DESCRIPTION AND RATING

The 12BL6 is a miniature remote-cutoff pentode intended for use as a radio-frequency or 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.................................... 0.15 Amperes
Direct Interelectrode Capacitances†
Grid-Number 1 to Plate, maximum.................. 0.006 µf
Input........................................... 5.5 µf
Output......................................... 4.8 µf

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

* 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.

† With external shield (RETMA 316) connected to pin 7.
MAXIMUM RATINGS

DESIGN-CENTER VALUES

Plate Voltage .......................................................... 30 Volts
Screen Voltage ......................................................... 30 Volts
DC Cathode Current ................................................ 20 Milliamperes
Heater-Cathode Current
  Heater Positive with Respect to Cathode ....................... 30 Volts
  Heater Negative with Respect to Cathode ...................... 30 Volts
Grid-Number 1 Circuit Resistance ................................ 10 Megohms

CHARACTERISTICS AND TYPICAL OPERATION

AVERAGE CHARACTERISTICS

Plate Voltage .......................................................... 12.6 Volts
Grid-Number 3 Voltage ............................................... 0 Volts
Screen Voltage ......................................................... 12.6 Volts
Grid-Number 1 Supply Voltage .................................... 0 Volts
Grid-Number 1 Resistor ............................................... 2.2 Megohms
Grid-Number 1 Voltage .............................................. $-0.65$† Volts
Plate Resistance, approximate ..................................... 0.5 Megohms
Transconductance ..................................................... 1350 Micromhos
Plate Current .......................................................... 1.35 Milliamperes
Screen Current .......................................................... 0.5 Milliamperes
Grid-Number 1 Voltage, Approximate
  \( G_m \) (Grid Number 1 to Plate) = 10 Micromhos ......... $-6.0$ Volts
Grid-Number 1 and Grid-Number 3 Voltage, approximate
  \( G_m \) (Grid Number 1 to Plate) = 10 Micromhos .......... $-5.0$ Volts

† Average contact-potential bias developed across 2.2-megohm grid resistor.