6JD6

Sharp-Cutoff Pentode

The 6JD6 is a miniature, frame-grid, sharp-cutoff pentode designed primarily for use in the intermediate-frequency amplifier stages of television receivers.

GENERAL

ELECTRICAL

Cathode - Coated Unipotential

Heater Characteristics and Ratings

Heater Voltage, AC or DC*	6.3±0.6	Volts
Heater Current‡	0.3	Amperes

Direct Interelectrode Capacitance§

Grid-Number 1 to Plate: (g1 to p), maximum	0.019	pf
Input: g1 to (h + k + g2 + g3 + i.s.)	8.2	pf
Output: p to (h + k + g2 + g3 + i.s.)	3.0	pf

MECHANICAL

Operating Position - Any
Envelope - T-6 1/2, Glass
Base - E9-1, Small Button 9-Pin
Outline Drawing - EIA 6-2

Maximum Diameter	0.875	Inches
Maximum Over-all Length	2.188	Inches
Maximum Seated Height	1.938	Inches

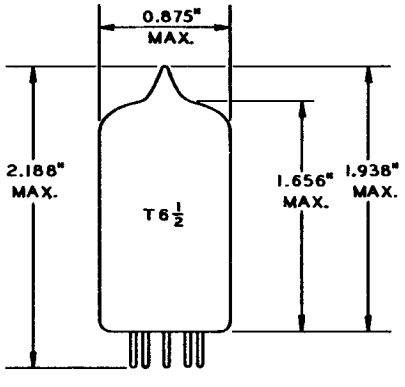
MAXIMUM RATINGS

Design-Maximum ratings are limiting values of operating and environmental conditions applicable to a bogey electron tube of a specified type as defined by its published data and should not be exceeded under the worst probable conditions.

The tube manufacturer chooses these values to provide acceptable serviceability of the tube, making allowance for the effects of changes in operating conditions due to variations in the characteristics of the tube under consideration.

The equipment manufacturer should design so that initially and throughout life no design-maximum value for the intended service is exceeded with a bogey tube under the worst probable operating conditions with respect to supply-voltage variation, equipment component variation, equipment control adjustment, load variation, signal variation, environmental conditions, and variations in the characteristics of all other electron devices in the equipment.

PHYSICAL DIMENSIONS

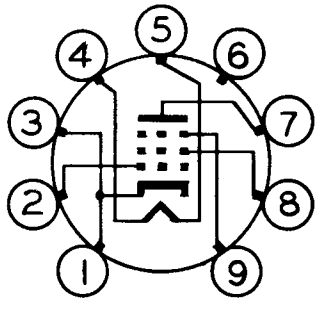


EIA 6-2

TERMINAL CONNECTIONS

Pin 1 - Cathode
Pin 2 - Grid Number 1
Pin 3 - Cathode
Pin 4 - Heater
Pin 5 - Heater
Pin 6 - No Connection
Pin 7 - Plate
Pin 8 - Grid Number 2 (Screen)
Pin 9 - Grid Number 3 (Suppressor) and Internal Shield

BASING DIAGRAM



EIA 9PM

MAXIMUM RATINGS (Cont'd)

DESIGN-MAXIMUM VALUES

Plate Voltage	330	Volts
Suppressor Voltage	0	Volts
Screen-Supply Voltage	330	Volts
Screen Voltage - See Screen Rating Chart		
Positive DC Grid-Number 1 Voltage	0	Volts
Plate Dissipation	2.5	Watts
Screen Dissipation	0.6	Watts
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
Grid-Number 1 Circuit Resistance		
With Fixed Bias	0.25	Megohms
With Cathode Bias	1.0	Megohms

CHARACTERISTICS AND TYPICAL OPERATION

CLASS A_1 AMPLIFIER

Plate Voltage	125	Volts
Suppressor Voltage	0	Volts
Screen Voltage	125	Volts
Cathode-Bias Resistor	56	Ohms
Plate Resistance, approximate	160000	Ohms
Transconductance	14000	Micromhos
Plate Current	15	Milliamperes
Screen Current	4.0	Milliamperes
Grid-Number 1 Voltage, approximate		
Gm = 600 Micromhos	-4.5	Volts

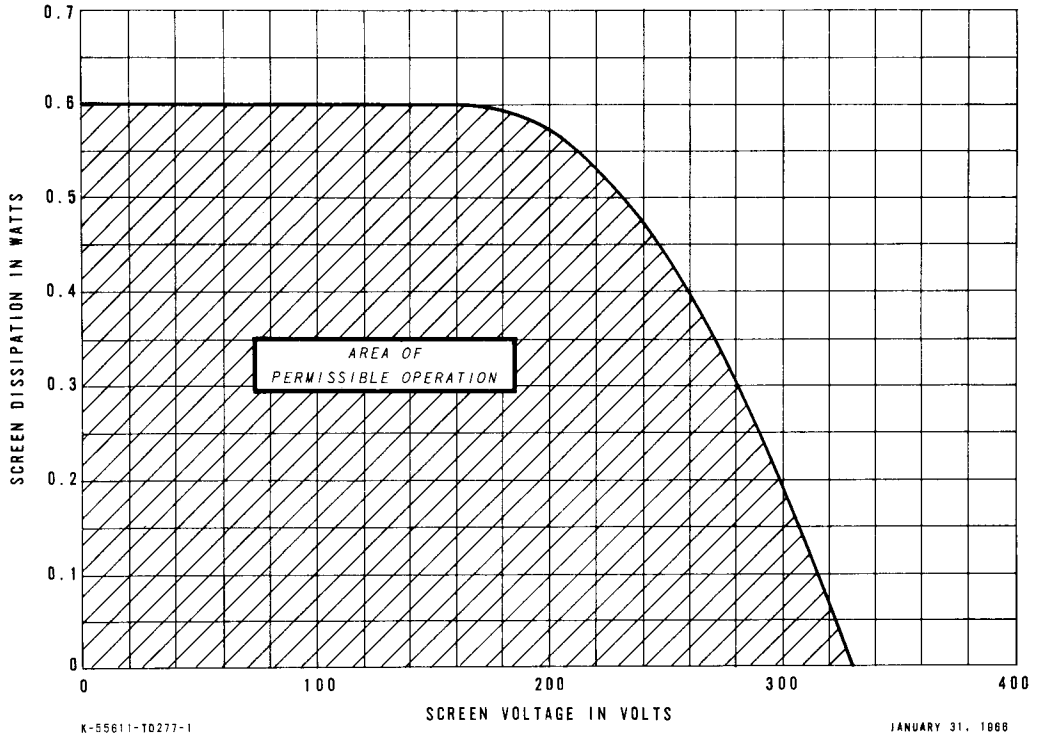
NOTES

* The equipment designer should design the equipment so that heater voltage is centered at the specified bogey value, with heater supply variations restricted to maintain heater voltage within the specified tolerance.

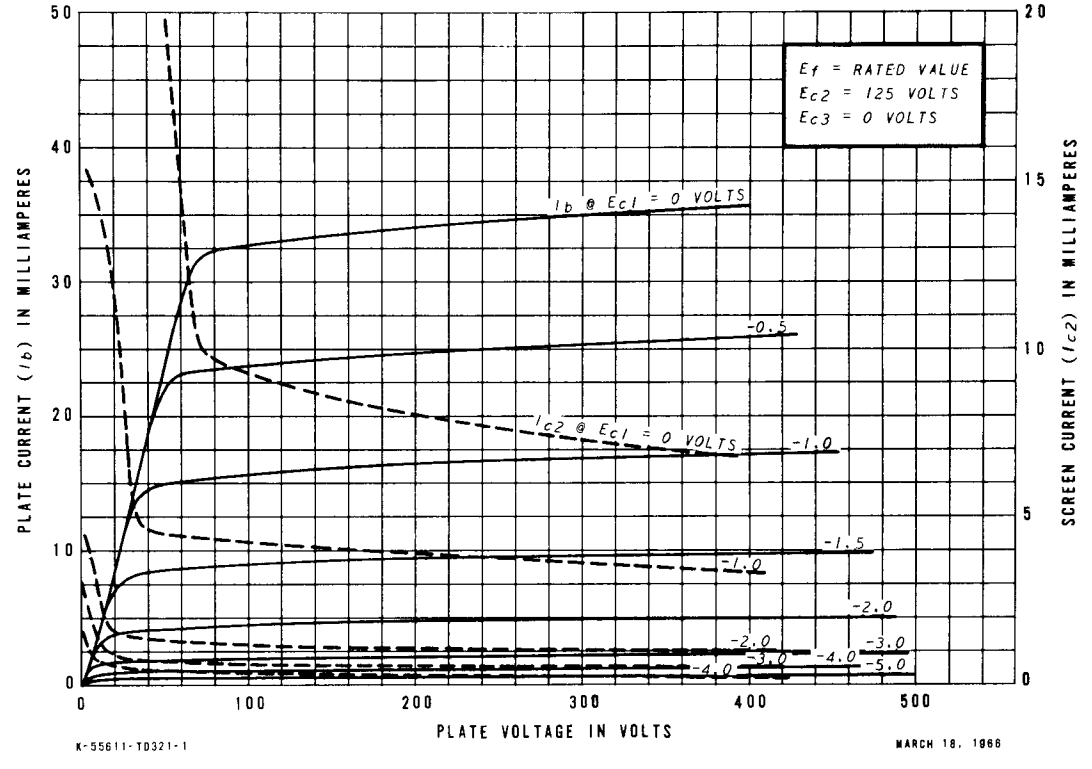
‡ Heater current of a bogey tube at Ef = 6.3 volts.

§ Without external shield.

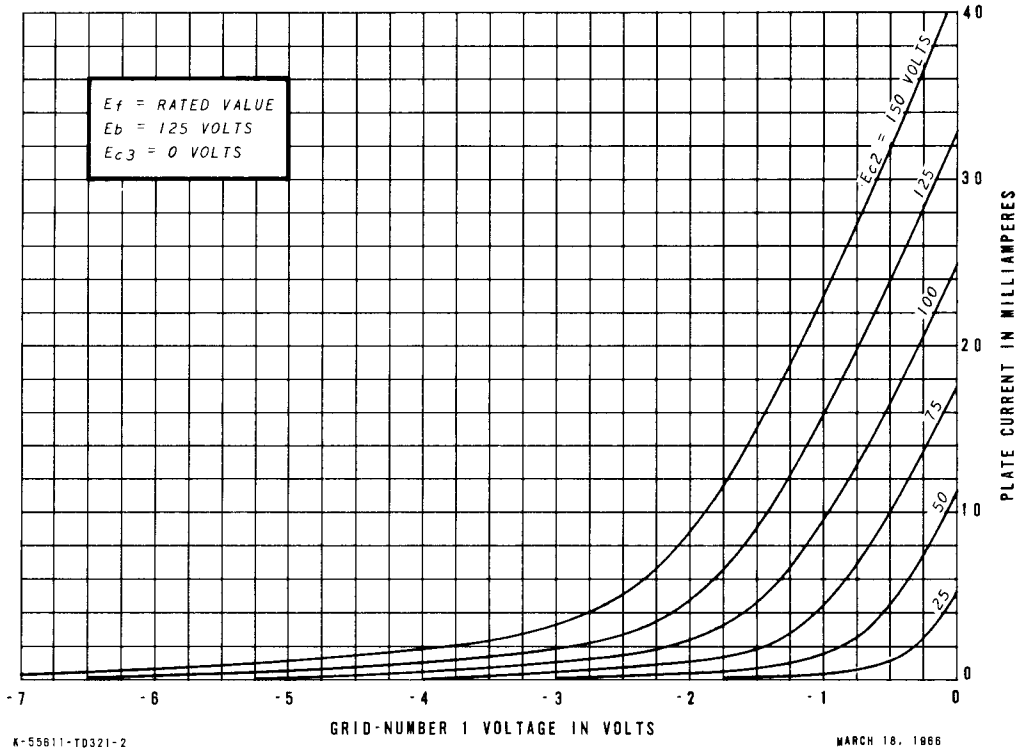
SCREEN RATING CHART



AVERAGE PLATE CHARACTERISTICS

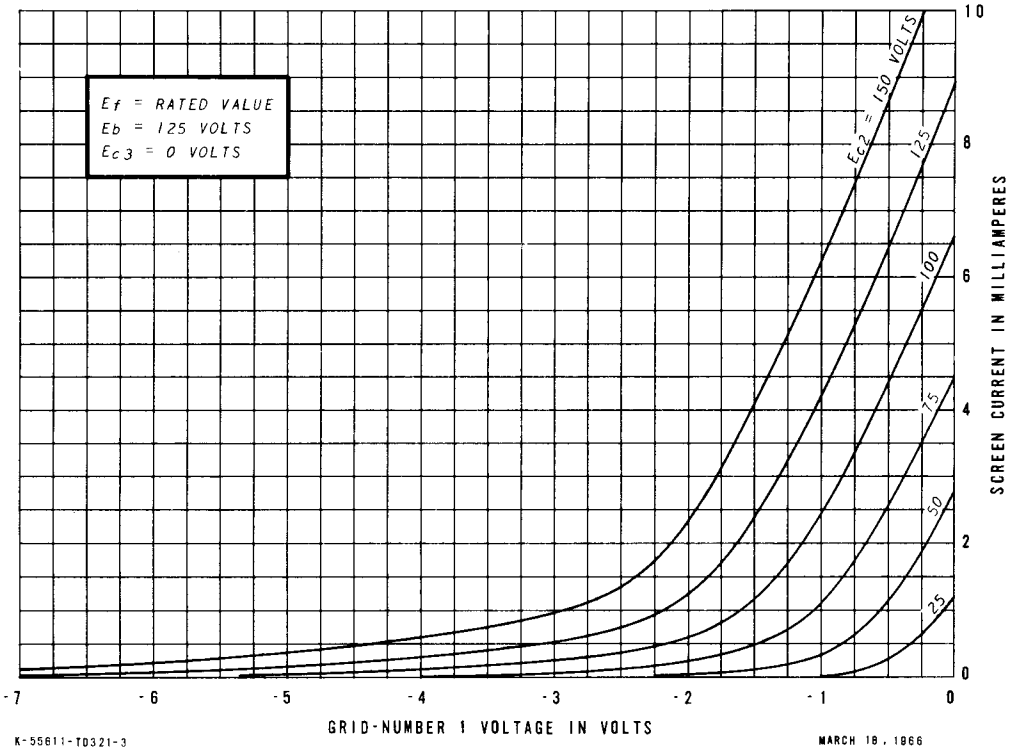


AVERAGE TRANSFER CHARACTERISTICS



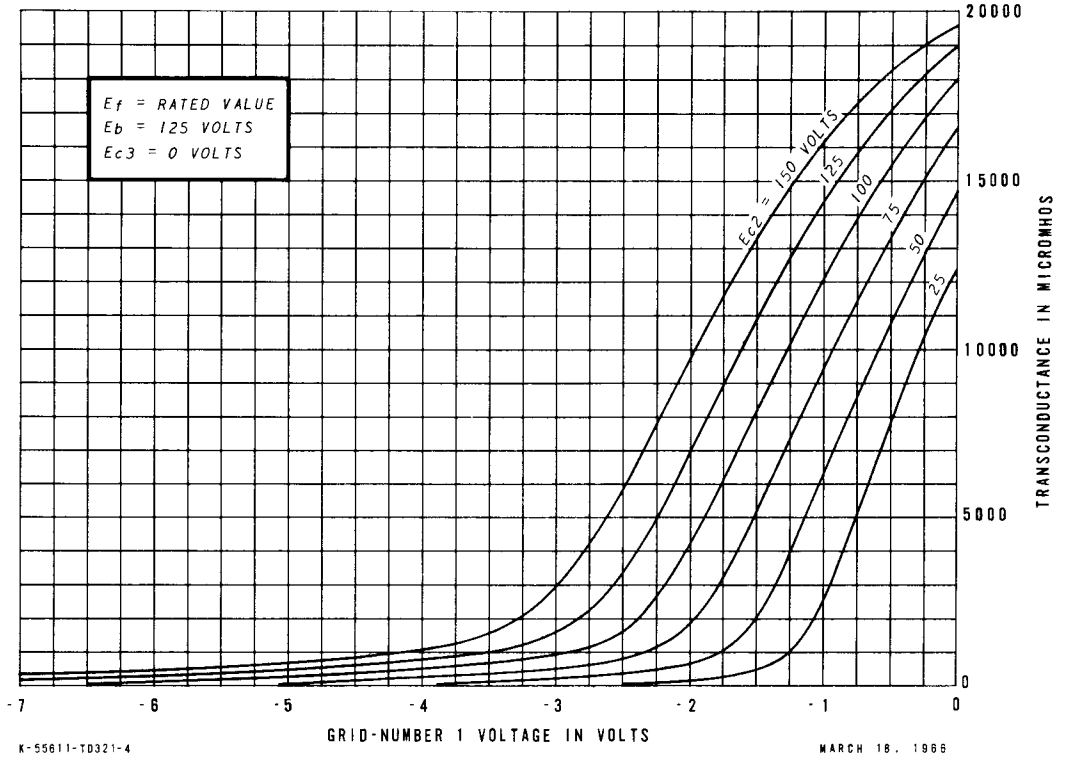
K-55611-TD321-2 MARCH 18, 1966

AVERAGE TRANSFER CHARACTERISTICS



K-55611-TD321-3 MARCH 18, 1966

AVERAGE TRANSFER CHARACTERISTICS



K-55611-TD321-4

MARCH 18, 1966