

TWIN TRIODE TYPES 6SN7-GTA, 6SN7-GTB AND 12SN7-GTA

The 6SN7-GTA, 6SN7-GTB and 12SN7-GTA are medium-mu twin triodes designed for use as combined vertical oscillators and vertical deflection amplifiers in television receivers. These types may also be used in general purpose applications such as resistance-coupled amplifiers, phase inverters and multivibrators.

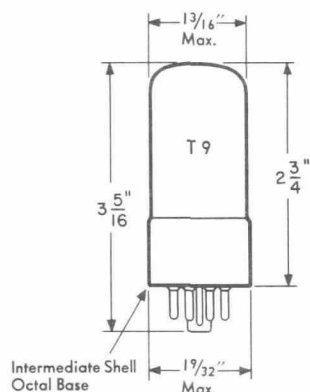
The 6SN7-GTB has been designed for use in receivers which employ series-connected heaters, especially in television receivers where the picture-tube heater is in series with other heaters. When it is employed in this type of circuit with other tubes having a heater current rating of 600 ma., heater voltage surges across individual tubes are minimized inasmuch as the heater warm-up characteristic is controlled.

ELECTRICAL:

Cathodes	Coated Unipotential		
	6SN7-GTA	12SN7-GTA	
Heater:	6SN7-GTB		
Voltage (ac or dc)	6.3	12.6	Volts
Current	0.6	0.3	Ma.
Warm-up Time (Approx.)▲	11	--	Seconds
Direct Interelectrode Capacitances (Unshielded):			
	Unit 1 Unit 2		
Grid to Plate	4.0	3.8	$\mu\mu f$
Input	2.2	2.6	$\mu\mu f$
Output	0.7	0.7	$\mu\mu f$

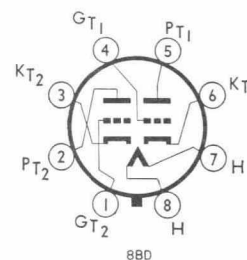
MECHANICAL:

Bulb	T-9
Base	Intermediate Shell Octal 8-Pin
Basing	8BD
Mounting Position	Any



MAXIMUM RATINGS:

Design Center Values			
Each Unit, Except as Noted			
As	Class A ₁	Vertical #	
	Amplifier	Amplifier	
Plate Voltage	450	450 max.	Volts
Peak Positive Plate Voltage (Abs. Max.)	--	1500	Volts
Peak Negative Grid Voltage	--	250 max.	Volts
Plate Dissipation:			
Each Plate	5.0	5.0* max.	Watts
Both Plates	7.5	7.5* max.	Watts
Cathode Current	20	20 max.	Ma.
Peak Cathode Current	--	70 max.	Ma.
Heater-Cathode Voltage			
Heater Positive with Respect to Cathode			
D-C Component	100	100 max.	Volts
Total D-C and Peak	200	200 max.	Volts
Heater Negative with Respect to Cathode			
Total D-C and Peak	200	200 max.	Volts
Grid Circuit Resistance:			
Fixed Bias	1.0	-- max.	Megohm
Cathode Bias	1.0	2.2 max.	Megohms



MAXIMUM RATINGS:

Design Center Values (Each Unit, Except as Noted)

As	Vertical # Deflection Oscillator	Horizontal # Deflection Oscillator	
Plate Voltage	450	450 max.	Volts
Peak Negative Grid Voltage . . .	400	600 max.	Volts
Plate Dissipation:			
Each Plate	5.0	5.0 max.	Watts
Both Plates	7.5	7.5 max.	Watts
Cathode Current	20	20 max.	Ma.
Peak Cathode Current	70	300 max.	Ma.
Heater-Cathode Voltage			
Heater Positive with Respect to Cathode			
D-C Component	100	100 max.	Volts
Total D-C and Peak	200	200 max.	Volts
Heater Negative with Respect to Cathode			
Total D-C and Peak	200	200 max.	Volts
Grid Circuit Resistance			
Fixed Bias	2.2	2.2 max.	Megohms
Cathode Bias	2.2	2.2 max.	Megohms

AMPLIFIER - CLASS A₁ Each Unit

CHARACTERISTICS AND TYPICAL OPERATION:

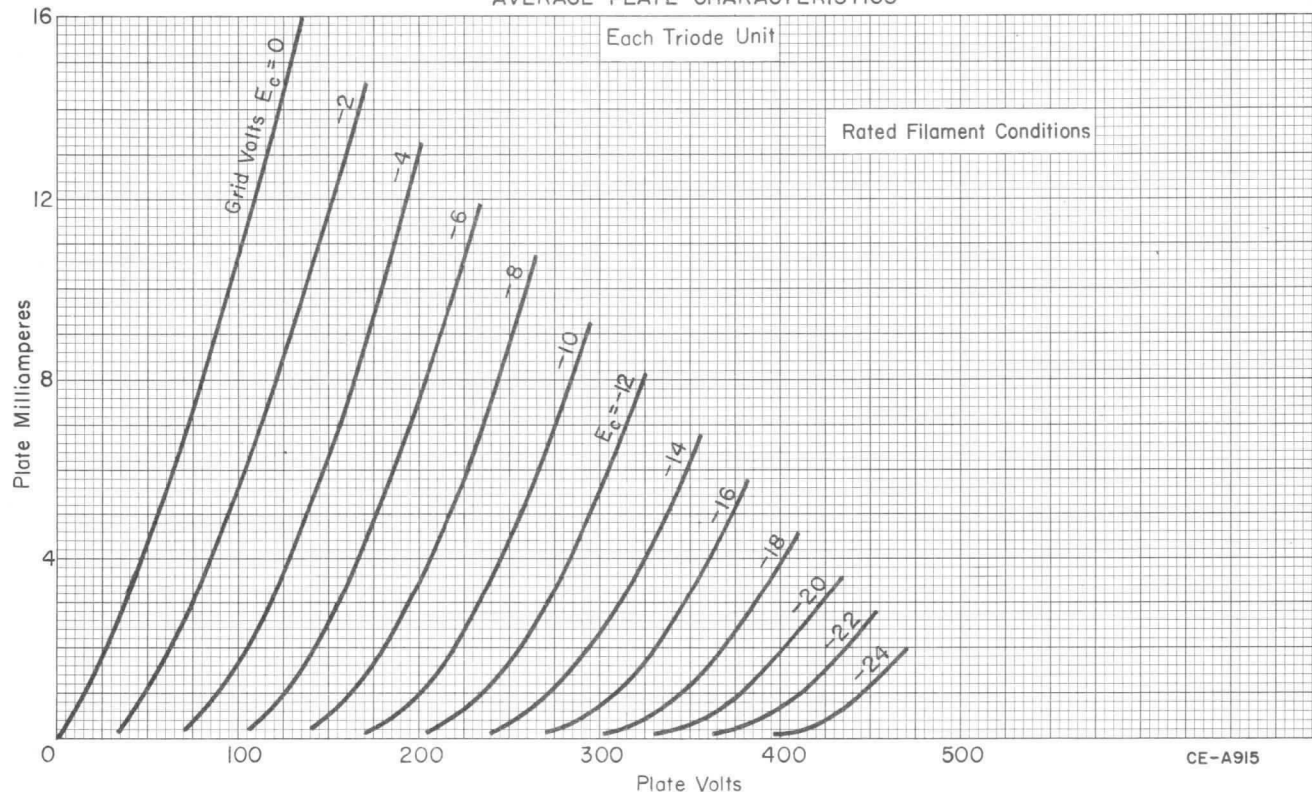
Plate Voltage	90	250	250	Volts
Grid Voltage	0	-12.5	-8	Volts
Plate Current	10	1.3	9.0	Ma.
Plate Resistance (Approx.)	6700	--	7700	Ohms
Transconductance	3000	--	2600	μ mhos
Amplification Factor	20	--	20	
Grid Voltage for $I_b = 10 \mu a$. (Approx.)	-7.0	--	-18	Volts

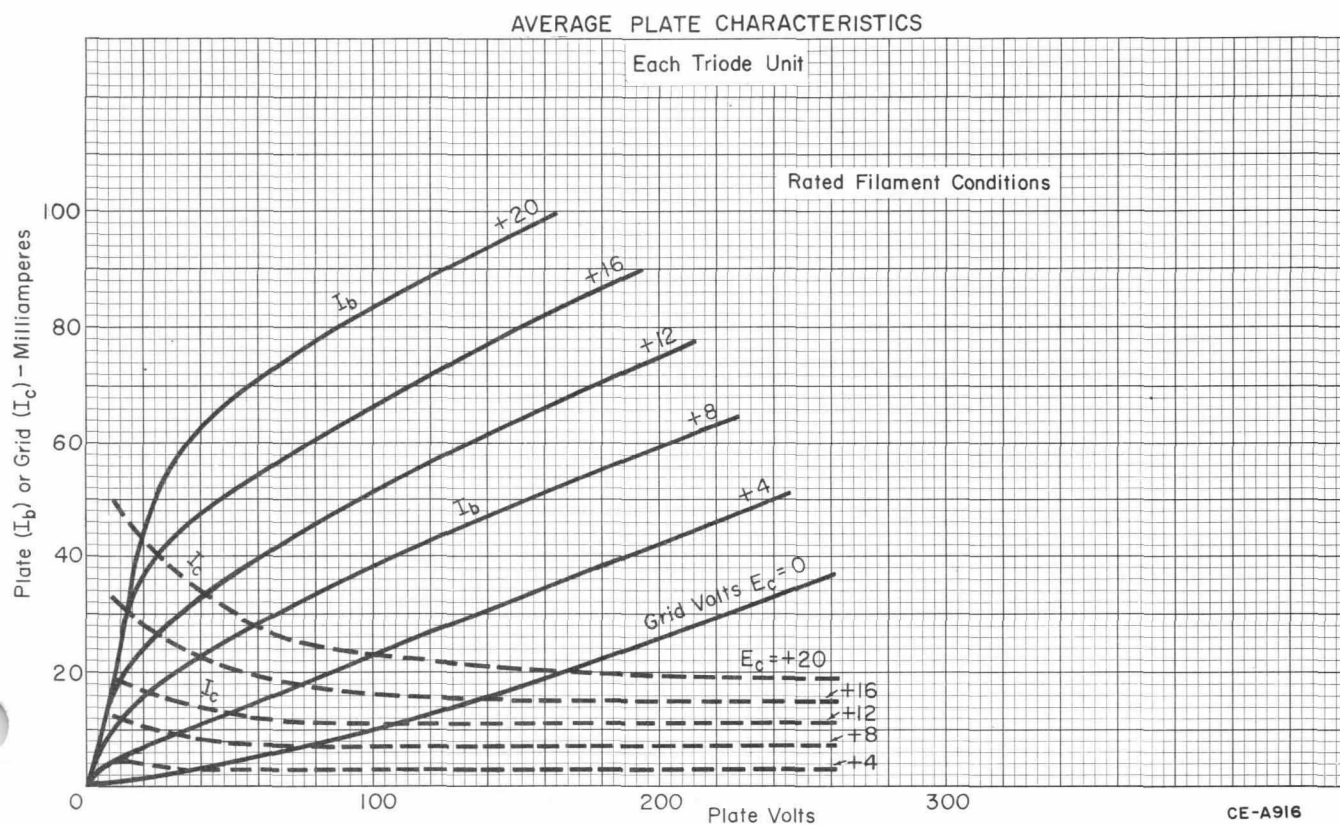
For operation in a 525-line, 30 frame system as described in "Standards of Good Engineering Practice for Television Broadcasting Stations; Federal Communications Commission". The duty cycle of the voltage pulse must not exceed 15% of one scanning cycle.

* Stages operating with grid-leak bias require an adequate cathode-bias resistor or other suitable means to protect the tube in the absence of excitation.

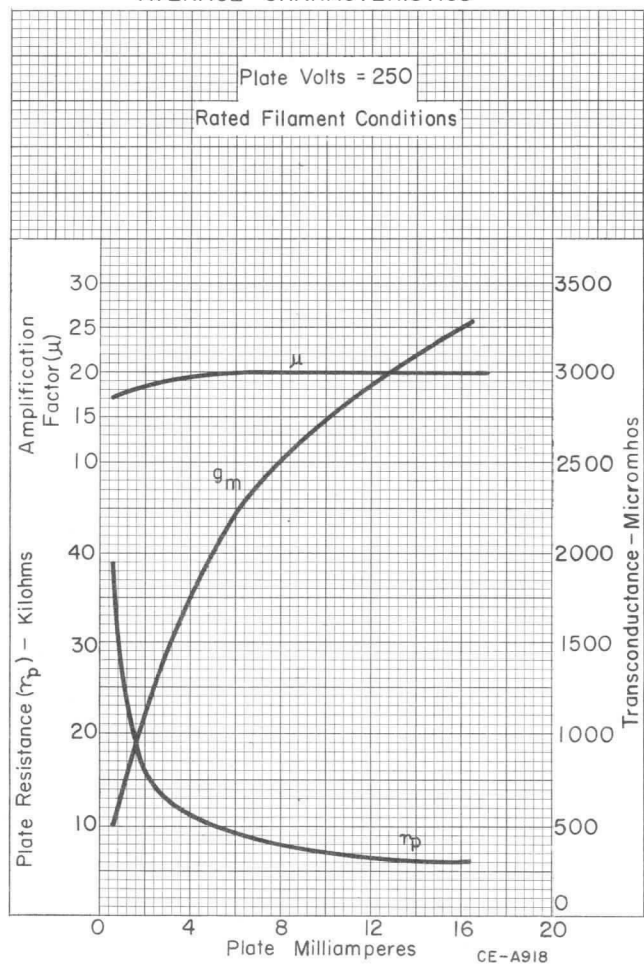
▲ Heater Warm-up Time is defined as the time required for the voltage across the heater to reach 80% of its rated value after applying four times rated heater voltage to a circuit consisting of the tube heater in series with a resistance equal to three times rated heater voltage divided by rated heater current.

AVERAGE PLATE CHARACTERISTICS

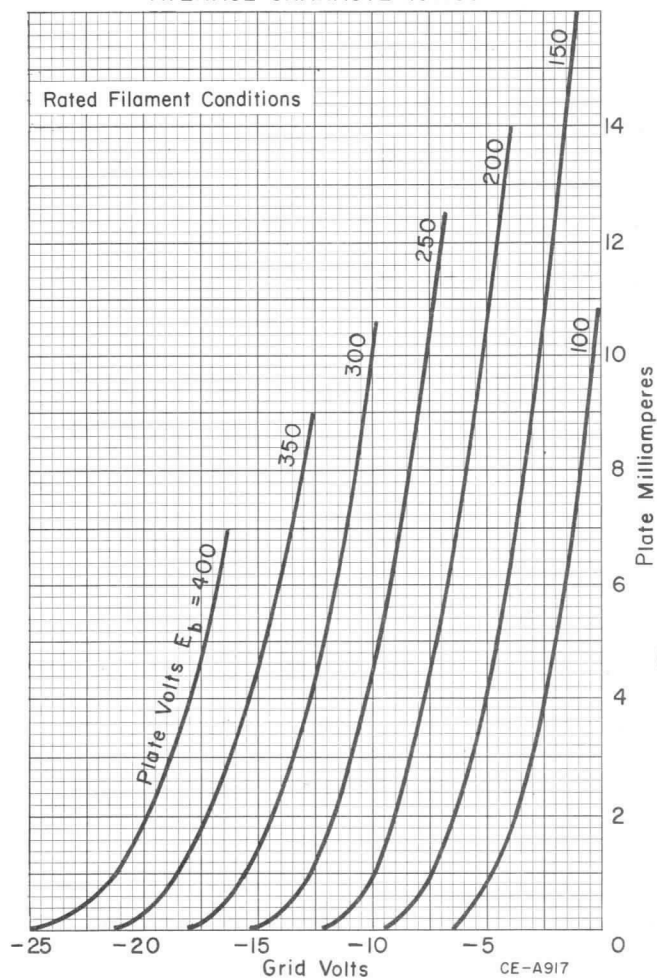




AVERAGE CHARACTERISTICS



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