



12EA6 PENTODE

12EA6
ET-T1460
Page 1
7-57

FOR IF AMPLIFIER APPLICATIONS IN
AUTOMOBILE RECEIVERS

DESCRIPTION AND RATING

The 12EA6 is a miniature pentode intended for use as an intermediate-frequency amplifier in automobile radio receivers. The tube is specially designed to operate with its plate and screen voltages supplied directly from a 12-volt storage battery.

GENERAL

ELECTRICAL

| | |
|--------------------------------------|--------------------|
| Cathode—Coated Unipotential | |
| Heater Voltage, AC or DC..... | 12.6* Volts |
| Heater Current..... | 0.175 Amperes |
| Direct Interelectrode Capacitances† | |
| Grid-Number 1 to Plate, maximum..... | 0.04 μf |
| Input..... | 11 μf |
| Output..... | 4.0 μf |

MECHANICAL

Mounting Position—Any
Envelope—T-5½, Glass
Base—E7-1, Miniature Button 7-Pin

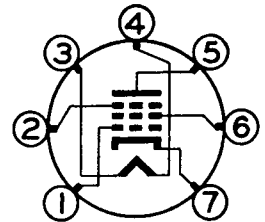
MAXIMUM RATINGS

DESIGN-MAXIMUM VALUES

| | |
|--|------------|
| Plate Voltage..... | 16 Volts |
| Screen Voltage..... | 16 Volts |
| Positive DC Grid-Number 1 Voltage..... | 0 Volts |
| Heater-Cathode Voltage | |
| Heater Positive with Respect to Cathode..... | 16 Volts |
| Heater Negative with Respect to Cathode..... | 16 Volts |
| Grid-Number 1 Circuit Resistance..... | 12 Megohms |

Design-Maximum Ratings are the limiting values expressed with respect to bogie tubes at which satisfactory tube life can be expected to occur for the types of service for which the tube is rated. Therefore, the equipment designer must establish the circuit design so that initially and throughout equipment life no design-maximum value is exceeded with a bogie tube under the worst probable operating conditions with respect to supply-voltage variation, equipment component variation, equipment control adjustment, load variation, and environmental conditions.

BASING DIAGRAM

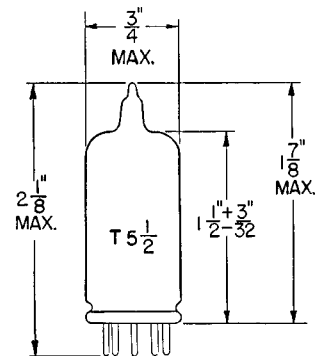


EIA 7BK

TERMINAL CONNECTIONS

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

PHYSICAL DIMENSIONS



EIA 5-2

CHARACTERISTICS AND TYPICAL OPERATION

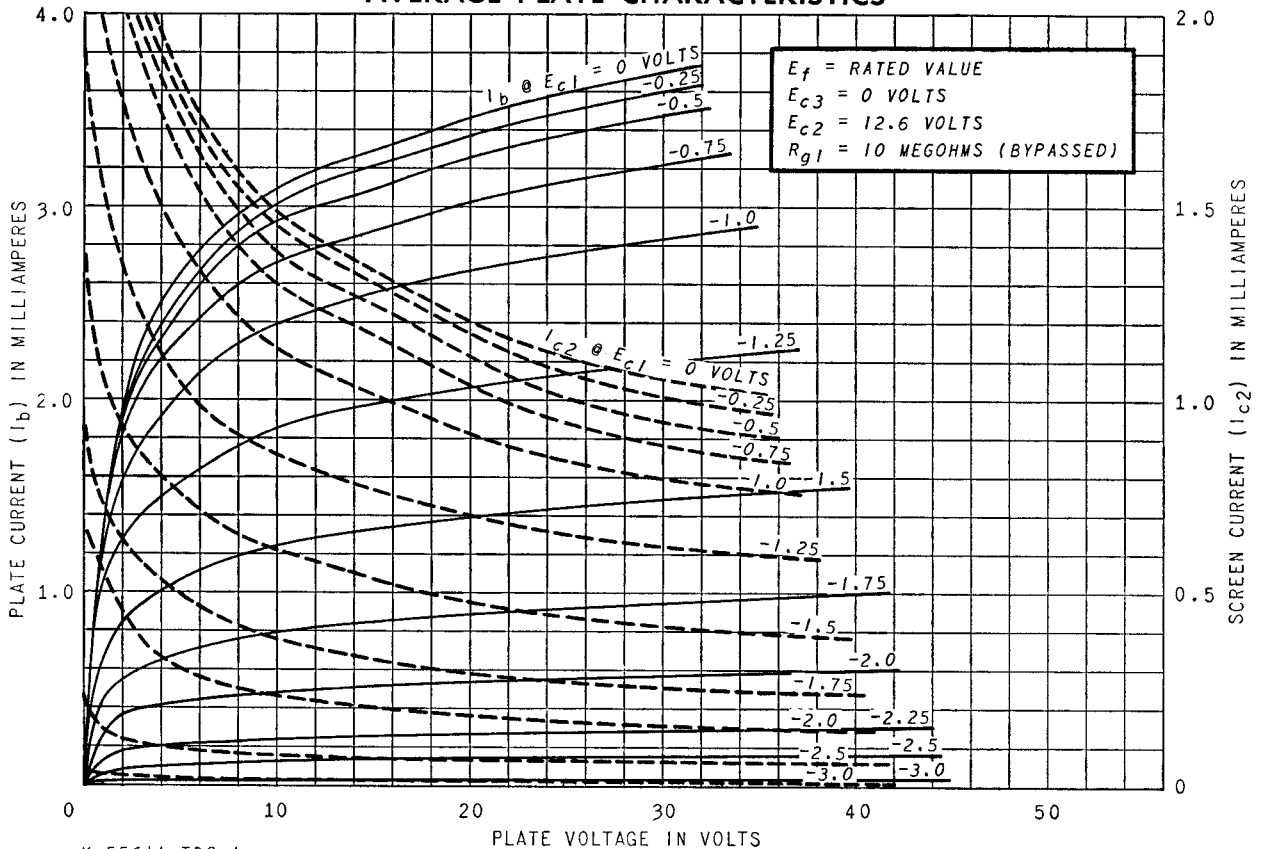
CLASS A₁ AMPLIFIER

| | | |
|---|--------|--------------|
| Plate Voltage..... | 12.6 | Volts |
| Suppressor Voltage..... | 0 | Volts |
| Screen Voltage..... | 12.6 | Volts |
| Grid-Number 1 Resistor (bypassed)..... | 10 | Megohms |
| Plate Resistance, approximate..... | 32,000 | Ohms |
| Transconductance..... | 3800 | Micromhos |
| Plate Current..... | 3.2 | Milliamperes |
| Screen Current..... | 1.4 | Milliamperes |
| Grid-Number 1 Voltage, approximate I _b = 10 Microamperes..... | -3.4 | Volts |

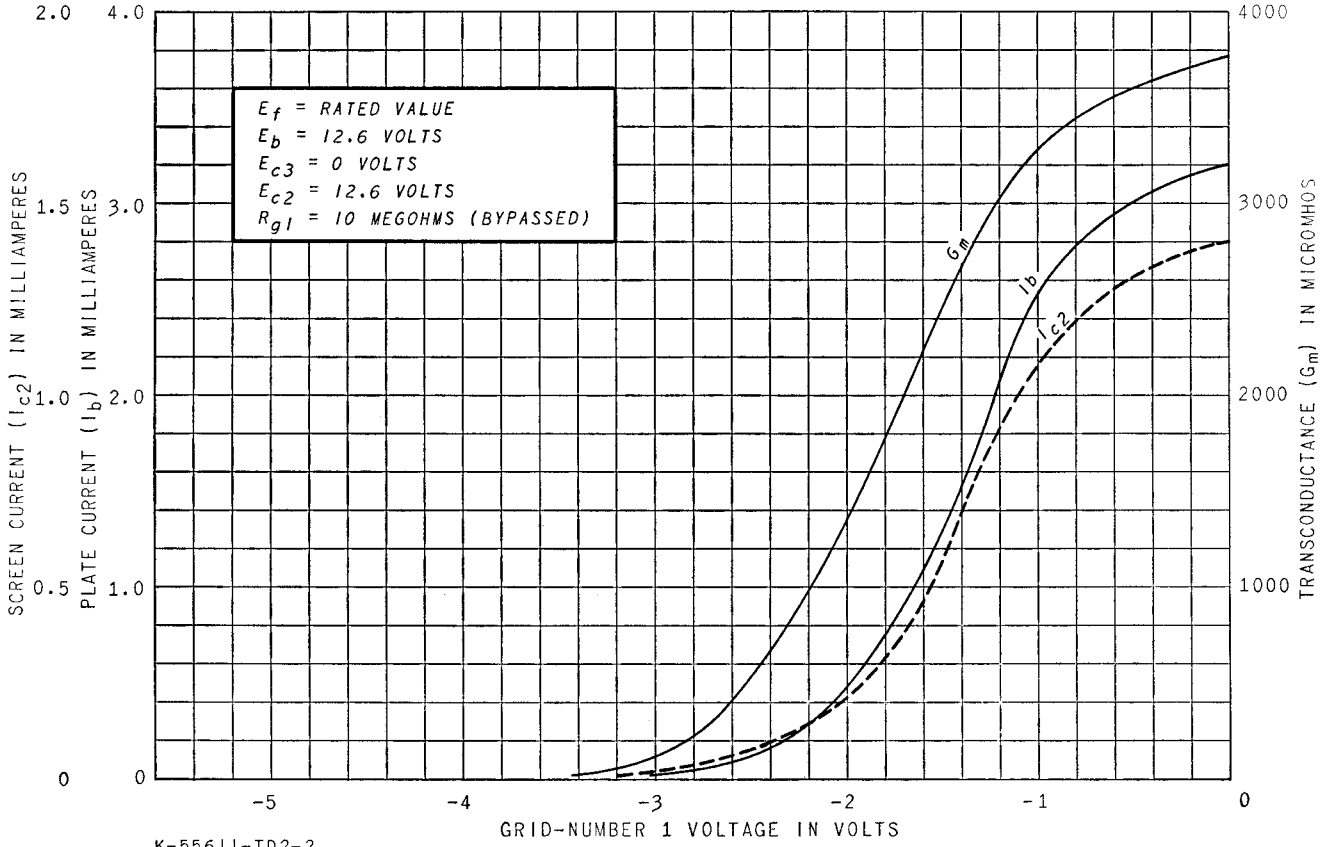
* When used in automotive service from a 12-volt source, under no circumstances should the heater voltage be less than 10.0 volts or more than 15.9 volts. These extreme variations in heater voltage may be tolerated for short periods; however, operation at or near these absolute limits in heater voltage necessarily involves sacrifice in performance at low heater voltage and in life expectancy at high heater voltage. Equipment reliability can be significantly increased with improved supply-voltage regulation.

† Without external shield.

AVERAGE PLATE CHARACTERISTICS



AVERAGE TRANSFER CHARACTERISTICS



K-55611-TD2-2