- μ TRIODE IN WHICH SEPARATE CATHODES ARE PROVIDED FOR THE DIODE AND TRIODE SECTIONS. IT IS INTENDED PRIMARILY FOR SERVICE AS A COMBINED HORIZONTAL PHASE DETECTOR AND REACTANCE TUBE IN TELEVISION RECEIVERS. THERMAL CHARACTERISTICS OF THE HEATER ARE CONTROLLED SUCH THAT HEATER VOLTAGE SURGES DURING THE WARM-UP CYCLE ARE MINIMIZED PROVIDED IT IS USED WITH OTHER TYPES WHICH ARE SIMILARLY CONTROLLED. EXCEPT FOR HEATER RATINGS, THE 8CN7 IS IDENTICAL TO THE 6CN7.

DIRECT INTERELECTRODE CAPACITANCES
WITHOUT EXTERNAL SHIELD

TRIODE GRID TO PLATE	1.8	μ f
TRIODE INPUT	1.5	μ f
TRIODE OUTPUT	0.5	μ f
GRID TO EACH DIODE PLATE	0.006	μ f
DIODE #1 PLATE TO DIODE CATHODE AND HEATER	3.6	μ f
DIODE #2 PLATE TO DIODE CATHODE AND HEATER	3.6	μ f

RATINGS

INTERPRETED ACCORDING TO DESIGN CENTER SYSTEM

HEATER VOLTAGE	8.4	4.2	VOLTS
MAXIMUM PLATE VOLTAGE	300		VOLTS
MAXIMUM POSITIVE DC GRID VOLTAGE	0		VOLTS
MAXIMUM PLATE DISSIPATION	1.0		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.
HEATER WARM-UP TIME*	11.0		SECONDS

* HEATER WARM-UP TIME IS DEFINED AS THE TIME REQUIRED FOR THE VOLTAGE ACROSS THE HEATER TO REACH 80% OF ITS RATED VOLTAGE AFTER APPLYING 4 TIMES RATED HEATER VOLTAGE TO A CIRCUIT CONSISTING OF THE TUBE HEATER IN SERIES WITH A RESISTANCE OF VALUE 3 TIMES THE NOMINAL HEATER OPERATING RESISTANCE.

CONTINUED ON FOLLOWING PAGE

TUNG-SOL

CONTINUED FROM PRECEDING PAGE

TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS

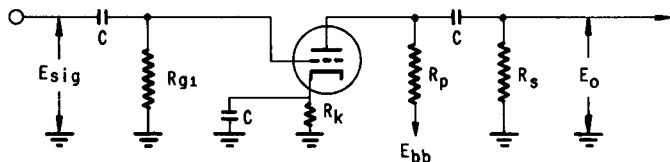
CLASS A₁ AMPLIFIER

PLATE VOLTAGE	8.4	4.2	8.4	4.2	VOLTS
PLATE CURRENT	0.225	0.45	0.225	0.45	AMP.
PLATE VOLTAGE	100		250		VOLTS
GRID VOLTAGE	-1.0		-3.0		VOLTS
AMPLIFICATION FACTOR	70		70		
PLATE RESISTANCE (APPROX.)	54 000		58 000		OHMS
TRANSCONDUCTANCE	1 300		1 200		μMHOS
PLATE CURRENT	0.8		1.0		MA.
AVERAGE DIODE CURRENT (EACH DIODE)					
WITH 5.0 VOLTS DC APPLIED			20		MA.

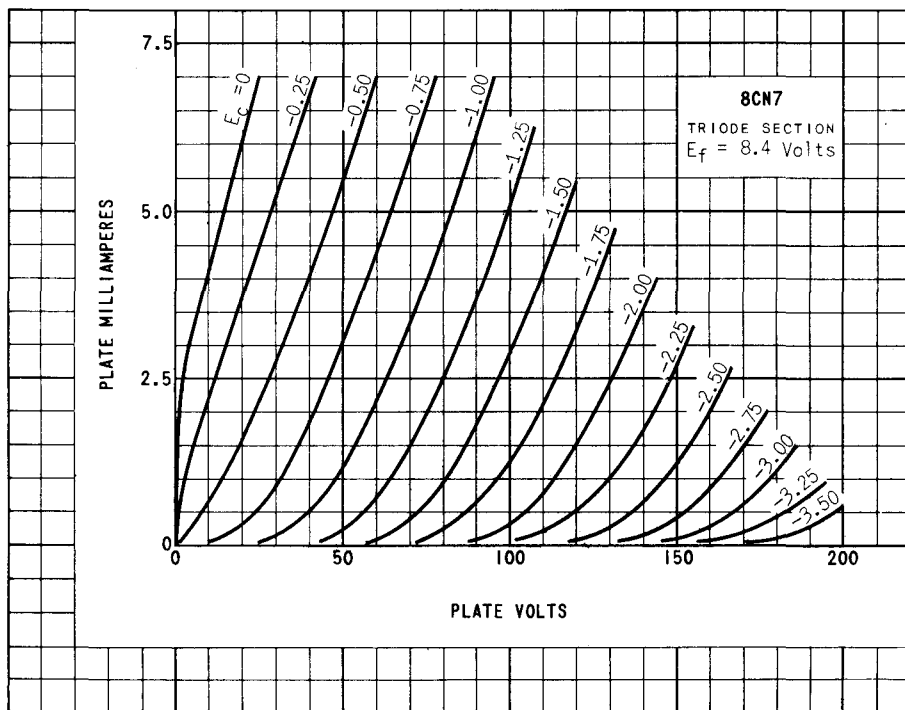
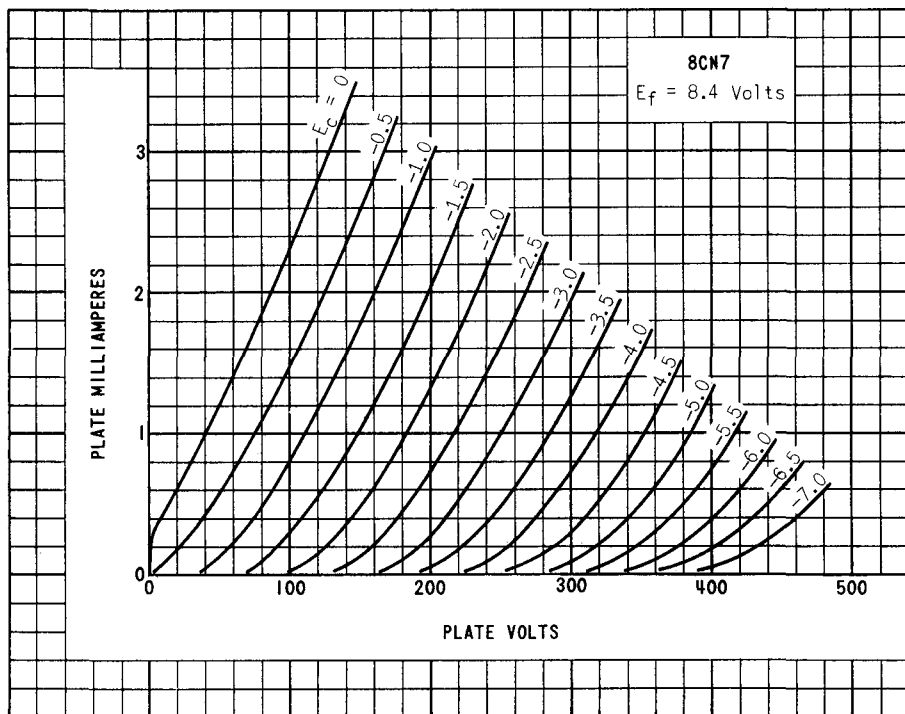
CLASS A RESISTANCE - COUPLED AMPLIFIER

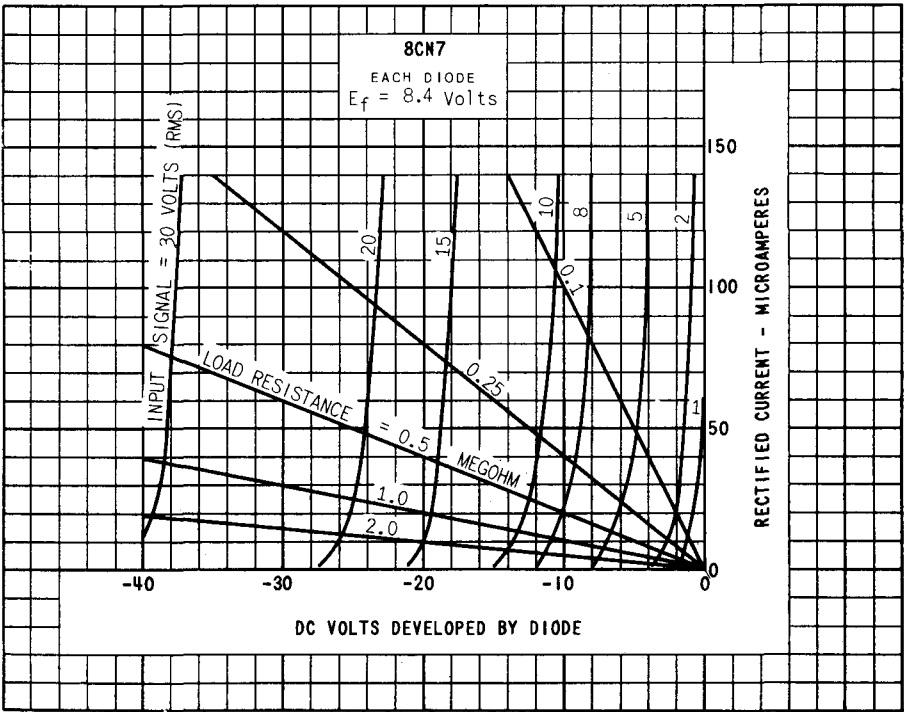
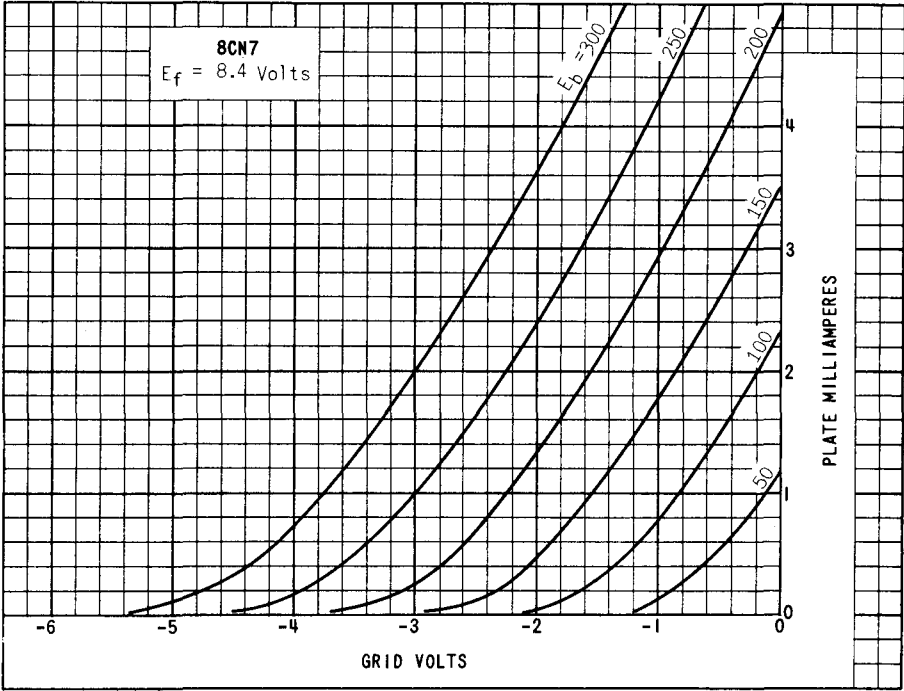
R _p Meg.	R _s Meg.	R _{g1} Meg.	E _{bb} = 90 Volts			E _{bb} = 180 Volts			E _{bb} = 300 Volts		
			R _k	Gain	E _o	R _k	Gain	E _o	R _k	Gain	E _o
0.10	0.10	0.10	5700	21	7.0	2400	29	18	1800	33	35
0.10	0.24	0.10	6100	26	9.0	2700	34	23	2000	38	42
0.24	0.24	0.10	9100	30	10	4300	40	24	3000	44	43
0.24	0.51	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

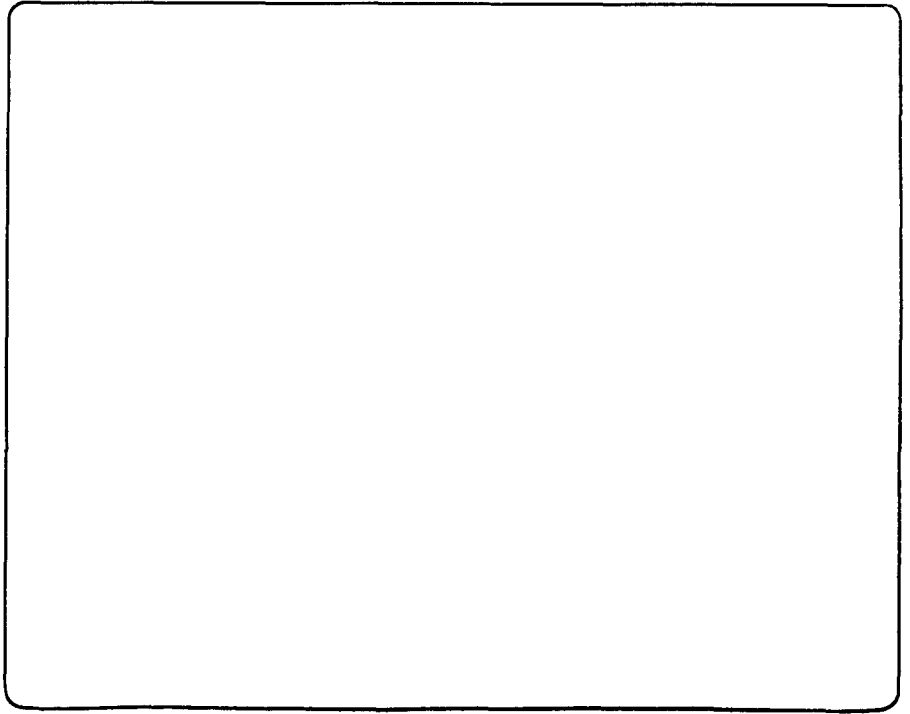
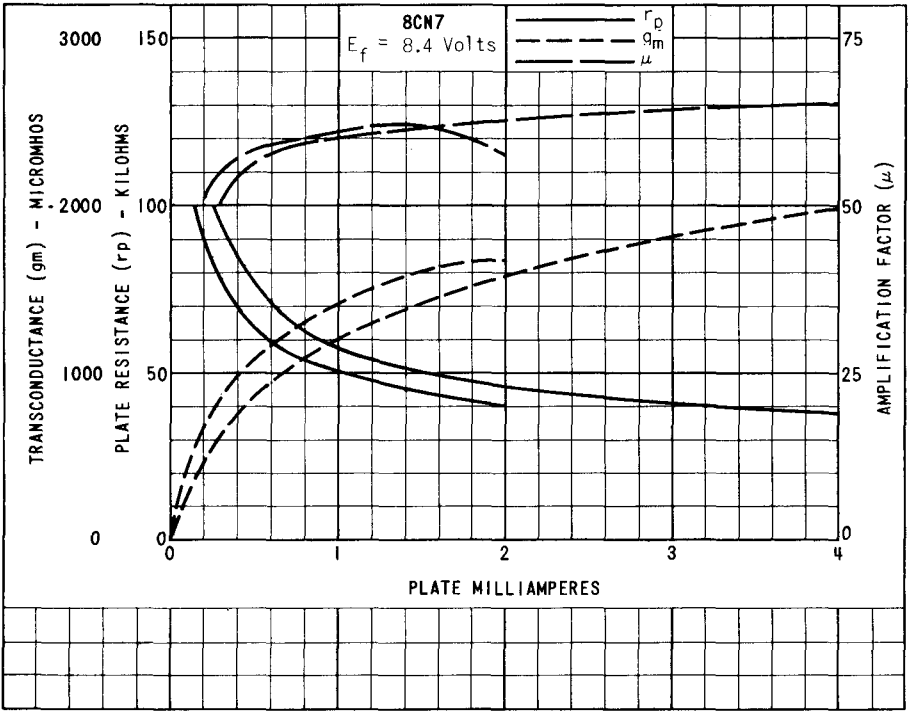
E_o IS MAXIMUM RMS VOLTAGE OUTPUT FOR FIVE PERCENT TOTAL HARMONIC DISTORTION.
 GAIN MEASURED AT 2.0 VOLTS RMS OUTPUT.
 FOR ZERO-BIAS DATA, GENERATOR IMPEDANCE IS NEGLIGIBLE.



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







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