



6SJ7-12SJ7

PENTODE

FOR AF AND RF AMPLIFIER APPLICATIONS

6SJ7
12SJ7
ET-T1400
Page 1
11-56

DESCRIPTION AND RATING

The 6SJ7 is a metal sharp-cutoff pentode designed for use as a biased detector or high-gain amplifier.

The 12SJ7 is identical to the 6SJ7 except for heater ratings.

GENERAL

ELECTRICAL

Cathode—Coated Unipotential	6SJ7	12SJ7
Heater Voltage, AC or DC	6.3	12.6 Volts
Heater Current	0.3	0.15 Amperes
Direct Interelectrode Capacitances		
Pentode Connection*		
Grid-Number 1 to Plate, maximum	0.005	$\mu\mu\text{f}$
Input	6.0	$\mu\mu\text{f}$
Output	7.0	$\mu\mu\text{f}$
Triode Connection†		
Grid-Number 1 to Plate	2.8	$\mu\mu\text{f}$
Input	3.4	$\mu\mu\text{f}$
Output	11	$\mu\mu\text{f}$

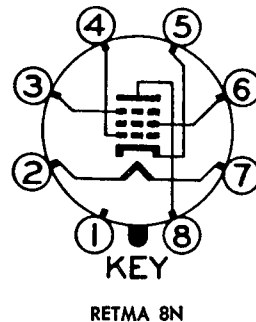
MECHANICAL

Mounting Position—Any
Envelope—MT-8, Metal Shell
Base—B8-21, Small Wafer Octal 8-Pin

MAXIMUM RATINGS

DESIGN-CENTER VALUES	Pentode Connection	Triode Connection†
Plate Voltage	300	250 Volts
Screen-Supply Voltage	300	... Volts
Screen Voltage—See Screen Rating Chart		
Positive DC Grid-Number 1 Voltage	0	0 Volts
Plate Dissipation	2.5	2.5 Watts
Screen Dissipation	0.7	... Watts
Heater-Cathode Voltage		
Heater Positive with Respect to Cathode	90	90 Volts
Heater Negative with Respect to Cathode	90	90 Volts
Grid-Number 1 Circuit Resistance		
With Cathode Bias	1.0	1.0 Megohms

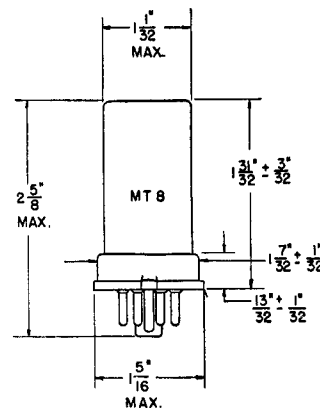
BASING DIAGRAM



TERMINAL CONNECTIONS

- Pin 1—Shell and Internal Shield
- Pin 2—Heater
- Pin 3—Grid Number 3 (Suppressor)
- Pin 4—Grid Number 1
- Pin 5—Cathode
- Pin 6—Grid Number 2 (Screen)
- Pin 7—Heater
- Pin 8—Plate

PHYSICAL DIMENSIONS



Supersedes ET-T336, dated 5-46

CHARACTERISTICS AND TYPICAL OPERATION

CLASS A₁ AMPLIFIER

Plate Voltage	100	250	Volts
Suppressor, Connected to Cathode at Socket			
Screen Voltage	100	100	Volts
Grid-Number 1 Voltage	-3.0	-3.0	Volts
Plate Resistance, approximate	0.7	1.0	Megohms
Transconductance	1575	1650	Micromhos
Plate Current	2.9	3.0	Milliamperes
Screen Current	0.9	0.8	Milliamperes
Grid-Number 1 Voltage, approximate I _b = 10 Microamperes	-8	-8	Volts

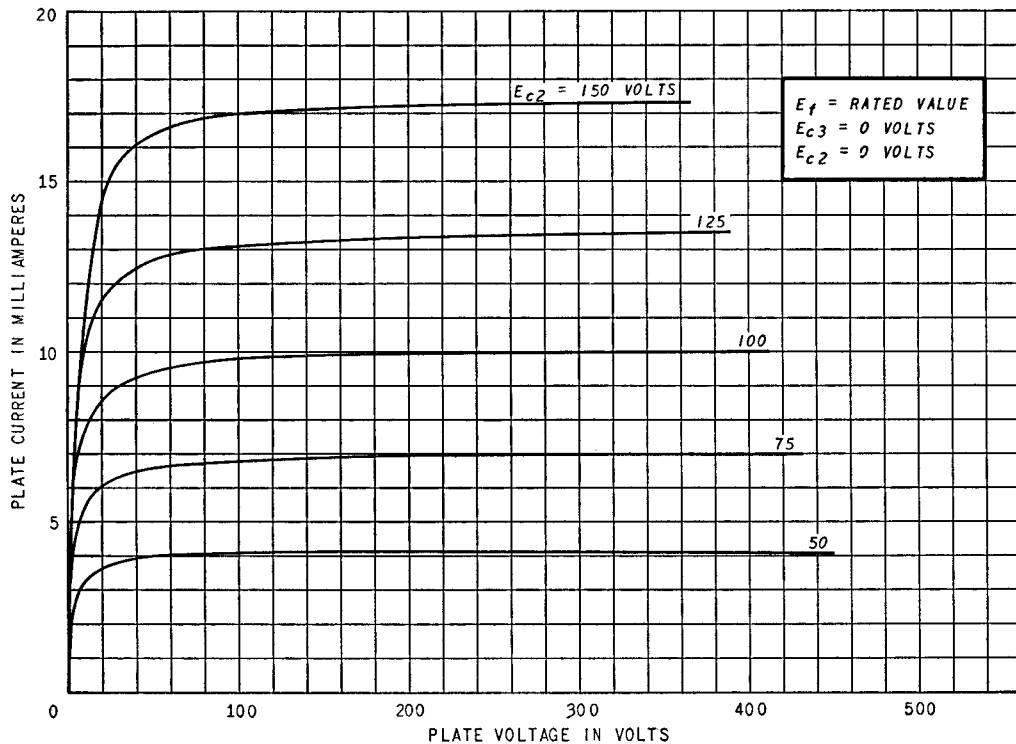
CLASS A₁ AMPLIFIER, TRIODE CONNECTION†

Plate Voltage	180	250	Volts
Grid-Number 1 Voltage	-6.0	-8.5	Volts
Amplification Factor	19	19	
Plate Resistance, approximate	8250	7600	Ohms
Transconductance	2300	2500	Micromhos
Plate Current	6.0	9.2	Milliamperes

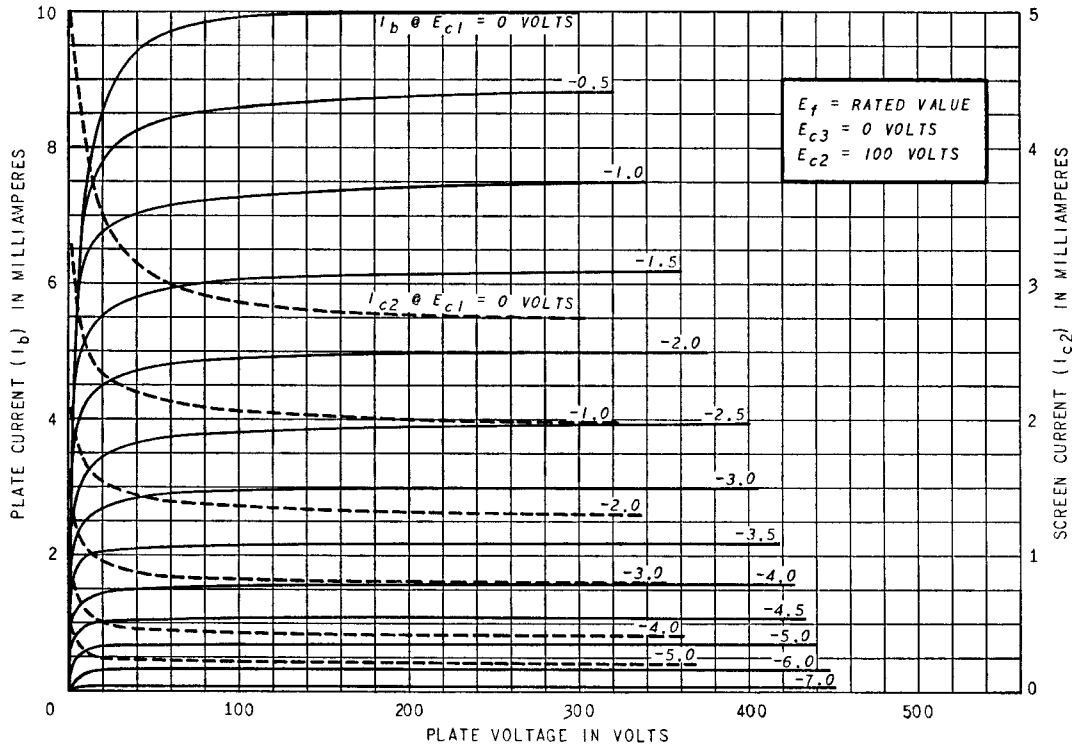
* With shell and internal shield connected to cathode.

† With screen and suppressor connected to plate.

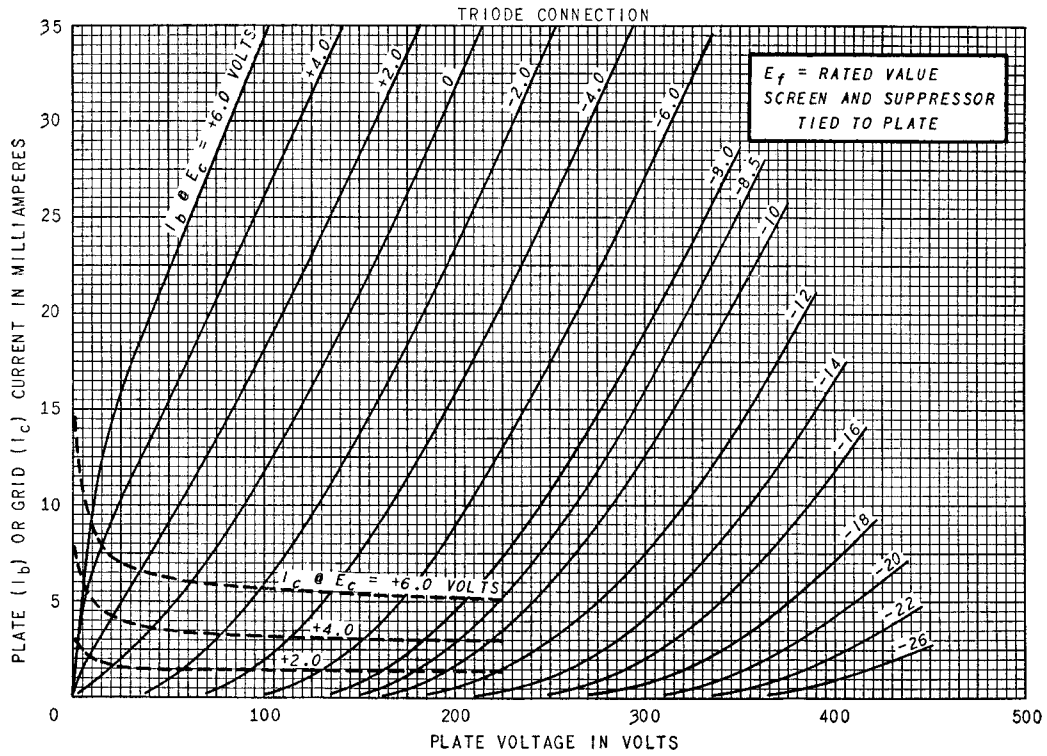
AVERAGE PLATE CHARACTERISTICS



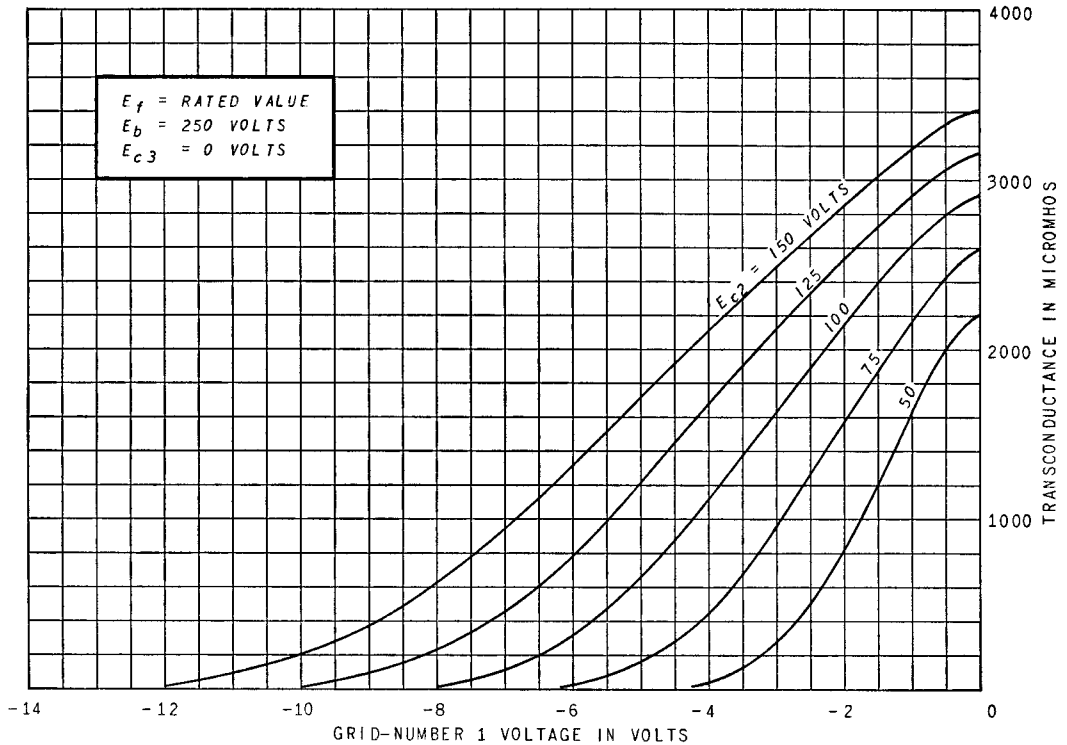
AVERAGE PLATE CHARACTERISTICS



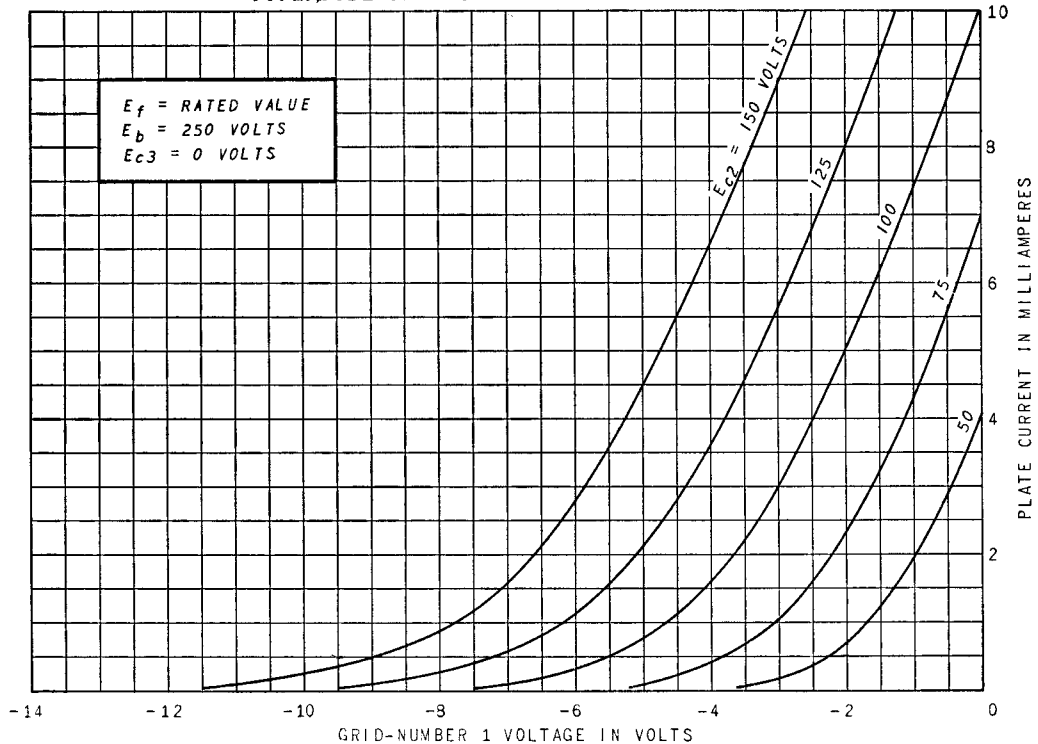
AVERAGE PLATE CHARACTERISTICS



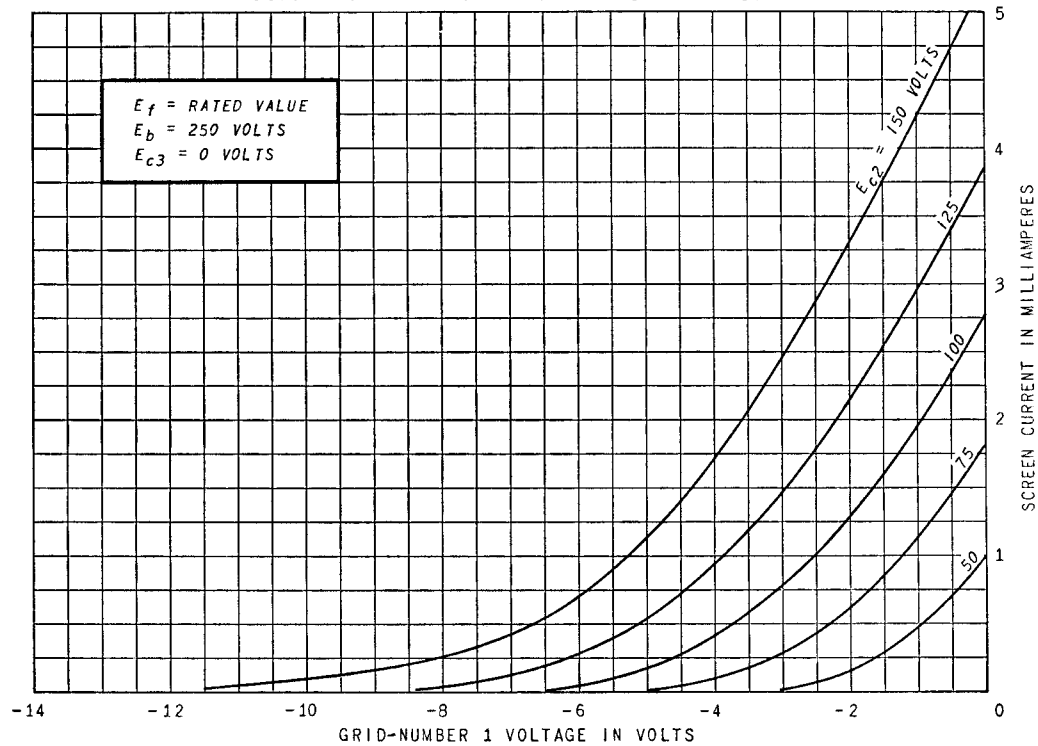
AVERAGE TRANSFER CHARACTERISTICS



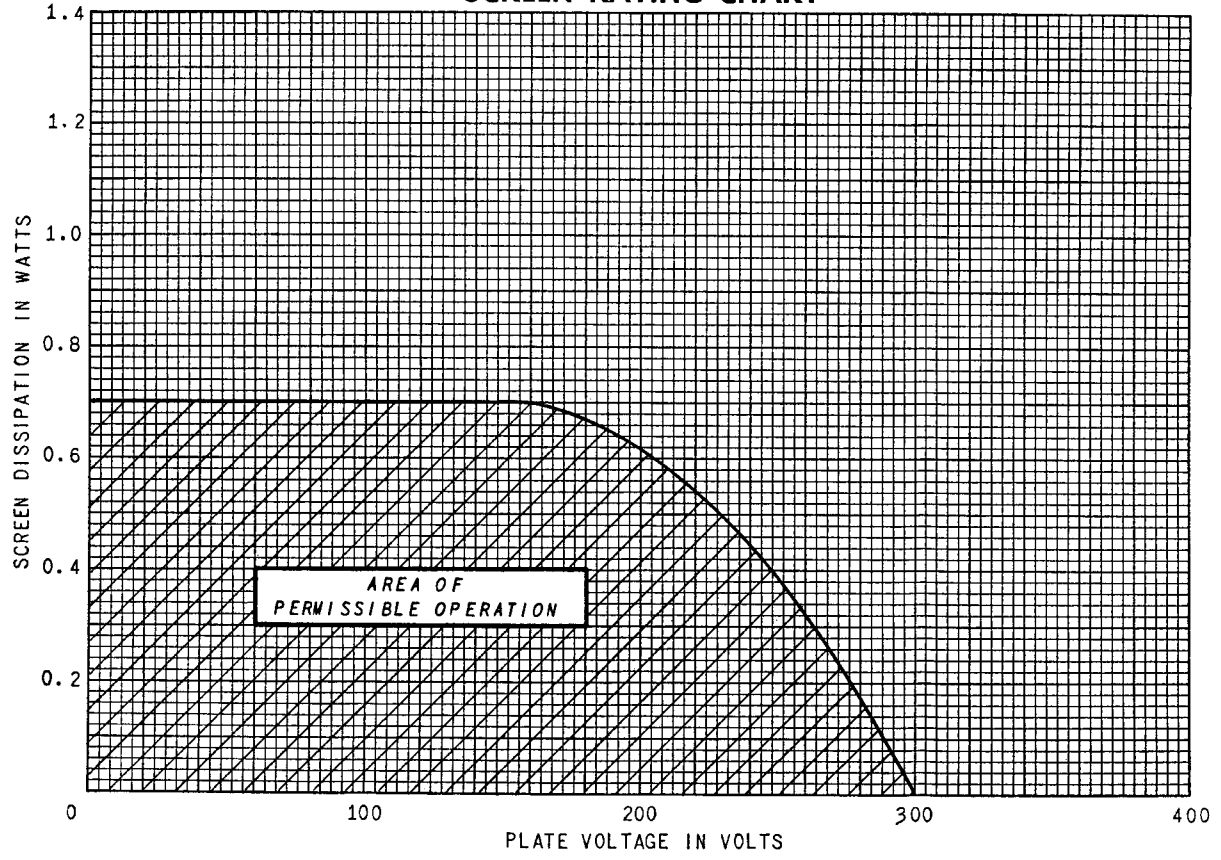
AVERAGE TRANSFER CHARACTERISTICS



AVERAGE TRANSFER CHARACTERISTICS



SCREEN RATING CHART



ELECTRONIC COMPONENTS DIVISION



Schenectady 5, N. Y.