

DESCRIPTION AND RATING

The 12EG6 is a miniature heptode for radio-frequency amplifier service in automobile radio receivers. The tube is specially designed to operate with 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..... 0.15 Amperes

Direct Interelectrode Capacitances†

Grid-Number 1 to Plate: (g1 to p), maximum.....	0.04	μμf
Grid-Number 3 to Plate: (g3 to p), maximum.....	0.25	μμf
Grid-Number 1 Input: g1 to (h+k+g2-4+g3+g5).....	5.7	μμf
Grid-Number 3 Input: g3 to (h+k+g1+g2-4+g5+p)....	6.5	μμf
Output: p to (h+k+g1+g2-4+g3+g5).....	12	μμf
Grid-Number 1 to Cathode: g1 to (k+g5).....	3.2	μμf
Grid-Number 3 to Grid-Number 1: (g3 to g1), maximum...	0.15	μμf
Cathode to All Except Grid-Number 1: k+g5 to (h+g2-4+g3+p).....	23	μμf

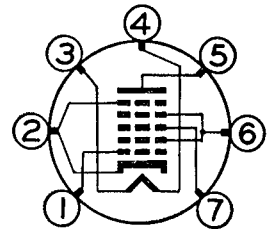
MECHANICAL

Mounting Position—Any

Envelope—T-5½, Glass

Base—E7-1, Miniature Button 7-Pin

BASING DIAGRAM

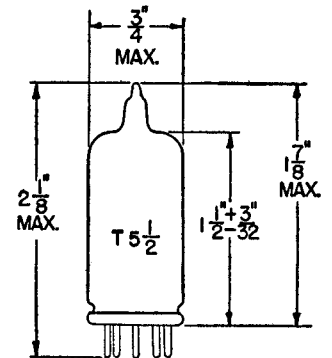


EIA 7CH

TERMINAL CONNECTIONS

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

PHYSICAL DIMENSIONS



EIA 5-2

The tubes and arrangements disclosed herein may be covered by patents of General Electric Company or others. Neither the disclosure of any information herein nor the sale of tubes by General Electric Company conveys any license under patent claims covering combinations of tubes with other devices or elements. In the absence of an express written agreement to the contrary, General Electric Company assumes no liability for patent infringement arising out of any use of the tubes with other devices or elements by any purchaser of tubes or others.

MAXIMUM RATING

DESIGN-CENTER VALUES

Plate Voltage.....	30	Volts
Screen Voltage.....	30	Volts
Positive DC Grid-Number 3 Voltage.....	0	Volts
Negative DC Grid-Number 3 Voltage.....	30	Volts
DC Cathode Current.....	20	Milliamperes
Heater-Cathode Voltage		
Heater Positive with Respect to Cathode.....	30	Volts
Heater Negative with Respect to Cathode.....	30	Volts
Grid-Number 3 Circuit Resistance.....	10	Megohms

Design-Center ratings are limiting values of operating and environmental conditions applicable to a bogey tube of a specified type as defined by its published data, and should not be exceeded under normal conditions.

These values are chosen by the tube manufacturer to provide acceptable serviceability of the tube in average applications, taking responsibility for normal changes in operating conditions due to rated supply-voltage variation, equipment component variation, equipment control adjustment, load variation, signal variation, environmental conditions, and variations in the characteristics of all tubes.

The equipment manufacturer should design so that initially no design-center value for the intended service is exceeded with a bogey tube in equipment operating at the stated normal supply-voltage.

CHARACTERISTICS AND TYPICAL OPERATION

AVERAGE CHARACTERISTICS

Plate Voltage.....	12.6	Volts
Screen Voltage.....	12.6	Volts
Grid-Number 1 Voltage.....	0.8†	Volts
Grid-Number 3 Voltage.....	0.8**	Volts
Plate Resistance, approximate.....	0.15	Megohm
Transconductance§.....	800	Micromhos
Plate Current.....	0.4	Milliampere
Screen Current.....	2.4	Milliamperes
Grid-Number 3 Voltage, approximate		
Gm§=10 Micromhos.....	-3**	Volts
Grid-Number 1 Voltage, approximate		
Gm§=10 Micromhos.....	-3	Volts

* When used in automobile 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.

† External shield (EIA 316) connected to pin 2.

‡ Average bias developed across 2.2 megohm grid-number 1 resistor.

**Provided by grid-number 1 voltage through a suitable grid-number 3 resistor.

§ From grid-number 3 to plate

ELECTRONIC COMPONENTS DIVISION



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