MECHANICAL DATA

Bulb ........................................ T-5½
Base ....................................... E7-1, Miniature Button 7-Pin
Outline .................................... 5-3
Basing ...................................... 7EK
Cathode ..................................... Coated Unipotential
Mounting Position ........................ Any

HEATER CHARACTERISTICS

Heater Voltage 1 .......................... 12.6 Volts
Heater Current ................................ 450 Ma
Heater-Cathode Voltage (Design Center Values)  
Heater Negative with Respect to Cathode  
Total DC and Peak .......................... 30 Volts Max.
Heater Positive with Respect to Cathode  
Total DC and Peak .......................... 30 Volts Max.

RATINGS (Design Center Values—except as noted)

Plate Voltage ................................ 30 Volts Max.
Positive Grid No. 1 Voltage ................. 16 Volts Abs. Max.
Grid No. 1 Supply Voltage ................. 30 Volts Max.
Negative Grid No. 2 Voltage ............... −20 Volts Max.
Grid No. 2 Circuit Resistance .............. 2.2 Megohms Max.

CHARACTERISTICS

Plate Voltage ................................ 12.6 Volts
Grid No. 2 (Control Grid) Voltage ........... −2.0 Volts
Grid No. 1 (Space-charge Grid) Voltage ... +12.6 Volts
Plate Current ................................ 8.0 Ma
Grid No. 1 (Space-charge Grid) Current ... 85.0 Ma
Plate Resistance ............................ 800 Ohms
Amplification Factor (Grid No. 2 to Plate) . 5.6
Transconductance (Grid No. 2 to Plate) ... 7000 µhos

TYPICAL OPERATION

Plate Voltage ................................ 12.6 Volts
Grid No. 2 (Control Grid) Voltage 2 ......... −2.0 Volts
Grid No. 1 (Space-charge Grid) Voltage ... +12.6 Volts
Peak AF Grid No. 2 Voltage ................. 2.5 Volts
AF Signal Source Resistance ............... 100,000 Ohms
Load Resistance ................................ 800 Ohms
Plate Current ................................ 8.0 Ma
Grid No. 1 (Space-charge Grid) Current ... 85 Ma
Power Output ................................ 35 Mw
Total Harmonic Distortion ................. 10 Percent

NOTES:

1. 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 13.9 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.

2. Obtained by Grid No. 2 rectification in which case the zero signal plate current is approximately 35 Ma.
AVERAGE TRANSFER CHARACTERISTICS

E_t = RATED VALUE
E_Cl = 12.6 VOLTS
AVERAGE PLATE CHARACTERISTICS

Diagram showing the relationship between plate voltage and current in mA for different values of E1 and E2.
AVERAGE PLATE CHARACTERISTICS

CURRENT IN mA

PLATE VOLTAGE

E1 = RATED VALUE
E1 = 12.6 VOLTS

E2 = 0 VOLTS