



12EA6 PENTODE

FOR IF AMPLIFIER APPLICATIONS IN
AUTOMOBILE RECEIVERS

12EA6
ET-T1460
Page 1
7-57

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

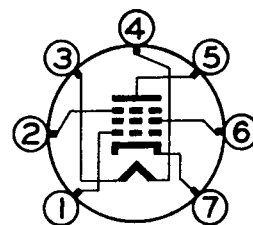
Heater Positive with Respect to Cathode.....16 Volts

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 (Sup-
pressor)

Pin 3—Heater

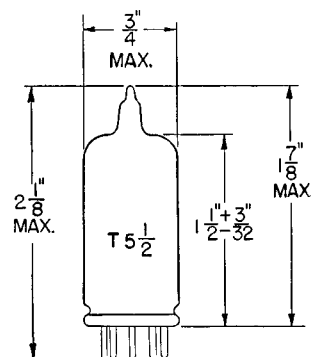
Pin 4—Heater

Pin 5—Plate

Pin 6—Grid Number 2
(Screen)

Pin 7—Cathode

PHYSICAL DIMENSIONS



EIA 5-2

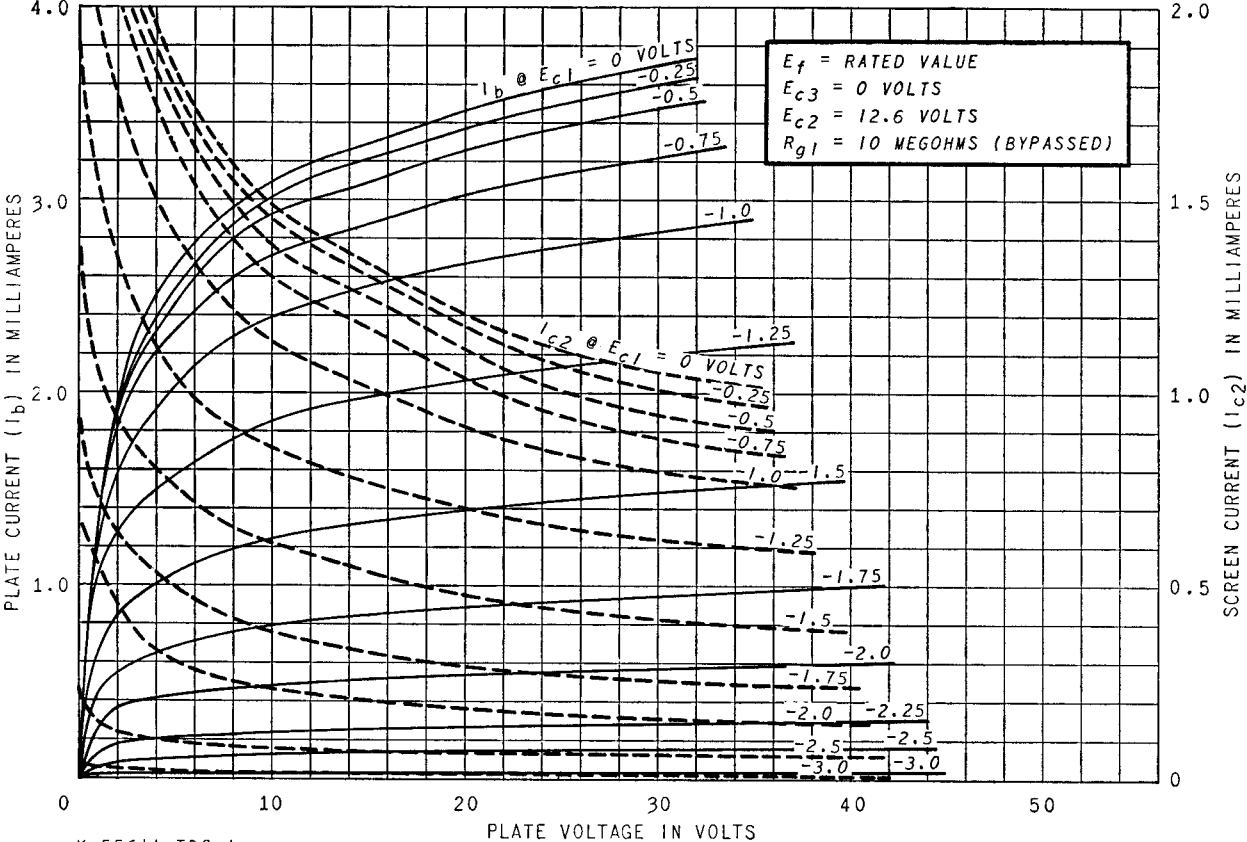
CHARACTERISTICS AND TYPICAL OPERATION

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

